The original documents are located in Box 68, folder "10/21/76 S2150 Resource Conservation and Recovery Act (2)" of the White House Records Office: Legislation Case Files at the Gerald R. Ford Presidential Library

UNITED STATES
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
WASHINGTON, D.C. 20545

OCT 14 1976

Mr. James M. Frey
Assistant Director for
Legislative Reference
Office of Management and Budget

Dear Mr. Frey:

The Energy Research and Development Administration (ERDA) is pleased to respond to your invitation to comment on the Enrolled Bill, S. 2150. This legislation, which amends the Solid Waste Disposal Act, is cited as the "Resource Conservation and Recovery Act of 1976."

The Act proposes a comprehensive Federal-State program for conserving material and energy resources by improving the collection, treatment, and disposal of solid waste. The program includes plans for research and development, technical and financial assistance to States, training grants, the promulgation of regulations and guidelines, and the promotion by funding of demonstration systems.

Although the Act creates a potential of duplication of efforts by ERDA and the Environmental Protection Agency (EPA) in the area of research and development, ERDA is satisfied that cooperative efforts such as those described in the Inter-Agency Agreement of May 7, 1976, and mentioned in section 8001 of the Act will minimize such difficulties. ERDA would also note that some form of less direct financial assistance for demonstration projects would be preferable to the large grants described in section 8006.

On balance, however, ERDA feels that S. 2150 is a significant and constructive legislative effort. Accordingly, ERDA recommends that the President sign into law the Enrolled Bill, S. 2150.

Sincerely,

R. C. Seamans

Robert C. Seamans, Jr.
Administrator

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20500

October 18, 1976

MEMORANDUM FOR: Jim Frey
Assistant Director
Legislative Reference
Office of Management and Budget

SUBJECT: S. 2150, "Resource Conservation and Recovery Act of 1976"
-- "Title II - Solid Waste Disposal"

I recommend approval of this bill. In making this recommendation, I would make the following observations:

- There is currently produced annually some 3 billion tons of waste, of which a significant portion has the potential of adverse effects on air, land or water quality, aesthetics, or health. Because about one-half of the drinking water supply in the U.S. comes from ground water, a serious problem exists from contamination of ground water from leaching from solid waste disposal sites. Earlier legislation has provided for guidance in some research and development on solid waste disposal, but no regulatory authority has been provided to control dumping or disposal of hazardous substances. Although many technological problems must still be overcome to solve the problems of solid waste disposal, I believe that this legislation is a move in the right direction.

- The bill takes a balanced approach to the solid waste problem by including strong emphasis on positive action including research, innovative demonstrations with local participation, technical assistance, and planning as well as regulation of specific problem areas related to landfills, open dumping, and hazardous waste disposal. S.2150 also stresses both resource recovery and reduction of waste.

- I am pleased to note that the bill provides for a number of agencies to cooperate with EPA in approaching the solid waste problem. Other agency roles include: Department of Commerce with encouraging recycling and helping private enterprise develop recovery methods; ERDA with energy potential of solid waste; and Department of Interior with mining wastes. The Federal Coordinating Council for Science, Engineering and Technology established by P.L. 94-282, which I Chair as Director of this Office, voted last Friday, October 15, at its first meeting to establish, inter alia, two new problem-oriented committees on Earth and Natural Resources and on Human Resources and Community Development. These and other committees of FCCSET will be considering specific interagency problems and developments in the fields of science, engineering and technology including the

problem of solid waste disposal. Through this and other coordinating mechanisms I am sure that we can help implement the S.2150 in terms of more effective planning and administration, identification of research needs and more effective utilization of resources and facilities.

H. Guyford Stever
Director

THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

October 15, 1976

Honorable James T. Lynn
Director
Office of Management and Budget
Washington, D. C. 20503

Dear Mr. Lynn:

This is in response to your request for our views on S. 2150, an enrolled bill,

> "To provide technical and financial assistance for the development of management plans and facilities for the recovery of energy and other resources from discarded materials and for the safe disposal of discarded materials, and to regulate the management of hazardous waste."

Of major concern to the Department of Transportation (DOT) are those provisions of S. 2150, found mostly in Subtitle C - Hazardous Waste Management, that bear on the transportation of hazardous materials in interstate commerce, an area for which this Department already exercises primary responsibility.

The list of specific hazardous wastes to be developed under the bill is likely to duplicate the list of hazardous materials subject to regulation by this Department under the Hazardous Materials Transportation Act of 1974. Consequently, there will be an extensive area of overlapping responsibilities between the Environmental Protection Agency (EPA) and this Department regarding the transportation of hazardous waste.

The potential adverse effects of overlapping responsibilities are addressed by Section 3003(b) of the bill, which requires regulations promulgated by the EPA Administrator to be consistent with the Hazardous Materials Transportation Act and regulations promulgated thereunder. Although inconsistency is prohibited,

the inefficiency which would result from duplication of effort remains a potential problem. For example, the bill requires the EPA Administrator to establish labeling requirements for containers used in transporting hazardous wastes. This may result in the duplication of this Department's existing regulations requiring the proper labeling of hazardous material containers prior to their transport.

The bill also authorizes the EPA Administrator to approve a State hazardous waste program in lieu of the Federal program if the State program meets certain criteria. This is of concern because of the probable confusion resulting from the fact that authority rests with the EPA Administrator to approve State hazardous waste programs, which programs must be consistent with the Hazardous Materials Transportation Act and regulations issued thereunder. The Hazardous Materials Transportation Act expressly preempts any State or local transportation requirement which is inconsistent with that Act or regulations issued thereunder unless, upon State application, this Department determines that the requirement affords an equal or greater degree of protection than DOT requirements and that the requirement does not unreasonably burden interstate commerce. Consequently, this Department must concern itself not only with whether the EPA Administrator's actions and those State programs he may approve are consistent with DOT programs, we also must concern ourselves with stringent State regulations emanating from those programs, that for some reason fail to be enforceable under S. 2150, but which States may nevertheless attempt to enforce. The structure of S. 2150 is such that preemption questions arising under the Hazardous Materials Transportation Act are potentially a more frequent occurrence than would otherwise be the case, thereby increasing the administrative burden of this Department.

In spite of our misgivings about the matters just addressed, I believe that close coordination between this Department and EPA will be adequate to forestall the generation of serious conflicts between our responsibilities for insuring transportation safety and actions or programs arising under S. 2150. Therefore, we have

no objection to the signing of this bill by the President. As to matters not addressed herein, we would defer to the expertise of other Federal agencies more directly affected.

Sincerely,

Bill

William T. Coleman, Jr.

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

OCT 15 1976

Dear Mr. Lynn:

This responds to your request for the views of this Department with respect to an enrolled bill S. 2150, "To provide technical and financial assistance for the development of management plans and facilities for the recovery of energy and other resources from discarded materials and for the safe disposal of discarded materials, and to regulate the management of hazardous waste."

Insofar as the enrolled bill bears on responsibilities of this Department, our comments are set forth below. In other respects, we defer to those other agencies having the primary policy or program responsibilities under this bill.

The enrolled bill confers major responsibilities concerning solid waste management and regulation on the Environmental Protection Agency, with functions also being given to the Department of Commerce. The Departments of the Interior, Transportation, Labor, the Energy Research and Development Administration, the General Services Administration, and other agencies with responsibilities bearing on solid waste management would have a variety of participative and advisory roles. Considerable State involvement is provided for by the bill.

The bill would establish within EPA an Office of Solid Waste, whose functions would include primary management responsibilities and development of regulations to implement the Act, coordination with other agencies, and technical and financial assistance to State and regional agencies for solid and hazardous waste programs. The bill provides for Federal regulation of hazardous waste management, including identification of substances, development of standards for those dealing with hazardous substances, Federal inspection and permit programs, State program provisions and assistance to States. Additional provisions would apply in the area of State and regional solid waste plans, with Federal guidelines and minimum criteria for such plans, landfill and open dumping criteria, approval of and Federal assistance for State plans. The Secretary of Commerce is directed to promote technology and develop markets and specifications relative to recovered and secondary materials. The bill would establish, under EPA leadership, a broad and varied program of research, studies, demonstrations, education, and training pertinent to many aspects of solid waste management and resource recovery. This program would be funded at a level of $45 million for F.Y. 1978

and includes grants to States and local agencies for demonstration resource recovery systems. Other significant provisions cover the application of Federal, State and local laws and solid waste guidelines to Federal facilities and agencies, and apply new requirements in Federal procurement. Other provisions relate to citizens suits and public participation, labor standards, employee protection, and other matters.

Interior's concern with solid waste problems involves (1) mining wastes and mineral supplies, traditional responsibilities of the Bureau of Mines and the Geological Survey, and (2) management of public lands, the province of the Bureau of Land Management.

A major concern in S. 2150 is Section 6001. It requires that each agency of the Federal Government"(1) having jurisdiction over any solid waste management facility or disposal site or (2) engaged in any activity . . . resulting in the disposal of solid waste or hazardous waste shall be subject to and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural . . . respecting control or abatement of solid waste or hazardous waste disposal in the same manner and to the same extent as any person is subject to such requirements, including the payment of reasonable service charges." Section 6001 also provides that such requirements cover permits and makes the Federal Government subject to suit in a State court and enforcement of injunctive relief which may be granted.

Section 6001 is inappropriate for a number of reasons. It is not clear how this section would apply to an agency such as the Bureau of Land Management which merely permits lands to be used for waste disposal rather than operating a Federal solid waste facility. Where a State permit is required, the State could presumably condition its permit in such a way as to preclude both a specific federally licensed activity generating waste and any use of Federal lands as a disposal site. Not only would the United States be subject to suit in State court for its own actions resulting in waste disposal, but it also appears that actions by a permittee, lessee or licensee may subject the United States to suit in a State court. Such suits are objectionable in both instances. The imposition of undetermined non-Federal service charges on the Federal Government is also objectionable.

Section 6004 is burdensome because it would require that Federal agencies "insure" compliance with guidelines issued under section 1008 rather than that agencies merely require compliance, even though other Federal agencies would be able to participate in

development of the guidelines. On the other hand, many other EPA responsibilities under the Act would be carried out without respect to other affected agencies. For example, regulations concerning permits issued under Section 3005, criteria for identifying sanitary land fills and open dumps required by Section 4004, and approval of State plans under Section 4007, would be handled by EPA alone.

Section 4005(a) prohibits open dumping. If applied to mining wastes, this could close many mining operations.

Section 1004(27) includes mining wastes in the definition of solid wastes. Broad authority for research in solid waste, including mining wastes, has been given to the EPA. This Department through its Bureau of Mines clearly has expertise in the disposal and utilization of mining and milling wastes and is continuing a strong research program in this area. Some areas of research specified by the legislation either are being studied or could be undertaken as part of the Bureau of Mines present program. Mining waste responsibilities would more properly be assigned to the Bureau of Mines.

Implementation of the bill should make full use of the extensive experience and expertise of the Bureau of Mines in mining wastes. Section 8002(f) now states that the Environmental Protection Agency will consult with the Secretary of Interior in conducting a comprehensive study of mining wastes. Section 8002(j) now includes the Secretary of Interior as a member of the Resource Conservation Committee. Section 8005(10) calls for a special study and demonstrations for the recovery of useful energy and materials as related to mining wastes. The Administrator is given authority to undertake the study in consultation with the Secretary of Interior. However, the bill does not include Interior in Section 8001 which discusses the Government's role in R&D related to identification, collection, disposal, recycling and utilization of solid waste of all kinds, including mining wastes.

If the President signs S. 2150, implementation guidelines should assure involvement by affected agencies and minimize potential undesirable impacts of such Sections as 6001, 4005(a), and others mentioned above.

Sincerely yours,

William L. Fisher
Assistant Secretary of the Interior

Honorable James T. Lynn
Director
Office of Management and Budget
Washington, D. C.

GENERAL COUNSEL OF THE
UNITED STATES DEPARTMENT OF COMMERCE
Washington, D.C. 20230

Honorable James T. Lynn
Director, Office of Management
and Budget
Washington, D. C. 20503

Attention: Assistant Director for Legislative Reference

Dear Mr. Lynn:

This is in reply to your request for the views of this Department concerning S. 2150, an enrolled enactment

> "To provide technical and financial assistance for the development of management plans and facilities for the recovery of energy and other resources from discarded materials and for the safe disposal of discarded materials, and to regulate the management of hazardous waste,"

to be cited as the "Resource Conservation and Recovery Act of 1976".

S. 2150 is an omnibus bill which would amend the Solid Waste Disposal Act of 1965, as amended, (42 U.S.C. 3251 et seq.) to establish a federal program for the management of hazardous wastes and to provide federal financial and technical assistance to the states for the development of solid waste management plans and resource recovery facilities.

The bill recites the following principal objectives: to provide technical and financial assistance to state and local governments for the development and implementation of solid waste plans; to prohibit future open dumping on the land and to close or upgrade existing open dumps within five years; to establish a federal permit program (which the states may administer) for the regulation of the treatment, storage, transportation and disposal of hazardous wastes; to provide for the promulgation of federal guidelines for solid waste collection, transportation, separation, recovery, and disposal practices; to promote a national research, development and demonstration program for improved solid waste management and resource recovery techniques; and, to establish a cooperative effort among federal, state and local governments, and private enterprise in order to recover usable materials and energy from solid waste.

S. 2150 would authorize to be appropriated to the Environmental Protection Agency (EPA) for the purposes of carrying out this bill a total of approximately $35 million in fiscal year 1977, $173 million in fiscal year 1978, and $152 million in fiscal year 1979. This would include the following allocations for principally authorized activities: $25 million in each of fiscal years 1978 and 1979 for grants to the states to assist them in developing and implementing authorized state hazardous waste programs; $45 million in fiscal year 1978 and $55 million in 1979 for grants to the states to assist them in developing and implementing solid waste management programs; $25 million for each of fiscal years 1978 and 1979 for grants to the states to assist rural communities in upgrading dumping facilities; $35 million in fiscal year 1978 for research, development and demonstration grants; $8 million for each of fiscal years 1978 and 1979 to carry out special studies, such as the demonstration of promising techniques of energy recovery from solid waste and studies on mining waste and sludge; and, $2 million for a Cabinet-level resource conservation study.

Subtitle E of the bill would direct the Secretary of Commerce to encourage greater commercialization of proven resource recovery technology by providing (1) accurate specifications for recovered materials; (2) stimulation of development of markets for recovered materials; (3) promotion of proven technology; and, (4) a forum for the exchange of technical and economic data relating to resource recovery facilities. The Secretary, acting through the National Bureau of Standards (NBS), and in conjunction with national standards-setting organizations, would be directed to publish guidelines for the development of specifications for the classification of recovered materials within two years from enactment of S. 2150.

The Secretary of Commerce would be designated to participate in a Cabinet-level study of such matters as the appropriateness and feasibility of restricting the manufacture or use of categories of consumer products as a resource conservation strategy and the imposition of solid waste management charges on consumer products.

S. 2150 would further authorize the EPA Administrator to use the information, facilities, personnel and other resources of Federal agencies, including the National Bureau of Standards and the National Bureau of the Census, on a reimbursable basis, to perform related resource recovery and conservation research and studies. EPA would be directed to publish, with the cooperation of the Bureau of the Census, an inventory of all disposal facilities or sites in the United States that are "open dumps" as defined in the Act.

While the enrolled bill is generally acceptable to the Department of Commerce, we have some concerns.

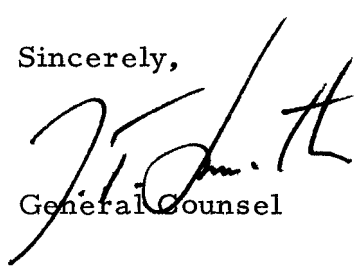
We fear that the language regarding the open dumping of all solid and hazardous waste, stated in the purposes section of the bill and in section 4005(c) of S. 2150, could be interpreted as a federal prohibition. Such a prohibition is unrealistic and would be costly. We do not believe that it was the intent of Congress that this language constitute a federal prohibition. Among other arguments, we would point out that there is neither authority nor funds for federal enforcement and the statement of the prohibition appears in the context of a prescription of the content of acceptable state plans. Accordingly, we recommend that in the event the President approves this bill, he assert his understanding in a signing statement to the Congress.

In addition, we would like to draw your attention to the fact that several of the activities that this bill would impose upon the Department of Commerce are not specifically funded in the bill. We estimate, for instance, that carrying out the requirement in section 5002, could cost NBS approximately $400,000 to $500,000 per year. We further estimate that the work of the Census Bureau pursuant to section 4005(b) would require approximately $200,000 to $300,000 in the first year. Neither NBS nor the Census Bureau could undertake such programs without additional adequate funding.

Finally, we note that section 2002(a)5 would authorize EPA to use "information" from the Census Bureau. We assume that any implementation of this general authority would be carried out only in a manner consistent with the confidentiality provisions applicable to the Census Bureau and contained in title XIII of the United States Code.

The Department of Commerce has no objection to the President's approval of the enrolled bill. We have enclosed a signing statement for his consideration and we recommend he sign it in connection with his action on S. 2150.

Sincerely,



General Counsel

Enclosure

ASSISTANT ATTORNEY GENERAL
LEGISLATIVE AFFAIRS

Department of Justice
Washington, D.C. 20530

October 15, 1976

Honorable James T. Lynn
Director
Office of Management and Budget
Washington, D.C. 20503

Dear Mr. Lynn:

In compliance with your request, I have examined a facsimile of the enrolled bill S. 2150, "To provide technical and financial assistance for the development of management plans and facilities for the recovery of energy and other resources from discarded materials and for the safe disposal of discarded materials, and to regulate the management of hazardous waste."

The Department of Justice defers to those agencies more directly concerned with the subject matter of the bill as to whether it should receive Executive approval.

Sincerely,

Michael M. Uhlmann
Assistant Attorney General

THE GENERAL COUNSEL OF THE TREASURY
WASHINGTON, D.C. 20220

OCT 15 1976

Director, Office of Management and Budget
Executive Office of the President
Washington, D. C. 20503

Attention: Assistant Director for Legislative Reference

Sir:

This letter responds to your request for the views of this Department on S. 2150, "To provide technical and financial assistance for the development of management plans and facilities for the recovery of energy and other resources from discarded materials and for the safe disposal of discarded materials, and to regulate the management of hazardous waste."

The objectives of the enrolled enactment are to promote the protection of health and the environment and to conserve valuable material and energy resources by establishing a program for the handling of waste materials. The program would include financial assistance to State and local governments in the form of grants. The bill as passed by the Senate contained loan guarantee provisions which are not included in the enrolled enactment.

Section 6001 would apply Federal, State, interstate, and local requirements regarding solid waste and hazardous waste management and disposal to Federal facilities. The Department has no objection to this provision.

Other than as noted above, the enrolled enactment does not affect this Department's activities. Consequently, we have no recommendation concerning it.

Sincerely yours,

General Counsel

Richard R. Albrecht

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE
WASHINGTON, D. C. 20301

October 18, 1976

Honorable James T. Lynn
Director, Office of Management
and Budget
Washington, D.C. 20503

Dear Mr. Lynn:

This is in response to your request for the views of the Department of Defense on an enrolled bill, S. 2150, 94th Congress, "To provide technical and financial assistance for the development of management plans and facilities for the recovery of energy and other resources from discarded materials and for the safe disposal of discarded materials, and to regulate the management of hazardous waste." S. 2150, the "Resource Conservation and Recovery Act of 1976" amends the Solid Waste Disposal Act (42 USC 3251).

S. 2150 amends the present Act to promote the protection of health and the environment and to conserve valuable material and energy resources by: (1) providing technical and financial assistance to State and local governments and interstate agencies for the development of solid waste management plans, (2) provide training grants in certain occupations dealing with solid waste management, (3) prohibiting future open dumping and further regulating existing dumping, (4) regulating hazardous wastes, (5) providing for the promulgation of guidelines for solid waste management, (6) promoting a national research and development program for improved solid waste management, (7) promoting solid waste management systems that preserve and enhance environmental quality, and (8) establish cooperative efforts among various levels of government. Although the Department of Defense readily recognizes the laudatory nature of these objectives, the Department has serious reservations about two Subtitles of the Act which are of the utmost concern to us.

The two Subtitles are Subtitle C - Hazardous Waste Management (Sections 3001-3011) and Subtitle F - Federal Responsibilities (Sections 6001-6004).

Subtitle C - Hazardous Waste Management is particularly bothersome in that once the Administrator of the Environmental Protection Agency identifies and lists hazardous waste and promulgates regulations establishing standards for operators and transporters of hazardous solid

waste as necessary to protect human health and the environment, he must then promulgate regulations requiring owners or operators of facilities for the treatment, disposal, or storage of hazardous waste to have a permit, which, in turn, prohibits the disposal of any hazardous waste except in accordance therewith. Moreover, Section 3006 provides for the authorization of State Programs by the Environmental Protection Agency, and once such a program is authorized, it can be carried out in lieu of the Federal program, notwithstanding the fact that there is no provision in the Act for uniformity of Federal and State regulations and standards. This lack of uniformity, and the possibility that strategic military installations will be subject to the regulatory inclinations of State and local governments without uniformity, raises grave questions regarding the long term capability of the Department of Defense to conduct properly its affairs. For example, the Department of Defense has a considerable number of munitions facilities that deal extensively in hazardous substances and hazardous wastes in a number of States. The potential for disruption and major problems of a debilitating nature to the Department of Defense are very real if S. 2150 becomes law.

Subtitle F - Federal Responsibilities deals with the application of Federal, State and local laws to Federal facilities. This Subtitle is of equal or greater concern to the Department of Defense than Subtitle C since it explicitly includes hazardous waste as well as all solid wastes. In brief, Section 6001 requires Federal agencies to comply with Federal, State, interstate, and local requirements, both substantive and procedural (including reporting and permit requirements and provisions for injunctive relief), pertaining to the control and abatement of solid waste or hazardous waste disposal (emphasis added). The Constitution entrusts the defense of the United States to the Federal Government. The Nation's defense should never be subjected to State control. To do so is contrary to the principle of Federal supremacy embodied in the Constitution. In 1819, Justice Marshall stated in the famous case of McCulloch vs. Maryland that, "If the controlling power of the states (over federal activities) be established, if their supremacy as to taxation be acknowledged, what is to restrain their exercising control in any shape they may please to give it."

The Department of Defense carefully considers the views of each State and local government, and strives to conduct Defense operations in a manner consistent with those views, that is, to fully comply with substantive standards whether they be Federal or State. Under no circumstances, however, should the Defense establishment be subjected to State or local control, i.e., procedural controls, as mandated by Section 6001. Moreover, the exemption provision of Section 6001 is inadequate to overcome the injurious effect the section will have on the Department of Defense. Permitting the President to exempt solid

waste management facilities only when he determines the granting of such an exemption to be "in the paramount interest of the United States" is unduly restrictive and of such narrow construction that it is for all intents and purposes unworkable. In addition, when one takes into consideration the fact that the exemption authority is for only one year, and renewal on a year-to-year basis can occur only providing the President makes a new determination, it becomes even more apparent that the exemption provision is unworkable from a defense standpoint.

Another section under Subtitle F which is of major concern to the Department of Defense is 6002, which deals with Federal procurement. That section requires that two years after enactment, each procuring agency is required to procure items composed of the highest percentage of recovered materials consistent with maintaining a satisfactory level of competition, except where: (1) items are not reasonably available, (2) items fail to meet performance standards or, (3) the price is unreasonable. Vendors will be required to certify the percentage of recovered materials used in the contract.

The effect of these provisions on the Department of Defense is not fully known; however, they would be extremely difficult, if not impossible, to administer. There is no indication of how such a preference would be established and the extent to which a preference would be appropriate. More importantly, there is the problem of how the amount of recovered resources could be ascertained without an inordinate amount of record keeping at all levels of subcontracting, down to the producer of the basic materials used in manufacture.

Defense items, particularly weapons systems, are composed of various materials in varying quantities and mixes. Manufacturers cannot accurately determine the percentage of recovered materials in their end products. Even in the production of basic materials, such as steel and aluminum, the percentage of recycled material varies, depending on the composition of the scrap. Losses during production in stack gas, slag, evaporation, scrap, etc. also may vary. The problem is compounded for the fabricator of the end item. If bidders were asked to state the percentage of recovered material in their items, they would not be able to comply with any degree of accuracy. Nor would we be able to verify any such information presented. Thus, any effort to make awards based on the greatest percentage of recovered material would be ineffective.

Any contract award decision based on the use of recovered materials in the offered items or services would be subject to immediate challenge by the unsuccessful bidders. There would be no way to adjudicate the disputes on a factual basis. Defense procurements would be bogged down by arbitration proceedings or other dispute-resolving processes. Receipt of needed defense materials would be unduly delayed, and our defense readiness posture would suffer as a result.

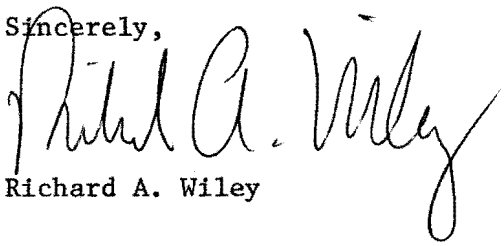
Section 6002 also contains another onerous provision, that of specification review. It requires that the Department of Defense undertake within eighteen months to review each specification--to ascertain whether or not it is in full compliance with the recycled-material procurement requirements. In other words, the Department of Defense must make a determination regarding the use of recycled material for each of the Department's specifications. Since there are over 40,000 specifications, this across-the-board requirement for review of all specifications is administratively impracticable.

The Department of Defense strongly supports the Nation's effort to clean up the environment and recognizes that reasonable legislation to control solid waste and hazardous wastes is necessary. In our opinion, S. 2150 is not the best approach to enhance the national effort in this area. In fact, we are firmly of the opinion that S. 2150 is unduly restrictive and that its enactment would create the real potential for serious regulatory problems and disruption to the Department of Defense in areas that are of strategic importance to the Nation's defense effort.

In addition, the Act could be interpreted to interfere with the responsibilities and authorities of the Federal Government to maintain navigable waterways for their use in interstate and foreign commerce.

The Department of Defense is opposed to S. 2150 for the reasons outlined above and respectfully urges that the President not sign the bill into law.

Sincerely,



Richard A. Wiley

SIGNING STATEMENT

I am today giving my approval to S. 2150, the Resource Conservation and Recovery Act of 1976.

This legislation would amend the Solid Waste Disposal Act of 1965 to provide technical and financial assistance to the states for the development of solid waste management and hazardous waste plans; to give federal guidance in the areas of solid waste collection, transportation, separation, recovery and disposal practices; to regulate the treatment, storage, transportation, and disposal of hazardous wastes; to encourage through research and demonstration the development of improved solid waste management and resource recovery techniques; and, to promote the recovery of usable materials and energy from discarded materials.

The new program would be principally administered by the Environmental Protection Agency. The Department of Commerce would participate by encouraging greater commercialization of resource recovery technology and providing certain technical support and information.

This bill establishes a new direction in the field of environmental law -- the disposal of solid and hazardous waste in a manner that will protect our land and water supply. S. 2150 will also serve to promote the re-use of discarded materials, thereby encouraging conservation of our resources.

These are needed programs and I commend the Congress for its work in this regard. It is my understanding that, in the area of solid waste management, EPA will not issue federal standards but will promulgate guidelines which the states must follow if they want federal financial assistance in developing and implementing mangement plans. These guidelines provide that state plans, if they are to be approved

by the Administrator in order to render the state eligible for assistance under the Act, include a ban on open dumping and a requirement that all solid waste be disposed of in an environmentally sound manner.

The regulation of solid waste disposal is primarily of concern to state and local governments. I am encouraged that S. 2150 recognizes this by providing for federal guidelines and limited financial assistance, leaving the detailed planning and all implementation to the state and local governments.

STATEMENT BY THE PRESIDENT

I have approved S. 2150, the "Resource Conservation and Recovery Act of 1976."

I believe this bill provides a workable program aimed at solving one of the highest priority environmental problems confronting the Nation, the disposal of hazardous wastes. This legislation provides for State responsibility for the control of hazardous wastes while at the same time assuring uniform national standards for the protection of public health and welfare. The legislation also provides sound State and local programs to deal with ever increasing amounts of municipal solid wastes generated in this country.

These new controls over hazardous wastes will assure that such wastes are disposed of in a manner which is protective of public health and environmentally sound. The Act directs the Federal Government through the Environmental Protection Agency (EPA) to establish criteria for identifying and listing of hazardous wastes; to promulgate standards for generators and transporters of hazardous wastes; and to establish permit requirements for the owners and operators of sites disposing such wastes. States are encouraged to issue these permits in lieu of the Federal Government. Civil and criminal penalties are provided to insure compliance with the Act.

The legislation also provides for State and local development of methods for solid waste management which are environmentally sound and which will encourage the utilization of valuable

resources and resource conservation. This will be accomplished through Federal financial and technical assistance to State and local communities for planning and implementing alternatives that address the management, intergovernmental, financial and technical problems associated with the disposal of solid wastes. Federal guidelines for State and regional planning will include information on solid waste management practices, resource recovery measures, and guidance for the gradual elimination of open dumps. This latter provision is aimed at ensuring the protection of the quality of ground and surface waters from leachate and surface runoff contamination, and the protection of ambient air quality.

Provision is also made in the Act for EPA to conduct and encourage studies of resource recovery systems, fuel recovery from solid wastes, and solid waste reduction; the Administrator of EPA will serve as Chairman of a Resource Conservation Committee which will study economic incentives and product charges, and EPA could enter into contracts with and provide financial assistance for full-scale demonstration facilities.

Finally, the legislation recognizes that the real impediments to local development of resource recovery facilities are not financial, but institutional and technical, in nature. Its enactment will thus lead to greater encouragement of the market forces capable of generating demand for recovered materials.

I believe this legislation is another step forward in improving the quality of the environment.

STATEMENT BY THE PRESIDENT

I have approved S. 2150, the "Resource Conservation and Recovery Act of 1976."

I believe this bill provides a workable program aimed at solving one of the highest priority environmental problems confronting the Nation, the disposal of hazardous wastes. This legislation provides for State responsibility for the control of hazardous wastes while at the same time assuring uniform national standards for the protection of public health and welfare. The legislation also provides sound State and local programs to deal with ever increasing amounts of municipal solid wastes generated in this country.

These new controls over hazardous wastes will assure that such wastes are disposed of in a manner which is protective of public health and environmentally sound. The Act directs the Federal Government through the Environmental Protection Agency (EPA) to establish criteria for identifying and listing of hazardous wastes; to promulgate standards for generators and transporters of hazardous wastes; and to establish permit requirements for the owners and operators of sites disposing such wastes. States are encouraged to issue these permits in lieu of the Federal Government. Civil and criminal penalties are provided to insure compliance with the Act.

The legislation also provides for State and local development of methods for solid waste management which are environmentally sound and which will encourage the utilization of valuable resources and resource conservation. This will be accomplished through Federal financial and technical assistance to State and local communities for planning and implementing alternatives that address the management, intergovernmental, financial and technical problems associated with the disposal of solid wastes.

Federal guidelines for State and regional planning will include information on solid waste management practices, resource recovery measures, and guidance for the gradual elimination of open dumps. This latter provision is aimed at ensuring the protection of the quality of ground and surface waters from leachate and surface runoff contamination, and the protection of ambient air quality.

Provision is also made in the Act for EPA to conduct and encourage studies of resource recovery systems, fuel recovery from solid wastes, and solid waste reduction; the Administrator of EPA will serve as Chairman of a Resource Conservation Committee which will study economic incentives and product charges, and EPA could enter into contracts with and provide financial assistance for full-scale demonstration facilities.

Finally, the legislation recognizes that the real impediments to local development of resource recovery facilities are not financial, but institutional and technical, in nature. Its enactment will thus lead to greater encouragement of the market forces capable of generating demand for recovered materials.

I believe this legislation is another step forward in improving the quality of the environment.

Calendar No. 826

94TH CONGRESS, 2d Session | SENATE | REPORT No. 94-869

SOLID WASTE UTILIZATION ACT OF 1976

MAY 13, 1976.—Ordered to be printed

Mr. RANDOLPH, from the Committee on Public Works, submitted the following

REPORT

[To accompany S. 2150]

The Committee on Public Works, to which was referred the bill (S. 2150) to amend the Solid Waste Disposal Act to authorize State program and implementation grants, to provide incentives for the recovery of resources from solid wastes, to control the disposal of hazardous wastes, and for other purposes, having considered the same, reports favorably thereon with an amendment and recommends that the bill as amended do pass.

GENERAL STATEMENT

This bill (S. 2150) contains only the authorizations for fiscal year 1977 with no substantive amendments to the Solid Waste Disposal Act. Both research and general program authorizations are included in this legislation. The Committee had under consideration an extensive bill revising and extending the Solid Waste Disposal Act. Because of the lack of time in which to consider this major revision and the necessity of reporting fiscal year authorizations to the Senate by May 15, the Committee agreed to report only an authorization bill at this time.

As introduced, S. 2150 addressed a wide variety of solid waste issues. It contained proposals relating to control of hazardous waste disposal, a proposed ban on open dumping, together with assistance to small rural communities in complying with such a prohibition, increased incentives for resource conservation and recovery, encouragement of regional solid waste management planning and support for State solid waste management planning and programs.

The Committee believes that full consideration must be given to these matters. There are no comprehensive solid waste programs comparable to those in effect to reduce air and water pollution, and there

has been no solid waste legislation enacted since 1970. During this period, the national generation of solid waste has continued to grow. At the same time, there has been heightened awareness that domestic supplies of natural resources are being depleted and that the United States is importing larger amounts of resources.

The Committee believes, therefore, that a comprehensive solid waste program is needed. it has begun meetings to develop legislation in this area. It is the intention of the Committee to continue its work in this regard and to offer a Committee amendment to S. 2150 recommending substantive changes in the program when this measure is considered by the Senate.

Authorizations in this bill total $35 million, the amount contained in the Committee's recommendation to the Budget Committee for fiscal year 1977. This amount also is adequate to begin in fiscal year 1977 the programs contemplated in S. 2150 as presented to the Committee.

Rollcall Votes

There were no rollcall votes during the Committee's consideration of this bill. The Committee ordered the bill reported by unanimous voice vote.

Cost of Legislation

Section 252(a)(1) of the Legislative Reorganization Act of 1970 requires publication in the report of the Committee's estimate of the costs of the reported legislation, together with estimates prepared by the Federal agency. Separate estimates of the cost of activities authorized by this bill were not prepared by any Federal agency.

This bill provides authorization of $35,000,000 for the fiscal year 1977.

Section 403 of the Congressional Budget and Impoundment Control Act requires each bill to contain a statement of the cost of such bill prepared by the Congressional Budget Office. Because of time factors involved in meeting the May 15 deadline for reporting authorizing legislation for fiscal year 1977, this report does not contain the cost estimate.

Changes in Existing Law

In the opinion of the Committee, it is necessary to dispense with the requirements of subsection (4) of rule XXIX of the Standing Rules of the Senate in order to expedite the business of the Senate.

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94TH CONGRESS
2d Session
HOUSE OF REPRESENTATIVES
REPORT
No. 94-1491

RESOURCE CONSERVATION AND RECOVERY ACT OF 1976

REPORT

OF THE

COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

U.S. HOUSE OF REPRESENTATIVES

ON

H.R. 14496

(Including Cost Estimate of the Congressional Budget Office)

SEPTEMBER 9, 1976.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

U.S. GOVERNMENT PRINTING OFFICE
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TABLE OF CONTENTS

PART I

94TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT
2d Session } { No. 94–1491

RESOURCE CONSERVATION AND RECOVERY ACT OF 1976

SEPTEMBER 9, 1976.—Committee to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. STAGGERS, from the Committee on Interstate and Foreign Commerce, submitted the following

REPORT

[To accompany H.R. 14496]

The Committee on Interstate and Foreign Commerce, to whom was referred the bill (H.R. 14496) to provide technical and financial assistance for the development of management plans and facilities for the recovery of energy and other resources from discarded materials and for the safe disposal of discarded materials, and to regulate the management of hazardous waste, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

The amendment strikes out all after the enacting clause and inserts in lieu thereof a substitute text which appears in italic type in the reported bill.

PART I

INTRODUCTION TO THE REPORT

This report is the work product of two Committees, the Committee on Interstate and Foreign Commerce and the Committee on Science and Technology. Both Committees have taken into account the oversight findings and the recommendations of the Committee on Government Operations which are separately presented in this report.

Both legislative Committees undertook work in the area of discarded materials and hazardous waste management since both Committees have jurisdiction over different aspects of the same problem. The Committee on Interstate and Foreign Commerce has jurisdiction over the regulatory aspects, while the Committee on Science and Technology has jurisdiction over research and development.

So as to have a unified approach to the problem, the two Committees coordinated the legislation as it moved through the respective Com-

mittees. In a letter, Mr. Teague, Chairman of the Committee on Science and Technology, requested that his Committee's reported bill be incorporated into the Commerce Committee bill when it was reported. The correspondence related to this matter is contained in the appropriate section of this report.

On September 9, 1976 at full Committee markup, the Interstate and Foreign Commerce Committee approved the incorporation of the Science and Technology bill as Part II of the Commerce Committee's Resource Conservation and Recovery Act. The full text of the report adopted by the Committee on Science and Technology appears as Part II of this report.

The sections of the Science and Technology bill constitute Part II of the Commerce Committee bill and are numbered in thousands in the text of the legislation. They are explained in Part II of this report. The last digit of the Part II sections of the Commerce Committee bill may be used to index the explanations in Part II of this report. For example: Section 2004 of the Commerce Committee bill is explained in Part II of this report where the reference to the provisions under consideration will be Section 4. Section 2005 language in the Commerce Committee bill is referred to as Section 5 language in Part II of this report prepared by the Committee on Science and Technology.

Purpose and Summary of Legislation

The Resource Conservation and Recovery Act of 1976 is a multifaceted approach toward solving the problems associated with the 3–4 billion tons of discarded materials generated each year, and the problems resulting from the anticipated 8% annual increase in the volume of such waste.

In addressing the problem, the Committee recognizes that Solid Waste, the traditional term for trash or refuse is inappropriate. The words solid waste are laden with false connotations. They are more narrow in meaning than the Committee's concern. The words discarded materials more accurately reflect the Committee's interest.

Not only solid wastes, but also liquid and contained gaseous wastes, semi-solid wastes and sludges are the subjects of this legislation. Waste itself is a misleading word in the context of the committee's activity. Much industrial and agricultural waste is reclaimed or put to new use and is therefore not a part of the discarded materials disposal problem the committee addresses. An increase in reclamation and reuse practices is a major objective of the Resource Conservation and Recovery Act.

It is not only the waste by-products of the nation's manufacturing processes with which the committee is concerned: but also the products themselves once they have served their intended purposes and are no longer wanted by the consumer. For these reasons the term discarded materials is used to identify collectively those substances often referred to as industrial, municipal or post-consumer waste; refuse, trash, garbage and sludge.

Agricultural wastes which are returned to the soil as fertilizers or soil conditioners are not considered discarded materials in the sense of this legislation. Similiarly, overburden resulting from mining operations and intended for return to the mine site is not considered to be

discarded material within the meaning of this legislation. This however does not preclude any finding by the Administrator that specific mine wastes are hazardous wastes within the scope of this legislation. Nor does this preclude consideration of mine waste as discarded material some time in the future.

It should be noted that discarded materials are generated from a multitude of sources in every sector of the nation's life. The committee recognizes among those sources the pollution abatement activity initiated as a result of federal air and water pollution laws. In summary, discarded materials are a direct result of national industrial production and the American life style.

The problems associated with discarded materials which prompted the committee to enter an area which has traditionally been considered the sphere of local responsibility are greater than just the increasing volume of discarded materials. Yet, a few words on volume are in order.

Over the last few years the amount of discarded materials to be disposed of has grown to approximately 4 billion tons per year. An annual increase of 8 percent is anticipated through the next decade. The most widespread method of disposal is to landfill the discarded materials. However, land has become a scarce resource in the nation's major metropolitan areas. Many of our major cities will be out of landfill capacity within 5 years. Some are already seeking disposal sites outside their corporate limits.

Some states have moved to ban the importation of wastes as have their political subdivisions. These actions have raised serious questions relative to restraint of trade and interference with interstate commerce.

The Committee is also concerned with the consumption of this nation's domestic raw materials and the potential for future material shortages. Already an increasing portion of our balance of trade deficit is caused by the need to import raw materials. Are there ways to reclaim for reuse those resources now disposed of and thereby reduce the need for virgin raw materials?

The overriding concern of the Committee however, is the effect on the population and the environment of the disposal of discarded hazardous wastes—those which by virtue of their composition or longevity are harmful, toxic or lethal. Unless neutralized or otherwise properly managed in their disposal, hazardous wastes present a clear danger to the health and safety of the population and to the quality of the environment. In addition, much of the hazardous waste disposed of in an environmentally sound manner is in interstate commerce without adequate monitoring of its movement or disposition.

Recognizing the complexity of the issue the Committee approach to the problem is an effort to make the most of a bad situation. The Committee has determined that discarded materials have value in that energy or materials can be recovered from them. In the recovery of such energy or materials, a number of environmental dangers can be avoided. Scrace land supply can be protected. The balance of trade deficit can be reduced. The nation's reliance on foreign energy and materials can be reduced and useful employment can be generated by the construction of needed waste management facilities.

However appealing the resource recovery solution to the discarded materials problem may appear, other aspects of the problem, associated with the disposal of hazardous wastes, do not have the same attractive qualities. In order to solve this aspect of the problem the Committee recommends a regulatory approach. Hazardous wastes typically have little, if any, economic value; are often not susceptible to neutralization; present serious danger to human life and the environment; and can only be safely stored, treated or disposed of at considerable cost to the generator. Without a regulatory framework, such hazardous waste will continue to be disposed of in ponds or lagoons or on the ground in a manner that results in substantial and sometimes irreversible pollution of the environment.

Further, there are other aspects of the discarded materials problem, namely mining wastes and sludge, that could pose significant threats to human life and the environment. Because of a lack or information, the Committee is unable to determine the hazards associated with the improper management of these wastes. The Committee has therefore directed the Environmental Protection Agency to study the sources and composition of these wastes; the existing methods of disposal; and the potential dangers to human health and the environment caused by the improper management of these wastes.

The Committee believes that the approach taken by this legislation eliminates the last remaining loophole in environmental law, that of unregulated land disposal of discarded materials and hazardous wastes. Further, the Committee believes that this legislation is necessary if other environmental laws are to be both cost and environmentally effective. At present the federal government is spending billions of dollars to remove pollutatns from the air and water, only to dispose of such pollutants on the land in an environmentally unsound manner. The existing methods of land disposal often result in air pollution, subsurface leachate and surface run-off, which affect air and water quality. This legislation will eliminate this problem and permit the environmental laws to function in a coordinated and effective way.

In this legislation the regulatory and strictly promotional functions related to discarded materials management are recognized as separate and conflicting functions, and as such are placed in separate agencies so that each agency can best achieve its Congressional directives. The regulatory, technical assistance and planning functions are placed within the Environmental Protection Agency.

The promotional functions relating to resource recovery technology, the development of markets for the recovered materials, and the development of an index which illustrates the characteristics of recovered materials that can be substituted for virgin materials with similar performance characteristics, are placed in the Department of Commerce. The justification for this separation of functions is so that one agency does not promote solely the technology it has developed or to develop markets solely for the materials recovered by a process developed by the agency.

A statutory Office of Discarded Materials is created within the Environmental Protection Agency. It will be headed by a Deputy Assistant Administrator. This new office will replace the existing administrative Office of Solid Waste Management. It will have congressional direction and regulatory authority which the existing Office of Solid Waste Management does not have.

The primary functions of the Office of Discarded Materials will be to develop reasonably flexible guidelines for State and regional discarded materials management plans. Such plans will prohibit open dumping and promote rehabilitation of existing open dumps. In addition to publishing guidelines, the Administrator will have the authority to make grants to state or local governments for the planning and enforcement of their discarded materials plan. Further, technical assistance will be available to local and state governments. Resource recovery and conservation panels, could assist at all stages of the planning process, including providing information for the determination of whether a governmental unit should construct, purchase, lease, operate or become party to a resource recovery facility or whether the governmental entity can be better served by other methods of discarded materials management. The Federal guidelines published pursuant to Title IV are not mandatory upon the states, however, if a state seeks Federal financial and technical assistance to develop a discarded materials plan then such state is required to meet the Federal guidelines.

Pursuant to the regulatory authority provided by the Resource Conservation and Recovery Act, EPA will administer the federal hazardous waste provisions of this legislation. They require the Administrator to develop criteria for determining what is a hazardous waste, and then to list those wastes determined to be hazardous. From point of generation, through transportation, storage, treatment and disposal, those wastes listed as hazardous are federally regulated. The states are given the primary option of implementing the federal minimum standards relating to hazardous wastes, however, if the states do not have a program equivalent to the federal program then the Administrator is authorized to implement the program in such state.

The Department of Commerce is directed to promote proven resource recovery technology; to help identify and stimulate markets for materials recovered; to develop specifications for recovered materials so they can be substituted for virgin materials; and to promote the transfer of resource recovery technology within the industry so as to encourage the improvement of such technology.

Under Title VI all federal agencies are required to meet the minimum standards promulgated by the Administrator relating to discarded materials and hazardous wastes.

Further, federal agencies when using federally appropriated funds will be required to procure recovered materials when those materials are available at reasonable prices. To assist the federal agencies in determining when a recovered material has the performance characteristics of a virgin material, the National Bureau of Standards is required to establish a substitutibility index. The index will show when recovered materials can be substituted for virgin materials.

Following is a brief title by title summary of the legislation.

Title by Title Summary of the Resource Conservation and Recovery Act of 1976

TITLE I—GENERAL PROVISIONS

This Title contains defintions, findings, and objectives, and directs that this Act be integrated with other environmental laws, including the existing Solid Waste Disposal Act.

TITLE II—OFFICE OF DISCARDED MATERIALS

This Title establishes Office of Discarded Materials within EPA and authorizes the Administrator to implement this Act and the Solid Waste Disposal Act. This Title also gives the Administrator authority to provide technical and financial assistance to the states, regional or local agencies, in the development of discarded materials plans and hazardous waste management programs. This title authorizes special studies on mining wastes and sludge and gives a 5 percent grant toward the purchase price of tire shredders. The Office of Discarded Materials is directed to develop, evaluate, and disseminate information related to the best use and reprocessing of discarded materials.

There are authorized to be appropriated to the Administrator for the purpose of administering the provisions of this Act, $46,250,000 for fiscal year 1978, and $51,250,000 for fiscal year 1979. It is provided in the legislation that not less than 20 percent of the amount appropriated must be utilized for the functioning of the Resource Recovery and Conservation Panels. These panels are to render technical assistance to the states and local authorities in the development of resource recovery facilities. Further, not less than 30 percent of the amounts appropriated are to be utilized to develop and implement the hazardous waste requirements of the legislation.

TITLE III—HAZARDOUS WASTE MANAGEMENT

Under this Title, the Federal Government establishes minimum standards relating to hazardous waste. However, the states are given, if they choose, the authority to establish and implement a state program, in lieu of a federal program, if such program is equivalent to the federal program. For those states that have a hazardous waste law in effect on the date of enactment of this Act, such states may receive a temporary authorization of not more than two years to carry out its existing program, if such program is substantially equivelent to the federal program.

The basic thrust of the hazardous waste title, is to identify what wastes are hazardous and in what quantities, qualities, and concentrations and the methods of disposal which may make such wastes hazardous. The title requires that the Administrator promulgate regulations applicable to generators. Such regulations include recordkeeping, informing those that transport or dispose of such hazardous waste of the characteristics of such waste and the initiating of a manifest system so that the waste generated can be traced to the site of ultimate disposal. This mechanism gives both the generator and enforcement agency knowledge of the final disposal of the material.

Regulations are imposed on transporters of hazardous waste. Most important is the initiation of a manifest system so that the hazardous waste can be traced from the generator to a facility that has an approved permit. This system is to be established in cooperation with the Secretary of Transportation. The Administrator of EPA can make recommendations to the Secretary as to whether or not particular wastes are hazardous in transportation.

Other regulations required to be promulgated relate to those who treat, store or dispose of hazardous waste. Such regulations are to consist of compliance with the manifest system, recordkeeping requirements and inspections.

The Administrator is also empowered to recommend methods of treatment, storage or disposal of hazardous waste, and the operation of such facilities, to assist the operators in safely handling such hazardous waste.

Finally, those who store, treat, or dispose of hazardous waste are required to receive a permit either from the Administrator or from the appropriate state agency authorized by the Administrator to grant such a permit. There are provisions for federal enforcement that include orders by the Administrator, citizen suits, and criminal and civil penalties.

The Administrator is required to approve a state hazardous waste plan, unless after notice and public hearing, he finds that the state program is not equivalent to the federal minimum standards.

Twenty-five million dollars is authorized for each of the fiscal years 1978 and 1979 to be allocated to the states in order to carry out this title.

TITLE IV—STATE OR REGIONAL DISCARDED MATERIALS PLANS

This title establishes a procedure for states, regions within states, or interstate regions to develop a comprehensive plan for handling discarded materials. To be approved, the state plan must conform to the guidelines published by the Administrator of EPA. The state plan must meet certain minimum requirements which include: a prohibition on the establishment of new open dumps and a requirement that all discarded materials be disposed of at a resource recovery facility, in an approved sanitary landfill, or in an environmentally sound manner; there must be a plan to close or upgrade all existing open dumps; and the state must establish regulatory powers to carry out the discarded materials plan. Also, to assure the builder of a resource recovery facility that he will have a steady source of garbage and trash in the future, the state plan must provide that no state or local government shall prohibit such local community from entering into long-term contracts to supply discarded materials of the community to resource recovery facilities. The procedure for the development and implementation of the state plan calls for a close working relationship between units of the state and local governments.

There are authorized $40 million and $50 million for fiscal years 1978 and 1979 respectively to be allocated to the states and reallocated to the local or regional authorities in proportion to the responsibility of each in order to properly develop and implement the state discarded materials plan.

TITLE V—DUTIES OF THE SECRETARY OF COMMERCE

This title places with the Department of Commerce responsibility for developing, standards for substituting secondary materials for virgin materials, markets for recovered materials, and for the promotion of resource recovery technology generally.

In addition, information panels are authorized, whereby interested parties can get together, with a government representative present, to discuss common problems relating to resource recovery facilities without threat of anti-trust violations.

TITLE VI—FEDERAL RESPONSIBILITIES

This title requires that all federal agencies and instrumentalities comply with the minimum standards promulgated by the Administrator, pursuant to Titles III and IV of this act, relating to discarded materials and hazardous waste management.

This title also requires the federal government to institute a procurement policy which encourages the purchase of recovered materials when available at reasonable prices and which because of their performance, can be substituted for virgin materials. Further, this title requires cooperation of other Federal agencies with the EPA in achieving the purposes of this act.

TITLE VII—MISCELLANEOUS PROVISIONS

This title provides a standard employee protection provision, permits citizen suits, provides that any person may petition the Administrator for the promulgation, amendment or repeal of any regulation under this act and it also contains a separability clause.

Committee Action

The reported bill is a product of several years of hearings and mark-ups before various subcommittees of the Committee on Interstate and Foreign Commerce.

Prior to the 94th Congress, jurisdiction over solid waste legislation rested with the Subcommittee on Health and Environment of the Committee on Interstate and Foreign Commerce. That Subcommittee held several sets of hearings on alternative solutions to the solid waste problem.

In the 94th Congress, the Subcommittee on Transportation and Commerce was given jurisdiction over solid waste. That Subcommittee held two weeks of hearings on solid waste legislation on April 8, 9, 10, 11, 14, 15, 16, 17 of 1975. H.R. 5487, a bill developed by the Subcommittee on Health and Environment during the 93rd Congress, and H.R. 406 served as the vehicles for these hearings.

Because of the complexities involved in finding solutions to the solid waste problem, the Subcommittee on Transportation sponsored on April 6 and 7, 1976 a symposium on resource conservation and recovery in which the Subcommittee members requested the experts in the field to participate on panels to discuss solutions to the problem from the same forum, and at the same time rather than as individual witnesses. The topics of the various panels were: "Dimensions of the Discarded Materials Problem," "The Federal Role in Resource Conservation and Recovery", "The State and Local Role in Resource Conservation and Recovery", "Technology, Trash, and Cash", and "Economic and Institutional Barriers to Private Investment in Resource Conservation and Recovery".

After reviewing the two weeks of testimony on H.R. 407 and H.R. 5487 and after the testimony of the experts participating in the symposium, the Chairman and ranking minority member of the Subcommittee on Transportation and Commerce introduced H.R. 14496 on June 22, 1976.

On June 29 and 30, 1976 hearings were held on H.R. 14496.

Mark-up on H.R. 14496 was held on July 21, 22 and 23 and August 30, 1976. The Subcommittee reported H.R. 14496, as amended to the full committee on Interstate and Foreign Commerce on August 30, 1976.

The Full Committee public mark-up of H.R. 14496 was on September 9, 1976 and a bill was reported to the House by voice vote on the same day.

In summary, the Subcommittee on Transportation and Commerce held 10 days of public hearings, and a 2 day symposium on solid waste legislation. During those proceedings 106 witnesses presented testimony and written comments were filed by over 40 individuals or organizations.

The hearings were followed by 4 days of Subcommittee mark-up and 1 day of full Committee mark-up.

Background and Need

Throughout this report reference will be made to the discarded materials problem. The reality of the situation is that the disposal of discarded materials presents a number of problems, many of which are addressed by the Resource Conservation and Recovery Act.

The most easily understood problem with discarded materials disposal results from the volume of waste being generated and the capacity to dispose of that waste in the traditional manner. Estimates of the annual waste volume range from 2.8 billion tons to 4 billion tons. Projections of land fill capacity show that 50 of the nation's largest cities will run out of capacity by the end of the decade. Countless counties and towns will face the same situation.

As present capacity is expended, the cost of waste disposal increases. Cities are forced to operate sites farther from the collection areas, increasing transportation costs and the cost of disposal. New disposal sites, often outside the jurisdiction's corporate limits, must be purchased. Further, the use of land as a disposal site in almost any location, is becoming more difficult because of local opposition. Already the costs of collecting and disposing of discarded materials has grown such that only education and road construction are more expensive items in the typical local budget.

Although the disposal of discarded materials has traditionally been considered a local problem, it is in fact one of broader scope. Unlike air pollution or water pollution, pollution of the land by discarded materials is not exclusively caused by the by-products of the productive process.

A large volume of our waste represents the actual product of our industrial and manufacturing processes. These wastes are the direct result of the demand for products and a need to dispose of them once they have served their purpose. These wastes are the result of the American lifestyle which includes an often wasteful emphasis on convenience or advertising.

Most manufactured products in this country are made at a location other than the one at which they are used and again differ from the one at which they are disposed. By tracing the waste to its origin as a useful product it is clear that most of our discarded materials have at some time entered the flow of interstate commerce (if not as

waste itself, than in the form of products which will at some future time constitute waste).

The fact that waste itself is in interstate and intermunicipal commerce has raised a number of problems. (Generally, hazardous waste is more likely to be the subject of interstate transportation than is non-hazardous industrial or municipal waste). Several jurisdictions, including some states, have attempted to prohibit the importation of waste. In Wisconsin, ownership of the waste in commerce has been the subject of lengthy litigation.

The volume of waste being generated and the capacity for its disposal in the traditional manner are the source of the discarded materials problem. At present two possible solutions have been presented to the committee. These are resource conservation by reducing the amount of waste generated and resource conservation, achieved by reclaiming valuable materials from the waste and thereby reducing the volume to be disposed of. The latter approach holds the additional benefit of lessening the demand for raw materials and thereby preserving the domestic reserves of these materials.

Both methods of discarded materials management have been implemented on a limited scale to date. They have included systematic and technological variations. They have had mixed success.

Some technology for resource recovery has reached a fairly developed stage. Others require additional research and development attention. Since research activities are not within the jurisdiction of the Commerce Committee, the needs in this area have been addressed by the Committee on Science and Technology in Part II. The Commerce Committee does however recognize resource recovery technology as a potential solution to the discarded materials disposal problem, particularly in urban areas.

The major need in the management of discarded materials appears to be for a rationalization of the waste management system which now includes many independent activities often having less than optimal results. Regional or statewide planning for discarded materials management is not widespread. The potential of resource conservation or recovery is seldom considered as important as the problem of transportation to the dump.

Testimony presented at the hearings and at the Resource Recovery Symposium sponsored by the Committee shows a need for a more wideranging dissemination of information concerning the potential of resource conservation and recovery as solutions to the discarded materials disposal problem. Even if municipalities are aware of this potential, the technical and institutional barriers they face in implementing a resource recovery system are often insurmountable without assistance.

For example, many cities cannot enter into long term contracts. Resource recovery facilities cannot be built unless they are guaranteed a supply of discarded material. The aggregation of so many independent units of local government creates numerous institutional and legal barriers. Such aggregation also complicates financial arrangements, which in many instances involve partial local financing such as general obligation bonds, or revenue bonds, or partial equity funding by a corporation constructing the facility or providing equipment. Most local governments have no experts on the recovery technology or conservation systems available.

These institutional and technical barriers and the lack of ability to overcome then under the present circumstances can only be viewed as a background. Overcoming these problems, although important, will not solve the discarded materials problem in its entirety.

The problems caused by past and present disposal methods will remain. Open dumps will still be shelters for vermin; breeding grounds for disease; and scars on the American landscape. Unless action is taken to change the current operation of open dumps they will remain the least costly and therefore most attractive disposal method.

Sanitary landfills, a name often given to dumps for the sake of compliance with local health ordinances, will continue to leach pollutants into underground water supplies. They will continue to pollute the air by their frequent "accidental" ignition. They will continue to generate explosive gases which can threaten any future use of the land.

Even more threatening are the present disposal practices for hazardous waste. Current estimates indicate that approximately 30–35 million tons of hazardous waste are literally dumped on the ground each year. Many of these substances can blind, cripple or kill. They can defoliate the environment, contaminate drinking water supplies and enter the food chain under preset, largely unregulated disposal practices. In many instances these hazardous wastes are disposed of in the same manner and location as municipal refuse—in the local landfill. There are seldom records of the deposit or of the composition of such hazardous wastes. It is generated, transported and buried without notice until the evidence of its presence is seen in persons or the environment.

It is the purpose of this legislation to assist the cities, counties and states in the solution of the discarded materials problem and to provide nationwide protection against the dangers of improper hazardous waste disposal.

This bill suggests that the first step in preserving the land is to end those practices which are most harmful. It requires that hazardous wastes be disposed of only at sites or facilities specifically designed for that purpose. The bill requires an end to open dumping and the upgrading of discarded materials disposal facilities to standards which provide real protection for the environment. It encourages state and regional planning for discarded materials management and provides assistance for the implementation of resource conservation or recovery systems.

This bill provides the groundwork for solving the discarded materials disposal problem and for minimizing the dangers of hazardous waste disposal. At the same time it proposes a way to lessen the drain on our domestic resources and to decrease our dependence on foreign sources of raw material and energy, both of which can be reclaimed from waste. Most important, it is a needed step toward protecting the purity of the land itself, and health of our people and the vitality of our environment.

OFFICE OF DISCARDED MATERIALS

At the present time there are offices within Environmental Protection Agency for water and air. There is however no office for land management. This title creates such an office within the EPA to be designated as the Office of Discarded Materials, and headed by an assistant administrator. This statutory establishment would give management parity with the air and water offices. In addition to giving land pollution parity, the establishing language also sets out the duties and responsibilities to be undertaken by the office.

A reduction in solid waste office personnel occurred in 1974 when manpower budgeted to implement the Waste Disposal Act was reduced from its historical high level of 225 to 183. Additional cuts were made in the following years bringing to 174 the personnel positions budgeted in 1976. That manpower level is lower than any year except for 1966, the first year positions were budgeted under the Solid Waste Disposal Act of 1965.

Total positions budgeted to implement the Solid Waste Disposal Act of 1965

Fiscal year:	*Permanent positions budgeted*
1966	70
1967	177
1968	187
1969	206
1970	206
1971	206
1972	212
1973	225
1974	183
1975	183
1976	174

Source: Budget Operations Division, EPA, from budget submissions to the Congress.

Although the Office of Solid Waste Management's major responsibilities are under the Solid Waste Disposal Act of 1965, it has other duties under other acts. A 1974 administration proposal would have cut the personnel total of the Office of Solid Waste Management from 312 to 120.

Under this bill it would be much more difficult to cut the personnel of budget of the Office or to sacrifice the waste management functions for the sake of air or water programs since all three offices would enjoy similar statutory authorization.

The duties and responsibilities of the Deputy Assistant Administrator of Discarded Materials Management are to administer the Solid Waste Disposal Act of 1965 and the Resource Conservation and Recovery Act of 1976. Coexistent with those responsibilities is the authority to issue regulations to implement both of the acts. The Office is authorized to gather information and to cooperate with other federal agencies in the collection and dissemination of waste management information. Further, the Administrator is authorized to give technical and financial assistance to the States in the development of discarded materials and hazardous waste management plans.

In addition the Administrator has the power to commence or defend all actions at the trial level and at the appeal level, including the United States Supreme Court, in those cases that involve Federal

Facilities that are not in compliance with the regulations promulgated by the Administrator pursuant to Title III and IV of this Act. The purpose of granting the Administrator such authority is to prevent potential conflicts of interest at the Department of Justice where the Department would have to represent the Federal facility not complying with the Administrator's regulations and the Administrator at the same time, in the same litigation. Without this authority, this conflict-of-interest problem could become extremely acute under this legislation regarding section 601 which requires the Administrator to enforce federal standards relating to discarded materials and hazardous waste management against federal facilities.

Other duties under the Office include authority to disseminate information on the methods and costs of collection and other discarded material management practices. These will include methods to reduce the volume of waste generated; the existing and developing technologies for energy and materials recovery from discarded materials; their cost, reliability and risk; hazardous waste, damage resulting from disposal of hazardous waste; and methods of neutralizing and properly treating such hazardous wastes; methods of financing resource recovery facilities, sanitary landfills, and hazardous waste treatment facilities, and locating new markets for resources recovered from waste.

The administrator is also to develop model codes to be used by state and local agencies in the development of discarded materials plan. He will develop a model accounting system, to reflect the actual costs and revenues associated with the collection and disposal of discarded materials and with resource recovery operations.

After collection and evaluation of the information the Administrator is required to disseminate the information. The dissemination of such information will be done in principally three ways. The establishment of a library which will contain both raw data and analyses from the studies undertaken in the agency's research and development programs; and information gathered by the EPA from the other agencies involved in solid waste. All library materials should be readily available to the public on request or through active agency information dissemination programs.

The library should also serve as a basic resource for the Resource Recovery and Conservation Panels which are to assist the cities, local authorities and states in the development of resource recovery systems and in the development of discarded material management plans.

DEVELOPMENT AND DISSEMINATION OF INFORMATION

This section (204) requires the Administrator to collect, evaluate and disseminate information on the methods and costs of collection and other discarded material management practices. These will include methods to reduce the volume of waste generated; the existing and developing technologies for energy and materials recovery from discarded materials; their cost, reliability and risk; hazardous waste, damage resulting from disposal of hazardous waste; methods of neutralizing or properly treating such hazardous wastes; methods of financing resource recovery facilities, sanitary landfills, and hazardous waste treatment facilities; and locating new markets for resources recovered from waste.

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The library should also serve as a basic resource for the resource recovery panels which are to assist the cities, local authorities and states in the development of resource recovery systems and in the development of discarded material management plans.

RESOURCE RECOVERY AND CONSERVATION PANELS

The Resource Recovery and Conservation Panels would be created to give advice, information and technical assistance concerning the technical, economic and institutional factors relating to the establishment of resource recovery and conservation facilities and systems. The panels would consist of four people: one each with expertise in the technical; financial, economic and marketing; legal and institutional; aspects of the development of a resource recovery facility or resource conservation system. The panels would be within the Office of Discarded Materials and would be staffed by agency personnel, or officers and employees of other agencies detailed to the EPA.

The advantage of such a mechanism is that expertise unbiased by the profit motive would be available on request to communities to help raise the questions which must be answered for a resource recovery facility or resource conservation system to become a reality.

It is not the Committee's intent that the panels participate in the decision-making process of the local or regional jurisdiction undertaking the resource recovery or conservation project. Rather, they should warn of the difficulties and suggest a variety of alternative solutions to the technical or institutional barriers an interested jurisdiction may encounter. Neither is it the Committee's intent that these panels act as architects, architectural engineers, design consultants, or financial consultants for the interested jurisdiction. These functions are more properly performed by the private sector under contract to the interested jurisdiction, or by the community's own personnel.

If requested, however, the panel should be prepared to advise such jurisdictions as to the experience and qualifications such private sector consultants or in-house personnel should bring to the task of establishing a resource recovery facility. It is not the Committee's intent that the panels participate in the decisions of whether or not private consultants should be engaged or as to which private contractor or which technology should be chosen.

The Committee intends that each team would work closely with the localities assigned to it by sharing the experiences of other communities and advising on the details which must be dealt with in order for a resource recovery or conservation program to become operational. These details would include preparation of an RFP; evaluation of the proposals; obtaining of a suitable financial package; deciding who should and will dump at the facility and marketing of the products.

When established the proposed program would help those being assisted to avoid the difficulties encountered by other communities. Because these difficulties can be very costly in terms of both time and dollars this program would yield a high cost-benefit ratio.

This type of program was identified as very desirable by contractors and equipment suppliers involved in resource recovery, and by all city and state governments witnesses that testified before the Committee.

Further, such teams are a very efficient system for information transfer; easy to administer and to terminate; and involve no direct financial responsibility on the part of the Federal Government other than the cost of the panels.

SPECIAL STUDIES

Three areas in particular are of such a nature as to require either a special study or a special program. These three areas are: mining waste, sludge, and discarded automobile tires.

A thorough study of mining waste is essential because mining wastes represent 1.8 billion tons of waste a year. (The second largest waste generator by volume is agriculture at 687 million tons, industrial at 200 million tons, followed by municipal waste at 135 million tons.) The traditional theory regarding mining waste has been that it is generally inert. However, a few recent studies indicate that some mining wastes can be harmful; some particularly so when mixed with water. Other mine tailings, particularly those containing heavy metals may be inert but nonetheless toxic even in their elemental form. Committee information on the potential danger posed by mining waste is not sufficient to form the basis for legislative action at this time. For this reason, the Committee has mandated a study of mining wastes.

EPA will undertake a study of mining waste, its sources and volumes, present disposal practices and will evaluate the potential danger to human health and environmental vitality. EPA will study surface runoff or leachate from mining wastes and air pollution by dust, as well as alternatives to current disposal methods and the costs of such alternatives. One million dollars is authorized for the mine waste study at the rate of $500 thousand dollars for FY'78 and $500 thousand dollars for FY'79. The Committee anticipates that the EPA mine waste study will be conducted in consultation with the Bureau of Mines. EPA has estimated the cost for the mine waste study to be approximately $500,000.

The second special study area is sludge. Sludge was not a major concern prior to the air and water pollution control acts, the pollutants are now being pulled out of the air and water and disposed of on the land, often without proper environmental safeguards. The volume of sludge has been increasing at a tremendous rate and not only from

municipal pollution control facilities. Many industries affected by the water pollution control act, have pretreatment processes which have contributed substantially to the volume of sludge.

The Committee is requiring the Administrator to undertake a comprehensive study and to publish a report on what the agency considers sludge; the increase of sludge volume; and the methods of disposing of sludge, including their cost, efficiency, and the effectiveness. Methods to reclaim areas that have been used for the disposal of such sludge, and in addition the effects of such increases on human health and the environment will also be studied. One million dollars is authorized for the sludge study; $500,000 in FY'78 and $500,000 in FY'79.

Tires are the last area of special concern. The reason for this concern is that tires can not be landfilled or buried. Because of their characteristics they will "float" to the landfill surface often making reclamation of the land impossible. Because of this peculiar characteristic the Committee authorizes the Administrator to make grants for 5% of the cost of portable tire shredders to individuals or governmental agencies. Once shred the waste rubber can either be successfully landfilled or can be reused as a rubber or asphalt products or as a fuel. One and one-half million dollars is authorized for tire shredder grants over a two year period; $750,000 each FY'78 and FY'79. It is the intent of the Committee that EPA, to the extent practicable, make such grants to private purchasers, rather than attempting to interest local government authorities in such projects.

AUTHORIZATIONS

The Committee authorizes $46,250,000 in FY '78 and $51,250,000 for the fiscal year ending September 30, 1979 to carry out the duties of the Office of Discarded Materials. However, the Committee placed several restrictions upon how the administrator can utilize these funds.

Not less than 20% of the amount appropriated for the Office can be used to fund the resource recovery panels. Thirty percent of the amount appropriated under the general authorization for the office must be used for implementing Title III, relating to hazardous waste. The purpose of the specific instructions as to how the authorization is to be utilized is to ensure that areas the Committee considers important are allocated the resources necessary to carry out the programs mandated by Congress.

In the past, the Office of Solid Waste Management has been an area where agency budget cuts have been implemented with disastrous effect on ongoing programs. As previously stated, in 1973 pursuant to an agency personnel and budget cut, manpower in the Office of Solid Waste Management was drastically reduced. Under such reductions, made possible by the non-statutory nature of the office, most programs outside the hazardous waste area came to a near standstill.

By earmarking the funds to be used by the resource conservation and recovery panels and in the hazardous waste program, the Committee intends to clearly indicate those areas of greatest concern and to ensure that funding adequate to support the Congressional directive is available to these activities.

HAZARDOUS WASTE MANAGEMENT

The title on hazardous waste management addresses the problem of the disposal of hazardous waste in a comprehensive manner including consideration of the generation of hazardous waste; the transportation; treatment; storage; and disposal of such waste. In developing this title the Committee acquired extensive data on hazards caused by the disposal of hazardous waste.

The most effective way of illustrating the dangers of improper hazardous waste disposal is perhaps to cite actual instances of damage caused by current hazardous waste disposal practices. The following section is merely illustrative of the problem. Far more cases could be cited, even more have gone unreported.

PENNSYLVANIA

Kiskiminetas Township, Armstrong County 1974

Sulfuric acid has been leachating from a mining company's dump into the Kiskiminetas river. About 3,500,000 gallons of leachate was discharged each day containing an estimated total of 463 tons of acid.

Nockamixon Township, Bucks County 1970

From 1965 to 1969 a chemical company bought industrial wastes from other plants, extracted copper, and then stored the remaining liquids in cement lagoons. Eventually some of these lagoons developed open seams from which toxic pollutants seeped into an adjacent creek, which became lifeless.

Bruin Borough, Butler County 1968

A waste storage lagoon of the refining corporation spilled sludge into the South branch of Bear Creek. The sludge flowed 3 miles downstream into the Allegheny river, killing an estimated 4.5 million fish.

Havertown, Delaware County

A Wood Preservative firm has dumped wastes containing dissolved pentachlorapdenol on its premises since 1952. The wastes have begun to enter Naylor Run, killing all life for 5 or 6 miles down stream from the point of entry.

Robinson Township, Washington County

A coal company has been dumping waste coal debris on the 480 acre Champion dump since 1929 causing both St. Patrick Run and Little Racoon Run to become contaminated.

NEW JERSEY

Hackensack Meadowlands, Bergen County 1974

A one acre plant site was used as a dump for mercury wastes. There is approximately 200,000 lbs of toxic mercury at the former plant site.

Camden, Camden County 1972

Over 8,000 lbs of poison (arsenic) were discovered in a 17 acre abandoned factory complex.

Perth Amboy, Middlesex County 1967

A plant recovering metals from waste stockpiled raw materials (zinc, lead, sodium) in the open and metals subsequently leachated into surface ground water causing a portion of the public water supply wells to be closed in 1971 and 1972.

Pennsville Township, Salem County

Groundwater beneath a 40 acre chemical manufacturing site has been contaminated by waste chemicals disposed of over a 50 year period.

Neshanic Station, Somerset County 1968

A farm family was poisoned and hospitalized as a result of drinking well water that had been contaminated by an insecticide that was dumped into the well area.

Egg Harbor Township, Atlantic County 1973

A landfill has been the depository of large quantities of industrial wastes causing a ground water pollution problem involving chemical contaminates.

Camden, Camden County

The discharge of electroplating wastes into sewer line caused a municipal water supply to become contaminated with hexavalent chromium.

Gillsboro, Camden County 1973

The wall of an industrial waste lagoon ruptured causing 75,000 gallons of laytex paint sludge containing high concentrates of lead and mercury to enter the Hilliard Creek.

Winslow Township, Camden County 1972

Leachate from unlined industrial disposal lagoons caused the contamination of several private wells from phenols.

Middletown Township, Cape May County 1973

The illegal disposal of 5,000–6,000 gallons of oil and petrochemicals at a landfill caused the contamination of the Diaz Creek and a lake 1½ miles from the landfill.

Newark, Essex County

The indiscriminate dumping of industrial wastes at two landfills in Newark is believed to constitute a significant source of oil and chemical pollution of New Jersey's coastal waters.

Logan Township, Gloucester County 1972

Leachate from industrial waste lagoons caused the pollution of ground waters from chemical pollutants.

Mantua Township, Gloucester County 1970

During the 1960's a landfill in Mantua accepted miscellaneous industrial wastes which eventually leachated and entered the Chestnut branch of Mantua Creek and also polluted the groundwater system.

Newfield, Gloucester County 1970

Chromium from a waste lagoon of metals alloy company contaminated a municipal well, at least one domestic well and a nearby stream.

Eddison Township, Middlesex County 1974

A bulldozer operator was killed in an explosion at an industrial landfill as he was burying several 55 gallon drums of unidentified chemical wastes.

Dover Township, Ocean County 1971

Chemical wastes were illegally stored and dumped causing the contamination of the Cohausey aquifer by petrochemicals resulting in the condemnation of 150 private wells.

East Ruthaford, Passaic County 1973

A chemical disposal company was fined $24,000 for spilling fish killing chemicals into a small creek near the Hackensack Meadowlands.

Neshanic Station, Somerset County, 1968

A farmworker, his wife, and three children experienced abdominal pain and vomiting from drinking well water in Neshanic Station contaminated with an insecticide.

ILLINOIS

Galena, Jo Daviess County

Between 1966 and 1968 a mining company discharged waste water into an abandoned shaft of a lead-zinc mine. As a result the Galena-Platteville aquifer was contaminated.

Olney, Richard County, 1971

A disposal well used by an oil company leaked, allowing pheuolic compounds to enter Fox Creek contaminating the Creek and adjacent surface soil.

Shannohon Township, Will County

A chemical company disposed of an unidentified solid Chemical waste in a land fill on its property causing partial contamination of the DesPlaines River.

1972

Fifteen thousand drums of toxic and corrosive metal industrial wastes were dumped on farmland. As a result large numbers of cattle died from cyanide poisoning and nearby surface water was contaminated by runoff.

WASHINGTON

Spokane, Spokane County, 1967–1974

Aluminum processing wastes were dumped into an old basalt quarry during this period. Heavy rains in 1973 caused two domestic water supplies to become contaminated with chloride (concentrations range from 600 to over 1100 ppm).

Richland, Benton County, 1973

An underground storage tank leaked 115,000 gallons of radioactive waste, penetrating 89 feet and contaminating 880,000 cubic feet of soil.

Bothel, King County, 1971

Approximately 400 pounds of calcium arsenate (a toxic insecticide) was indiscriminately dumped near the Sammamish slough.

Issaguah, King County

A dump/landfill accepted industrial and hospital wastes for over 10 years. Leachate from the fill contaminated Mason Creek, fostering the growth of a slime mold, killing salmon eggs and fry at the Issaguah State Hatchery.

Silverdale, Kitsop County 1971

Munitions wastes from the Bangor Naval Annex contaminated the soil and aquifer underlying the area with RDX and TNT.

NEW YORK

Middleport, Niagara County

A manufacturing corporation for many years disposed of arsenic containing wastes on its property. Ths resulted in the pollution of about 40% of the property with arsenic. The concentrations are high enough that surface runoff picks up hazardous quantities of arsenic and carried it to nearby streams.

Middleport, Niagara County, 1975

The same manufacturing corporation dumped one of its pesticides (Carbuforon) into a lagoon used for storing highly acidic ammonia-containing wastes. Ducks and geese, which normally use the lagoon without incident during migration were killed this year by the Carbuforon content.

New York City, Queens County

Since before 1900 a refining company disposed of nickel sulfate and copper sulfate wastes on a dump on its premises. This practice has seriously degraded the groundwater in the vicinity.

Olean, Cattaraugus County, 1970

An industrial concern caused numerous spills, pipe leaks and dumping of nitrogenous wastes which resulted in the contamination of both surface and groundwaters. This also was the cause of two major fish kills in the Allegheny River.

Olean, Cattaraugus County

A burial of chromium-bearing plating wastes resulted in the leachate caused pollution of a domestic well 450 feet from the burial site.

Horseheads, Chemung County 1970

A home manufacturer dumped hydrofluoric acid wastes into a lagoon which discharged into a nearby stream and subsequently contaminated a nearby groundwater supply.

MINNESOTA

Perham, 1972

Arsenic wastes buried 30 years ago on agricultural land contaminated a drinking water well. Several persons using the well as a water supply were hospitalized for arsenic poisoning.

CALIFORNIA

San Francisco

Attempts to treat organic lead wastes resulted in alkyl lead intoxication of plant employees. Employees of firms in the surrounding

area were exposed to an airbourne alkyl lead vapor hazard. Toll collectors on a bridge along the truck route to the plant became ill from escaping vapors from transport trucks.

MARYLAND

Saint Mary's County, 1965

A wood treating company has been treating wood by high pressure injection of creosote with a by product of phenolics. The waste products were stored in clay lined lagoons. It was discovered the lagoons were leaking and an extensive zone of contamination exists nine feet below ground and is moving in the direction of fresh water ponds and streams.

Kent County, 1975

Storage facilities for liquid nitrogen fertilizer located in Kent County are excavated ponds lined with polyvinyl chloride and a capacity of 580,000 gallons. After an investigation in 1975 it was found that for a depth of 50 feet and at least a distance of 50 feet around the storage tanks the ground water was being degraded. The nitrate nitrogen levels are very high at 27 mg/liter. Nitrate nitrogen is in the same category as arsenic, cyanide and mercury.

Baltimore County, 1975

A chemical company has been using the Maryland Port Authority's Marine Terminal for disposal of their chrome ore tailings. It has been determined that water running through this fill material (waste chrome ore) is highly contaminated with chromium to the point where green leachate is visible in Baltimore Harbor.

Somerset County, 1975

At Crisfield Maryland there is a waste holding pond that contains wastes such as arsenic, lead, nickel, chromium and cyanides and receives 15,000 gallons of waste water per day. The pond is unlined and after testing the contamination of underground waters extends to a depth of 50 feet and a radius of 1,000 feet.

TEXAS

Houston, 1968

A firm in Houston has been discharging hazardous wastes including cyanides at a rate of 25.4 pounds per day, phenols at 2.1 pounds per day, sulfides and ammonia into the shipping channels. Even low concentrations of these wastes are lethal to small fish and shrimp.

Harris County, 1968

A chemical company that produces insecticides and weed killers containing arsenic have been discharging this waste into the land and adjacent water. The arsenic laden water of Vince Bayou then drained into the public waters.

IOWA

Waterloo, 1972

Gross contamination of a plant area occurred after a manufacturing firm burned technical mevinphos (phosdrin). The area then had to be neutralized with alkali.

1973

A laboratory company dumped over 250,000 gallons of arsenic bearing wastes. The dump site was located above a limestone bedrock aquifer from which residents of nearby towns obtain 79 per cent of their drinking and irrigation water. The aquifer is presently uncontaminated but the potential contamination cannot be underestimated.

COLORADO

Denver County, 1972

Since 1972 a portion of the Lowry Air Force Base has been used for the disposal of hazardous wastes. No inquiries were made as to the types and amounts of waste being dumped. Laboratory tests showed high concentrations of cyanides and short-lived radioactive wastes. These have produced cattle deaths attributed to the ingestion of water and materials that had washed downstream from the original landfill site.

TENNESSEE

Waynesboro, 1972

Waste polychlorinated biphenyls (PCB) have been deposited in the city dump site by a local firm. This waste was then pushed into a spring that emptied into Beech Creek where wildlife and aquatic life were destroyed. The pollution is now moving downstream to the Tennessee River.

VIRGINIA

Carbo, 1967

A dike containing an alkaline waste lagoon for a steam generating plant collapsed and released 400 acre-feet of fly ash waste into the Clinch River. Traveling at one mile per hour it reached Norris Lake where it killed 216,200 fish and all food organisms in a four mile radius.

FLORIDA

Fort Meade, 1971

A portion of a dike forming a waste pond ruptured releasing two billion gallons of slime composed of phosphatic clays and insoluble halides from a chemical plant. This contaminated Whidden Creek, Peace River and the estuarine area of Charlotte Harbor destroying all aquatic life.

LOUISIANA

1973

Hexachlorobenzene (HCB) was dumped in a rural landfill, where it sublimed into the air. The HCB was ultimately absorbed into the body tissues of cattle resulting in the quarantine of 20,000 head of cattle by the Louisiana Department of Agriculture at a loss of approximately 3.9 million dollars to ranchers.

ARKANSAS

1972

A two and one half year old child was hospitalized for organophosphate poisoning after playing among empty pesticide drums purchased by the city for use as trash containers. The containers were in various states of deterioration and enough concentrate was in evidence to intoxicate anyone who came into contact with them.

IDAHO

1969

Fourteen head of cattle died, some with convulsions after licking empty bags of fertilizer that were improperly disposed of.

NEW MEXICO

1969

Three children sustained serious alkyl mercury poisoning after eating contaminated pork. A fourth child contracted congenital poisoning as a result of the mother eating the same pork during the first trimester of pregnancy. (The hog had been fed grain treated with a mercury type seed dressing.)

MISSOURI

1970

An applicator rinsed and cleaned a truck rig after dumping unused Endrin into the Curve River at Mosco Mills, Missouri resulting in the killing of an estimated 100,000 fish and the closing of the river to fishing for one year.

1970

The Kansas City water supply contained objectionable tastes and odors due to a phenolic content. Investigation showed that fiber glass waste dumped along the river bank was the source.

MISSISSIPPI

1969

An assistant dean at the University of Southern Mississippi died of syphyxiation while fishing near Hattiesburg. The victim's boat drifted into a pocket of propane gas that had been discharged into the river through a gasoline terminal wash pipe from a petroleum refinery.

It is interesting to note that these damages occurred in spite of the fact that 46 states have some regulatory power over hazardous wastes.

Seven states have comprehensive hazardous waste management laws: California, Illinois, Maryland, Minnesota, Oklahoma, Oregon, and Washington. These States appear to have authority for "cradle-to-grave" management of hazardous wastes. Additionally, New York State has a "Hazardous Substances Act" which might allow the development of a State hazardous waste management program, but which is so general that the State has chosen not to implement it. Kentucky has legislation covering hazardous waste haulers, but not the generation, storage, treatment, or disposal of solid waste. Kentucky is the only state to have passed this kind of legislation.

Other States have chosen to develop regulations in advance of, or in place of, legislation specifically covering hazardous wastes. These include: Florida, Massachusetts, New Jersey, New York, New Mexico, and Texas.

Great diversity characterizes the approaches being taken by the several States, ranging from a prohibitionary ban on the disposal of hazardous wastes in landfills—which leaves the fate of these wastes unaccounted for—to the comprehensive management programs mentioned above. Only one State, California, is fully implementnig a com-

prehensive hazardous waste management program under authority of explicit State hazardous waste legislation. Several other States are implementing parts of comprehensive control programs, mainly the permitting of land disposal sites.

EPA has been able to identify approximately 50 people in 25 States as working primarily or exclusively on hazardous waste management. Some of these have been employed to work on specific tasks (usually State hazardous waste surveys) and do not make active contributions to the other aspects of the State's program. Approximately one-third of the total are employed in the California program alone. Most other States have one or two persons, with three being an unusually large staff.

EPA has included in its count, State personnel assigned to State agencies other than the nominal solid waste control agency, such as the Texas Water Quality Board and the California Department of Health. EPA has not included State personnel assigned to hazardous materials control in other media where they do not address the land disposal or treatment implications of their efforts.

The delay in implementing hazardous waste legislation in those States which have such authority may be due partly to the above staffing pattern. For example, Minnesota and Oregon have had legislation for several years, but the former currently has two persons assigned to hazardous waste management; and the latter, only one.

The hazardous waste program under this bill is one in which the Federal Government will determine the criteria for identifying what wastes are hazardous, and will list wastes determined to be hazardous by their nature. The process of identifying and listing will be done in consultation with State and local governments and under the Administrative Procedures Act with notice and opportunity for hearing. Anytime after the issuance of the list, the Governors of each State can petition to have other substances added to the list. In addition to identifying and listing hazardous waste there will be Federal minimum standards for the generators, transporters and operators for hazardous waste storage, treatment, or disposal facilities. Permits will be issued by the administrator to such persons who own or operate hazardous waste treatment or storage facilities.

It is the Committee's intention that the States are to have primary enforcement authority and if at anytime a State wishes to take over the hazardous waste program it is permitted to do so, provided that the State laws meet the Federal minimum requirements for both administering and enforcing the law.

There are two exceptions to the above statement. First, for a period of two years after the regulations are promulgated, States that have in effect laws that are substantially equivalent to the Federal standards can receive temporary authorization for the two-year period. The purpose of this section is to avoid negating any progress that has been made in the hazardous waste areas in the States, and to facilitate workable transition from State standards to minimum Federal standards.

Second, State hazardous waste plans do not apply to Federal facilities, nor should such State plans take into account hazardous waste generated on such facilities. All Federal facilities must comply with all the Administrator's regulations promulgated under this title and

the Administrator has the authority to enforce such regulations pursuant to sections 203, 308 and 601 of this Act.

CRITERIA FOR IDENTIFICATION AND LISTING

The Administrator is required within 18 months after enactment to promulgate criteria identifying the characteristics of hazardous wastes and using the criteria to identify and list those wastes that are hazardous. Under this procedure the Administrator is to consult with State and Federal agencies and is to give notice and the opportunity for hearings to the public. Any time after wastes are identified and listed, the Governor of any State may petition the Administrator to place additional wastes on the list. The Administrator shall act upon such a petition within 90 days. If the Administrator denies the Governor's request, because of financial considerations, he must state his reasons in detail.

The Committee adopted his bifurcation of developing the criteria for what is a hazardous waste separate from the identification and listing of the hazardous wastes for three reasons.

First, the criteria for determining what should be considered hazardous should not be confused with an actual hazardous waste. The criteria should remain the standard of judgment and the waste should be that which is analyzed based on the criteria.

Second, the Committee's intention is that EPA, in the development of the characteristics of a hazardous waste take into consideration the toxicity of the waste, its persistence and degradability in nature, its potential for accumulation into tissue, and other related factors, such as flammability, corrosiveness or other hazardous characteristics. Only after the criteria for determining what is hazardous has been developed can the Administrator determine which specific wastes are hazardous.

Third, the public as well as state and local authorities and the involved industries have input both in the development of the criteria used to determine hazardous wastes and in the actual determination of which wastes are hazardous. Further, the process of listing hazardous wastes is a continuing process, not a one time listing. Such process can occur either by petition of the Governor or a state pursuant to section 301 or by any other person pursuant to section 704 of this act.

The Committee anticipates the identification of two basic types of substances; those which are nazardous in their elemental and most common form, regardless of concentration, and those which when present in sufficient concentration or when mixed with other substances constitute hazardous waste.

The criteria for identification of these substances should make such a distinction based on the danger to human health and the Environment. The listing of any substance not found to be hazardous per se should be accompanied by an explanation as to when such wastes are considered hazardous. Such explanation should relate to the quantity, concentration, physical, chemical or infectious characteristics including toxicity, persistence and degradability in nature, potential for accumulation in human tissue and other factors such as flammability and

prehensive hazardous waste management program under authority of explicit State hazardous waste legislation. Several other States are implementing parts of comprehensive control programs, mainly the permitting of land disposal sites.

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The Committee adopted his bifurcation of developing the criteria for what is a hazardous waste separate from the identification and listing of the hazardous wastes for three reasons.

First, the criteria for determining what should be considered hazardous should not be confused with an actual hazardous waste. The criteria should remain the standard of judgment and the waste should be that which is analyzed based on the criteria.

Second, the Committee's intention is that EPA, in the development of the characteristics of a hazardous waste take into consideration the toxicity of the waste, its persistence and degradability in nature, its potential for accumulation into tissue, and other related factors, such as flammability, corrosiveness or other hazardous characteristics. Only after the criteria for determining what is hazardous has been developed can the Administrator determine which specific wastes are hazardous.

Third, the public as well as state and local authorities and the involved industries have input both in the development of the criteria used to determine hazardous wastes and in the actual determination of which wastes are hazardous. Further, the process of listing hazardous wastes is a continuing process, not a one time listing. Such process can occur either by petition of the Governor or a state pursuant to section 301 or by any other person pursuant to section 704 of this act.

The Committee anticipates the identification of two basic types of substances; those which are nazardous in their elemental and most common form, regardless of concentration, and those which when present in sufficient concentration or when mixed with other substances constitute hazardous waste.

The criteria for identification of these substances should make such a distinction based on the danger to human health and the Environment. The listing of any substance not found to be hazardous per se should be accompanied by an explanation as to when such wastes are considered hazardous. Such explanation should relate to the quantity, concentration, physical, chemical or infectious characteristics including toxicity, persistence and degradability in nature, potential for accumulation in human tissue and other factors such as flammability and

corrosiveness which contribute to the hazardous nature of the substance, and which EPA is to consider as part of the listing process.

It is the Committee's view that their is sufficient public input and this coupled with the citizen suit provisions contained in section 702, and the section permitting petitions for new regulations provide sufficient protection from both overzealous or lax regulation.

STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

The Administrator is required within 18 months after notice and public hearings and after consultation with the appropriate federal and state agencies, to promulgate regulations applicable to the generators of hazardous waste that are either identified or listed.

One of the major problems to be addressed in the hazardous waste area is the lack of information concerning the components, volumes and sources of hazardous waste. To date there has been no survey or other wide ranging investigation of the sources of hazardous or potentially hazardous waste generation or disposal. As a result, little is known about the actual volume of hazardous waste being generated, the geographical distribution of the generators or the extent to which hazardous wastes are transported. Neither does the Committee or the EPA know where much of the waste which is clearly hazardous is being disposed of.

To gain the information needed to adequately plan for the disposal of hazardous waste and to ensure its proper disposal, it is imperative to know what is being generated, where and by whom.

Rather than place restrictions on the generation of hazardous waste, which is many instances would amount to interference with the productive process itself, the Committee has limited the responsibility of the generator for hazardous waste to one of providing information.

The requirements of the Administrator applying to generators of hazardous waste are to include the keeping of records on the nature and volume of hazardous waste generated. Generators will be required to make periodic reports to the Administrator regarding the hazardous wastes generated.

Generators will also be required to keep transportation records showing the carrier into whose custody wastes are surrendered, and the intended destination of the waste. Wastes being transported are to be properly containerized, if required by the Administrator to protect human health and the environment, and labeled. Containerization and labeling are to be responsibilities of the generator.

The labeling required by the Administrator is to provide information on the general characteristics and composition of the wastes and a warning that such wastes are hazardous.

Through this process the Administrator will have at hand information on the location and volume of wastes being generated. Transporters of the wastes will know what the cargo contains, its general characteristics, and will have a warning as to its nature. Further, those who receive such wastes for treatment, storage, or disposal will have accurate knowledge of the characteristics and constituents of such waste prior to working with such wastes.

Although there will be no requirement of the generator to modify his production process to reduce or eliminate the volume of hazardous waste, he will bear the burden of recordkeeping, reporting to the Administrator, and providing information and warning to the transporter of the waste, and to those who treat, store or dispose of such wastes.

STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTES

These provisions require the Administrator to promulgate within 18 months, regulations relating to the transportation of hazardous wastes. These regulations are again to include recordkeeping, proper labeling, compliance with a manifest system, and will require delivery of the waste to a facility which the shipper designates on the manifest form as one that has been issued a hazardous waste treatment, storage or disposal permit.

Further, the Administrator is required to coordinate these regulations with those of the Secretary of Transportation regarding transportation of hazardous materials. All regulations promulgated by the Administrator shall be consistent with the requirements of the Hazardous Materials Transportation Act. The Administrator is authorized to make recommendations to the Secretary of Transportation as to regulations under the Hazardous Materials Transportation Act and with respect to the addition of materials to be covered by that act.

The purpose of the requirements for hazardous waste transporters is to ensure that those hazardous wastes placed in the flow of commerce are handled in a manner protective of human health and environmental vitality and delivered only to a facility or site adequate to properly dispose of such wastes.

It is not the committee's intent to interfere with the transportation of the waste but rather to provide a system through which the movement of the waste can be traced. Too often trucks bearing hazardous waste have been unloaded along the roadside or at a nearby landfill.

The manifest system is intended to serve as a check against such practices. Originating with the generator, moving through the transportation stage, registered at an approved disposal site for the treatment, storage or disposal of such hazardous waste and returned to the generator, the manifest will give to each party in the chain of handling a record. It will also provide the Administrator with a clear record of the movement and final disposition of waste originating at any specific site. Such records will greatly assist the Administrator, or state, where appropriate, in its enforcement of the hazardous waste regulations.

In short, the duties of the transporter are to accept only those hazardous wastes properly labeled and in compliance with the manifest requirements, to discharge the specific duties of the transporter under the manifest system, and to deliver the hazardous waste only to the facility which the shipper designates on the manifest form to be a facility holding a permit issued under this title.

STANDARDS APPLICABLE TO OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

The Administrator is also required to promulgate performance standards applicable to those facilities operated for the treatment, storage, or disposal of wastes identified as hazardous. These performance

standards must reasonably protect human health and the environment.

Additional requirements are to include maintenance of records of all identified or listed hazardous wastes handled. The requirements will also include periodic reporting to the Administrator, and compliance with the manifest system. Inherent in the manifest system it is expected that there will be developed a process whereby those receiving hazardous wastes will notify the shipper of such wastes that such wastes have been received so that the system will be self-policing.

Disposal site operators may also be required to provide continuous or periodic monitoring of areas surrounding the waste disposal sites and to submit to EPA inspection of the site or facilitiy. Such monitoring or inspection will be conducted to enforce compliance with performance standards promulgated by the Administrator to ensure the reasonable protection of human health and the environment.

In addition to meeting the performance standards under normal operation the Administrator may require a contingency plan for minimizing environmental damage and danger to human health in the event of a failure of one or more of the safeguards required by the performance standards.

The disposal facility requirements are the key provisions in the structure regulating the handling of hazardous waste. The manifest system finds its completion when such wastes are received by those who treat, store or dispose of such wastes and notice of receipt of such solid wastes are sent to the generator. Further, the disposal facilities will be informed of the nature of the waste by the manifest document and the waste labeling. Most important of all, hazardous waste will be deposited only at sites specifically designed for hazardous waste disposal, and incorporating the safeguards necessary to protect human health and the environment.

It is the intent of the Committee that responsibility for complying with the regulations pertaining to hazardous waste facilities rest equally with owners and operators of hazardous waste treatment, storage or disposal sites and facilities where the owner is not the operator.

PERMIT REQUIREMENTS

Within 18 months of enactment, the Administrator is required to promulgate regulations requiring each person who is the owner or operator of a facility for the treatment, storage or disposal of hazardous waste identified or listed, to have a permit to treat, store or dispose of such hazardous waste. Applications for a permit, shall at a minimum, contain information concerning estimates of the quantity of hazardous wastes that are to be disposed, the time and frequency of hazardous waste deposits, and the specific location of treatment, storage or disposal of such wastes. Once the administrator, or the state if appropriate, determines that a facility is in compliance with the requirements for facilities treating, storing, or disposing of hazardous waste, then the Administrator or the state if appropriate shall issue a permit to such facility.

If upon determination by the administrator or the state that a permitted facility is no longer in compliance with the treatment, storage or disposal regulations then the permit shall, after a hearing, be revoked.

AUTHORIZED STATE HAZARDS WASTE PROGRAMS

This section develops a structure under which states can plan and implement a state hazardous waste program, in lieu of the federal program which is developed and implemented by the Administrator.

Under the structure authorized by this section the Administrator, within 18 months after date of enactment of this Act, is required to promulgate guidelines which are to assist the states develop procedures for substituting the State hazardous waste plan for the federal plan.

Any state that seeks to administer its own hazardous waste program is required to submit to the Administrator an application or such form as the administrator shall require, containing the provisions of the state program.

Following the submission the Administrator is required to issue a notice to such state as to whether or not he expects such program to be authorized and within 90 days after such notice and after opportunity for public hearing, the Administrator shall publish his findings as to whether the state program is equivalent to the federal program and consistent with other state programs. By requiring a public hearing and findings this section guarantees that there will be a public hearing on a state's spplication to the Administrator for authority to implement the state's hazardous waste program in lieu of the federal program.

Further, it requires the Administrator to make a finding as to whether or not the state hazardous waste program meets the federal minimum standards. This section is necessary if there is to be any judicial review of the Administrator's actions relating to the approval of state hazardous waste programs.

If the Administrator finds that the state program is consistent with other state programs and equivalent to the federal program, the Administrator is then required to authorize the state to implement its state hazardous waste program in lieu of the federal program.

However, because several states have already developed a hazardous waste program, and because several states have already passed hazardous waste laws and claim they are about to begin implementing such laws, the Committee determined that an interim authorization is necessary (1) so that existing progress in the area of state hazardous waste law does not come to an abrupt halt, as has been the situation with the passage of other environmental laws, and (2) to give such states that have begun developing or implementing a hazardous waste program sufficient time to bring such program into conformity with the federal minimum standards. The Administrator is required to grant the interim authorization for a period of 24 months after the effective date of the regulations he has promulgated if he finds that such program is substantially equivalent to the regulations promulgated by the Administrator.

Therefore, if a state has a hazardous waste program in effect on the date of enactment then it may request and obtain an interim authorization provided its program is substantially equivalent to the federal program. However, if a state on date of enactment does not have a hazardous waste program in effect that is substantially equivalent to the federal program, then it is required to develop a hazardous waste program equivalent to the federal program if it seeks to administer the state program in lieu of the federal program.

76-726 O - 76 - 3

All states, within two years after promulgation of the federal hazardous waste regulations, must have equivalent state programs if they seek to implement the state program in lieu of the federal program.

The general purpose of having federal minimum standards for hazardous waste disposal, with the option of state implementation of state programs equivalent to the federal program, is (1) it provides uniformity among the states as to how hazardous wastes are regulated, (2) it provides industry and commercial establishments that generate such wastes uniformity among states, (3) by providing such uniformity a state with environmentally sound laws does not drive business out of the state to a state which, for economic reasons, decides to be a dumping ground for hazardous wastes, and (4) by permitting states to develop and implement hazardous waste programs equivalent to the federal program, the police power of the states are utilized rather than the creation of another federal bureaucracy to implement this act.

In addition to the above reasons the Committee believes that federal minimum standards are necessary if the hazardous waste problem is to be understood and solutions are to be found. Waiting for states to solve this problem without federal assistance is not likely since each state would take a different approach and there would be too many gaps in both the receiving of information and enforcement. The activity of the states as to the development and implementation of hazardous waste programs has been discussed in prior parts of this section.

ENFORCEMENT

Enforcement under this section is accomplished by a variety of provisions: Inspections by authorized federal or state inspectors, compliance orders issued by the Administrator and enforced in court, and civil and criminal penalties.

This array of enforcement mechanisms is so that punishment is related to the offense. Many times civil penalties are more appropriate and more effective than criminal. However, many times when there is a willful violation of a statute which seriously harms human health, criminal penalties may be appropriate.

The inspection provisions permit either federal or state inspectors to enter, at reasonable times, the establishment of any person who generates, stores, treats or disposes of hazardous wastes to inspect and obtain samples of such waste and to obtain samples of containers or labels used for the transportation, storage, treatment or disposal of such waste. If an inspector removes a sample of such waste from the premises, then part of such sample, equal in weight and volume shall be left with the operator. The purpose of this requirement is so that in case of litigation, both parties have equal access to the evidence. The records that are obtained pursuant to this section shall be available to the public except those records that cannot be divulged pursuant to section 1905 of Title 18 of the U.S. Code relating to proprietary interests.

In addition to the inspections, the Administrator, when he finds that there is a violation of the provisions relating to the hazardous wastes, shall issue a notice to the violator which contains, with reasonable specificity, the nature of the violation, the time for compliance

and the penalty for noncompliance. If the violation is not corrected within 30 days then the Administrator can either issue a compliance order or commence an action in the district court. However, in the case in which the State is implementing an authorized state program pursuant to this title, the Administrator before acting against the violator must give notice to the state 30 days prior to issuing an order, or commencing judicial action. In no event can the penalty for a violation of such order exceed $25,000 per day.

This section also provides for criminal penalties for the person who knowingly transports any hazardous waste listed under this title to a facility which does not have a permit issued pursuant to section 305, or disposes of any hazardous waste without a permit under this title, or makes any false statement or representation in any application, label, manifest, record, report or permit filed to comply with this title. The use of criminal penalties are sufficiently narrow in that they only apply to those who knowingly transport hazardous waste to a facility which does not have a permit, the actual disposal of hazardous wastes without a permit, or the falsification of documents, all of which are more serious offenses than the other provisions of the hazardous waste title.

The Committee justification for the penalties section is to permit a broad variety of mechanisms so as to stop the illegal disposal of hazardous wastes. This legislation permits the states to take the lead in the enforcement of the hazardous wastes laws. However, there is enough flexibility in the act to permit the Administrator, in situations where a state is not implementing a hazardous waste program, to actually implement and enforce the hazarodus waste program against violators in a state that does not meet the federal minimum requirements. Although the Administrator is required to give notice of violations of this title to the states with authorized state hazardous waste programs the Administrator is not prohibited from acting in those cases where the state fails to act, or from withdrawing approval of the state hazardous waste plan and implementing the federal hazardous waste program pursuant to title III of this act.

RETENTION OF STATE AUTHORITY

This section is the key to the development and implementation of the hazardous waste title, and the federal-state relationship in such structure.

The Administrator is required to promulgate regulations covering all aspects of hazardous waste management. Such regulations are to be the minimum standards applicable to hazardous waste management.

The Administrator is required to authorize any state that submits a state hazardous waste program that is equivalent to the standards promulgated by the Administrator, to implement such state program in lieu of the federal program.

However, if the state program is not equivalent, or becomes not equivalent after it is authorized, the Administrator, after notice and opportunity for the State to have a hearing, is authorized to enforce the federal minimum standards relating to such hazardous waste program in such state.

Further, the Administrator, after giving the appropriate notice to a state that is authorized to implement the state hazardous waste program, that violations of this Act are occurring and the state failing to take action against such violations, is authorized to take appropriate action against those persons in such state not in compliance with the hazardous waste title.

Therefore, a state retains the primary authority to implement its hazardous waste program so long as such program remains equivalent to the federal minimum standards. If the state program does not remain equivalent to the federal minimum standards then the Administrator is authorized to implement the hazardous waste provisions of this Act in such state.

AUTHORIZATION OF ASSISTANCE TO STATES

Twenty-five million dollars are authorized for each of the fiscal years 1978 and 1979 to be distributed among the states for the implementation of the hazardous waste provisions of this title, taking into account the extent to which the hazardous wastes are generated, stored, transported, treated or disposed of within the state and the extent of exposure of human beings and the environment, within such state, to such hazardous wastes. The funds are to be used to assist those states with the greatest problem in the area of hazardous wastes develop a hazardous waste program, and to implement such program so as to protect its citizens from such hazardous waste.

STATE OR REGIONAL DISCARDED MATERIAL PLANS

The United States will continue to generate significant quantities of waste in the forseeable future. The principal waste management tool will continue to be land disposal, despite the potential for environmental degradation from leachate. The Committee recognizes that the most effective approach for alleviating the problems created by discarded materials is a comprehensive discarded materials management approach. Such an approach includes the use of techniques to recover the greatest amount of energy and materials possible from the discarded materials; reduce waste residuals to a minimum, and provide for an environmentally sound disposal of the remainder, principally through sanitary landfill. The reported bill promotes a comprehensive approach to the discarded materials problem by providing for studies, demonstrations and dissemination of information on resource recovery, disposal and resource conservation techniques. It also provides grants to States to develop and implement comprehensive discarded materials management and hazardous waste management plans and programs.

Although the key to coping with the ever increasing volume of discarded materials appears to be a regional approach to its disposal, few areas have achieved the necessary planning or coordination to adopt such n approach. The State of Wisconsin is perhaps the most successful in the attempt at rationalizing waste disposal. Wisconsin has established a state authority to coordinate the discarded materials problem on a regional basis with all parts of the state being part of one of the regions. Connecticut is attempting a smaller scale regionalization under state auspices, as is Massachusetts.

In order to encourage planning and coordination between local, regional, state and interstate areas, this legislation offers technical and financial assistance to such units of government for discarded materials planning.

To achieve the above objectives the Committee intends that federal technical and financial assistance be available as an incentive to such units of government to cooperate in the developing the proper areas and appropriate units of government to undertake responsibility for development and implementation of the plan.

This legislation requires that the federal financial assistance be distributed to the governmental units in the ratio of their responsibility under this act to the total responsibilities under a discarded materials plan. This avoids the problem of all the federal funds going to one unit of government with other units of government having the responsibility for planning and implementation without any funds to undertake such responsibility.

Third, before any federal assistance is given to a state, the state discarded materials plan must meet minimum requirements specified in section 403 which require consultation and coordination of activities between state and local authorities.

It is the Committee's intention that federal assistance should be an incentive for state and local authorities to act to solve the discarded materials problem. At this time federal preemption of this problem is undesirable, inefficient, and damaging to local initiative.

Simply, the discarded materials problem is one of planning and the Committee anticipates that federal guidelines for planning will foster the necessary cooperation between the federal government, states, and local regions, to meet very broad and flexible objectives of this act. If those objectives are not met, the states and local authorities within the states will lose the federal or technical assistance. However, the provisions of this legislation, specifically do not authorize the federal government to take over the responsibility for discarded materials disposal planning.

FEDERAL GUIDELINES AND MINIMUM REQUIREMENTS

In order to qualify for federal technicaal or financial assistance, the state plan must meet several minimal requirements. It must identify the responsibilities of the state, the local and regional authorities; and allocation of the federal funds among the parties responsible for the development and implementation of the plan. The plan must also describe a means for coordinating the state, regional and local planning and implementation efforts. Further, the plan must prohibit the establishment of open dumps and it must require that all discarded material be disposed of in a sanitary landfill as defined by the Administrator, or be subject to resource recovery, resource conservation, or otherwise disposed of in an environmentally sound manner, which may include incineration that meets existing clean air standards.

The state discarded material plan shall also provide for the closing or upgrading of existing open dumps and shall provide that the state possess regulatory powers necessary to implement the discarded materials plan.

Another provision of the state discarded materials plan necessary if the state is to receive financial or technical assistance is that neither state or local governmental authorities can be prohibited by either state or local law from entering into long term contracts with resource recovery facilities for the supply of such materials.

The reasons for this restriction are that currently a number of private companies capable of and willing to enter into resource recovery ventures if a sufficient volume of refuse can be guaranteed over a sufficiently long period of time. Often municipalities are constrained in their ability to enter long term contracts (5 to 30 years) by their own charters or by state laws. For states and local authorities to receive federal technical or financial assistance they must eliminate any such prohibition of their constituent jurisdiction's ability to enter into long term contracts. The Committee does not intend to interfere with any state's requirement of fiscal responsibility or caution. Prohibitions on long term contracting for the supply of waste to a resource recovery facility are the only fiscal prohibitions which must be eliminated to receive federal assistance. Simply stated, the federal government will not commit technical or financial resources to aid states in the establishment of resource recovery systems if the states maintain barriers to the establishment of such systems.

The Committee intends this prohibition to be as narrow as it is written and to apply only to prohibitions on the long term supply of discarded materials from a governmental body to a resource recovery facility. This prohibition is not to be construed to affect state planning which may require all discarded materials to be transported to a particular location, nor should this prohibition be construed to confer upon local authorities substantive rights that would interfere with the states responsibility for developing and implementing a discarded materials plan.

To assist the states develop discarded material plans the Administrator is required to publish a series of guidelines. The first set of guidelines is to be published within 180 days after the date of enactment of this legislation. These guidelines are to assist the states identify and develop appropriate areas within the state or interstate regions for discarded materials planning. It is from this set of guidelines that the Governors are to develop appropriate planning areas within the respective states and after such areas are identified, the state, with the appropriate elected officials of general purpose units of local government are to jointly identify the agency to plan and implement the state discarded materials plan for that area. Only if such joint identification cannot be agreed upon within 180 days after the identification of the region or area, is the Governor permitted to establish or designate a state agency to develop and implement the state plan for such area.

The Committee adopted this approach because it requires cooperation between the state and elected local officials directly responsible for the problem. This approach requires consultation and cooperation between all interested parties at each stage of the plan's development and implementation.

There is one exception to the above required cooperative arrangement, and the exception is a very limited one which the Committee only intends to apply to one situation in the United States, that of the planning authority operating in the Minneapolis/St. Paul, Minnesota area.

This exception deviates from the general cooperative structure of the legislation which requires elected local officials to have a voice in the development and implementation of the regional or areawide agency. Under the exception, if there is an agency in existence on the date of enactment of this legislation, which is a multi-functional, regional agency, authorized by state law to conduct discarded materials planning and management, and whose members are appointed by the Governor, then such areawide agency shall be identified by the Governor, for the purpose of developing and implementing the state discarded materials plan for such area.

The Commitee determined this exception to be necessary because the areawide planning agency in the Minneapolis/St. Paul area undertakes all planning and implementation for that area in all fields of endeavor from environment, to housing and transportation. To remove discarded materials planning from this areawide agency would be to remove their authority for full coordinating of the environmental and urban laws affecting that area and would damage their coordinating ability which is one of the most efficient and advanced in the nation.

By establishing the four requirements of the agency being (1) multi-functional, (2) in existence on the date of enactment of this Act, (3) its members appointed by the Governor and (4) authorized by state law, the Committee believes the exception does not apply to any other area of the United States. Other areas may possess one or two of the above requirements, but other than the area intended, it is believed no other area possesses all four requirements.

Other federal guidelines are to be published within 18 months after the enactment of this act to assist the states in determining not only the regions, but also which government or agency within the region is best suited to plan and implement the system, and how to achieve the goals set out by the minimum standards.

In promulgating the minimum requirements the Administrator is required to consider regional, geographic, hydrologic conditions, the protection of the quality of ground and surface waters from leachate and runoff, the characteristics and conditions of collection, storage, processing and disposal, the location of facilities, and the nature of the materials to be disposed of. The Administrator's guidelines should include methods of closing or upgrading open dumps, consideration of population density, location and transportation within the region, the rates of generation of wastes, and political, economic, financial and institutional barriers to the planning processes.

In formulating a state plan it is the Committee's intention to permit wide flexibility on the part of the state developing such plan so that each state can plan for its particular problems. Further, each state can use the methods of resource conservation, resource recovery, sanitary landfill or any other environmentally sound method of disposal or any combination of the above to produce an effective plan that meets the minimum requirements of section 403 of this Act.

Under the minimum requirements for a state plan and under the federal guideline provisions barriers to resource recovery facilities are removed, open dumps are closed and requirements for sanitary landfills are developed. However, such specifically mentioned requirements shall not be construed as the only methods by which states can develop an acceptable discarded materials plan. To construe such language in

a narrow manner is in opposition to the committee's intention. As one of the possibilities or combination of possibilities to developing an effective discarded materials plan is the utilization by a state of resource conservation practices. Although such practices are not required to be in a discarded materials plan, a state can voluntarily adopt such practices and still have an acceptable plan meeting the minimum requirements of section 403 of this Act.

Simply, resource conservation practices can be considered another alternative that can be utilized in solving the discarded materials problem. Traditionally, resource conservation practices are methods which encourage the reduction of volumes of waste residuals generated through the reduction of materials used per product unit, the reuse of products, the increase of product lifetime, and the recovery of materials and products for reuse or recycling prior to their disposal. However, for purposes of this legislation the term "resource conservation" means the reduction of overall resource consumption, and utilization of recovered resources.

The United States does not possess known commercial-scale deposits of some raw materials (such as tin and nickel), and most higher grade and more accessible deposits have already been largely depleted for some years. The current shortages of energy and materials should serve to illustrate that even if the resource base is adequate, acquisition of materials can be accompanied by severe short term dislocations and social costs. Resource conservation may be another approach to alleviating resource shortage problems.

The Committee is aware that much more investigation is required into the development of resource conservation alternatives and the assessment of the impacts of using such alternatives. Some alternatives that EPA could investigate include means to reduce waste generation through the redesign of products and product packaging and use in the manufacturing process. The bill does not establish any Federal regulatory authority with respect to requirements in the manufacturing process. The bill does not encompass the view that the Federal Government should provide support for any useful approach proposed by States or communities to identify programs and techniques to help solve residuals disposal problems. Grants to States to develop and implement plans and programs for discarded materials management are specifically available for both resource recovery and resource conservation. In addition, the Environmental Protection Agency is specifically directed to collect and make available information on resource recovery and resource conservation facilities and methods available to reduce the amount of discarded materials that are generated.

OPEN DUMPS

Because the term "sanitary landfills" and "open dumps" are often used interchangably, and often with disastrous effects on the environment, the Committee intends to make a clear distinction between the two concepts, so as to protect the environment from the hazards of open dumps.

This legislation requires the Administrator to develop, by regulation, standards for what is a sanitary landfill and what is an open dump.

The legislative standard for the Administrator to determine a sanitary landfill is a disposal site of which there is no reasonable chance of adverse effects on health and the environment from the disposal of discarded material at the site.

An open dump is defined as a land disposal site where discarded materials are deposited with little or no regard for pollution controls or aesthetics, where the wastes are left uncovered, and where frequently the use of the site for waste disposal is neither authorized nor supervised.

Therefore, the effects on human health and the environment from real sanitary landfill should be slight. Whereas, the adverse impacts of open dumping include fire hazards; air pollution (including reduced visibility); explosive gas migration; surface and ground water contamination; disease transfer (via vectors such as rats and flies); personal injury (to unauthorized scavengers); and, aesthetic blight. Some specific examples of these impacts follow:

An explosion occurred in an armory, in 1969, in Winston-Salem, N.C. The explosion was the result of methane gas migration from an adjacent dump. Three men were killed and five others were seriously injured.

Gas migration from dumps in Richmond, Va., in 1975, necessitated the closing of two public schools and resulted in an explosion in a multi-family apartment unit. No one was seriously injured. The City anticipated the expenditure of over $1 million to control the gas.

In 1968, a seven-year old boy died in a fire on the (now-closed) Kenilworth Dump, in Washington, D.C.

An older man died while fighting his own trash fire, and one child was severely burned in a trash fire, in 1972, in St. Joseph, Missouri.

The City of Texarkana, Arkansas/Texas, abandoned its six open dumps, in 1968, without taking proper rat-control measures. The City was over-run with rats, and numerous cases of rat-bite were reported.

A study of solid waste management practices at Indian reservations, in 1970, found open-dumping common. U.S. Public Health Service physicians reported treating large numbers of cuts and punctures received by Indian children playing in the dumps.

Tests indicate that the smoke from most open dump burning contains sufficient aldehydes to cause definitive eye irritation up to 400 feet from the fire.

In the summer of 1972, a major fire at a dump in Easton, Pa. required the expenditure of large sums of public funds to extinquish;

Some 10,000 demolished houses had been dumped up to 70 feet deep over a 40-acre dump site in Milwaukee, Wisconsin, and, on Nov. 16, 1968, the dump caught fire. By mid-January 1969, some 12,000 man-hours had been expended trying to extinguish the fire. Over 210 million gallons of water had been pumped onto the fire, and most of the water became surface runoff, polluting a nearby river. Smoke was visible for miles and severely reduced visibility in the surrounding area. On April 30, 1969, the fire was declared to have been extinguished, for all practical purposes, after the expenditure of hundreds-of-thousands of dollars for manpower and equipment used over a nearly six-month period;

Smoke from dump fires has reduced visibility on nearby traffic arteries and caused multiple-vehicle accidents, *i.e.*, on the Oakland (Calif.)-Nimitz Freeway; on the New Jersey Turnpike, on the night of October 23–24, 1973, when there were nine (9) separate multiple-vehicle accidents, involving 66 vehicles and resulting in (9) fatalities and 34 persons being injured.

A crash of a private jet aircraft near Atlanta, Georgia, on February 27, 1973, resulted in seven fatalities. The crash has been attributed to jet ingestion of starlings which, allegedly, were congregated near an uncovered, shredded refuse disposal site near the end of one runway of the DeKalb County (Georgia) Airport. This incident is still in litigation in the Federal Courts;

Air traffic at the San Francisco, California, and Presque Isle, Maine, airports has been interrupted by smoke from fires at dumps in Burlingame, California, and Presque Isle, Maine, respectively;

Forty-seven cases of leachate-caused fishkills have been recorded:

16,000 fish were killed in Illinois, in 1965, when leachate contaminated 10 acres of a lake;

37,000 fish were killed in Iowa, in 1969, when leachate contaminated 8 miles of a lake;

74,000 fish were killed by leachate in a creek in Ohio, in 1971;

Over 30 cases have been recorded where leachate from land disposal sites contaminated drinking-water wells:

A disposal site in Weston, Connecticut, contaminated 25 domestic wells in 1973–74, resulting in damage costs of over $500,000;

Another site, in New Castle, Delaware, contaminated or threatened a number of domestic, public, and industrial supply wells in 1972, resulting in over $2 million in expenditures to date; and $6–8 million more may have to be spent before the problem is resolved;

Seven residents in Aurora, Illinois, went for over a year without water when their wells were contaminated by leachate, in 1965;

Leachate contaminated four public supply wells in Clarksville, Indiana, in 1968; damage costs were $413,000;

Another site, in Illinois, contaminated domestic, industrial, and public supply wells, which cost $205,000 to replace.

Information on the numbers, sizes, and locations of open dumps can be obtained only through comprehensive surveys and inventories, which have not been conducted to date. Although not of a comprehensive nature, two surveys have been conducted which provide some information on this area of interest.

The first of these surveys was conducted in 1968 by the U.S. Public Health Service's Bureau of Solid Waste Management (BSWM), a predecessor of EPA's Office of Solid Waste Management. The second survey was conducted in 1974 by *Waste Age* magazine, and involved telephone interviews of state solid waste management agency personnel.

The BSWM survey reports on a partial sample of 6,000 disposal sites which were inventoried. Based on extremely modest criteria, it was determined that 94 percent of these sites were unacceptable in location or in operation, or both. This survey data was later extrapolated to estimate the existence of over 17,000 dumps throughout the country, exclusive of irregularly or infrequently used 'promiscuous' dumps.

The more recent (*Waste Age*) survey reported the existence of 18,539 known land disposal sites, of which only 5,596 were permitted or recognized as being in compliance with state regulations. In an attempt to update the 1968 BSWM data, EPA's office of solid waste management surveyed state agencies by telephone in 1972. This survey indicated the existence of about 14,000 dumps in operation, nationwide.

The most current information on the location of open dumps is that provided in the *Waste Age* article, wherein numbers of sites are identified, by state.

The only survey which, has attempted to provide information on the size of dumps is the 1968 BSWM effort. This data indicated that the average dump occupied 17 acres of land and received 11,000 tons of solid waste annually.

This legislation directs the administrator to conduct such a survey of open dumps with the cooperation of the Bureau of the Census. The results will be broken down by state and used in the closing or upgrading of all environmentally damaging open dumps within six years.

Land disposal sites not considered to be sanitary landfills, will be considered open dumps, and such sites will have to be closed at the rate of 20% per year, under a Federally assisted state plan.

The plan shall require that no state can prohibit local governments from entering into long term contracts with resource recovery facilities.

The reason for this restriction is that there are currently a number of private companies capable of and willing to enter into resource recovery ventures if a sufficient volume of refuse can be guaranteed over a sufficiently long period of time. Often municipalities are constrained in their ability to enter long term contracts (5 to 30 years) by their own charters or by state laws. For states to receive federal resource recovery assistance they must eliminate any such prohibition of their constituent jurisdictions' ability to enter into long term contracts. The Committee does not intend to interfere with any state's requirement of fiscal responsibility or caution. Prohibitions on long term contracting for the supply of waste to a resource recovery facility are the only fiscal prohibitions which must be eliminated to receive federal assistance. Simply stated, the federal government will not commit technical or financial resources to aid states in the establishment of resource recovery systems if the states maintain barriers to the establishment of such systems.

To establish these minimum requirements, the federal government is to issue a series of guidelines within 180 days of enactment of this legislation as to how the states might devise appropriate units for planning and implementation of discarded materials management systems. Within 18 months after the enactment of the act, the administrator is to promulgate guidelines to assist the states in determining not only the regions, but also which government or agency within the region is best suited to plan and implement the system, and how to achieve the goals set out by the minimum standards. Although the administrator will publish his recommendations as guidelines the states will decide on their adoption.

In promulgating the minimum requirements the administrator is required to consider regional, geographic, hydrologic conditions, the protection of the quality of ground and surface waters from lechate and runoff, the characteristics and conditions of collection, storage, processing and disposal the location of facilities, and the nature of the materials to be disposed of. The administrator's guidelines should include methods for closing or upgrading open dumps, consideration of population density, location and transportation within the region the rates of generation of wastes, and political, economic financial and institutional barriers to the planning processes.

The Administrator will also develop regulations defining a sanitary landfill. This legislation requires that the Administrator define sanitary landfill as disposal site at which there is no reasonable chance of adverse effects on health and the environment from the disposal of discarded material at the site. This is a minimum requirement of this legislation and does not preclude additional requirements. Land disposal sites not considered to be sanitary landfills, will be considered open dumps, and such sites will have to be closed at the rate of 20% per year, under a federally assisted state plan.

It is the Committee's intent that the federal government will provide the technical assistance necessary for the states, in cooperation with their own local governments, to develop an adequate regional system and the ability to implement such a system for the disposal of waste, without the federal government becoming additionally involved in the affairs of state or local government.

STATE, LOCAL AND REGIONAL RESPONSIBILITIES

After the Administrator has developed his guidelines it is then the responsibilities of the state to define the appropriate regions and agencies for discarded materials planning. The governor of each state will promulgate and identify boundaries of the areas within the state which as a result of population concentrations, geographic conditions, markets or other factors will be considered a region for carrying out a discarded materials management plan. After a region is identified by the governor, it is up to the local jurisdiction within that region together with the state and local elected officials and general purpose units of local government, to identify an agency to develop and implement the state plan.

It is the responsibility of the state and local or regional authorities to decide which discarded material functions will be state or regional agency responsibilities ar local responsibilities. If the local regional or state authorities can not identify or designate the agencies that are to plan and implement the discarded materials management system. Within 270 days after the governor has identified the region, then the governor shall designate the agency to formulate and implement the plan for such area.

In the case of interstate regions, the governors of the respective states will cooperate with each other, and the elected officials of the general purpose units of the local government within the interstate region shall attempt to jointly develop a plan and implement a plan for their region. If the locally elected officials cannot establish or designate a planning authority, the governors of the respective states may by agreement establish or designate a single representative or-

ganization to do the planning and implement the regional plan for the interstate region.

STATE PLAN APPROVAL

Once a state plan has been submitted to the Administrator, he must either approve or disapprove it within six months. To secure approval a plan must meet the minimum requirements promulgated pursuant to title IV of this legislation and provide for the ability to change the plan if the minimum requirements should be subsequently changed by the Administrator.

To ensure that the minimum requirements continue to be met, the Administrator is authorized to review the state plans and the manner of implementing such plans. If he finds after notice and hearing that the state plan is no longer in compliance, either because of substantive changes in the plan or because of failure to implement the plan, he may withdraw his approval and any federal financial assistance.

To be initially eligible for federal grants for state planning, the state plan must be approved and the jurisdiction's responsible for implementation of the plan must discharge their responsibility as identified in the plan for that year.

To receive a grant in 1979 the state must have been eligible for a grant in the preceding year and must be implementing the approved plan.

Through this mechanism planning funds will be made available to states which have established an adequate waste management plan, recognizing that some states already have plans which may qualify for approval. The Committee adopted this mechanism to provide an incentive for other states to develop plans. Allowing the grants to be used for implementing the plans will avoid penalizing states which have made significant progress toward waste management plans without federal assistance.

FEDERAL ASSISTANCE

For fiscal year 1978 this legislation authorizes $40 million. For fiscal year 1979 $50 million in federal grants to the states is authorized. The grant money will be allocated to the states on the basis of population. The Committee believes this is perhaps the most rational formula since municipal waste is directly the result of population, and commercial and industrial waste production are also often associated with population centers.

No state will receive less than one half of one percent of the funds appropriated however.

Also no state will receive a grant if its expenditure for waste control programs is reduced below the 1975 level, unless such a reduction is the result of a general reduction in state spending. This provision is included to discourage states from reducing their expenditures on discarded materials management once federal funds become available.

Seventy percent of the grant money allocated to the state will be available for distribution to local, regional or interstate authorities according to the functions and responsibilities outlined in the approved state plan. The remaining thirty percent will be allowed to municipalities of 5,000 persons or fewer or the counties of 10,000 persons or fewer which are not included in any discarded materials management region established under the state plan.

There is another limitation on the Federal financing assistance which is placed upon this section by the definition of the term "implementation" in section 104(8). That term provides that after December 31, 1979, federal financial assistance for the development and implementation of the state plan cannot be used by the state to pay the salaries of its employees. The purpose of this limitation is to avoid having the Federal government perpetually involved in state discarded materials matters.

DUTIES OF THE SECRETARY OF COMMERCE

Recognizing the need for expanded and stable markets for the success of any resource recovery effort this title directs the Secretary of Commerce to expand the relationship of the department with industry to include to a greater degree the resource recovery and secondary materials industries.

Section 501 directs the Secretary to generally encourage the commercialization of proven resource recovery technology by providing for accurate performance specifications for recovered materials; the stimulation and development of markets for recovered and other secondary materials; the promotion of proven resource recovery technology and the exchange of technical and economic data relating to resource recovery facilities.

SPECIFICATIONS FOR SECONDARY MATERIALS

To counteract the widely held perception that recovered or secondary materials (or goods manufactured from them) are per se inferior to virgin materials the committee has adopted Section 502. This section directs the Secretary of Commerce, through the National Bureau of Standards to publish uniform specifications for recovered materials according to their physical and chemical properties and characteristics. In developing the specifications the Secretary will, of course, respect all trade secrets relative to processing or composition of products.

Once the products of recovered materials have been classified, the Bureau is directed to establish an index identifying the classifications of recovered materials which can be substituted for virgin materials in industrial, commercial and governmental uses. Such substitutions must be based on the standard that there will be no deterioration of the performance characteristics of the goods or materials manufactured from the recovered material.

The publishing of specifications and establishment of the substitution index is to be completed after public hearings and within one year of enactment of this act. It is the intent of the committee that professional and industrial groups interested in the establishment of specifications for recovered materials and in broadening their use have adequate opportunity to provide input for consideration by the Bureau of Standards in the setting of recovered material specifications and the establishment of the substitution index. The establishment of such index will not require any disclosure of trade secrets in the manufacturing process or composition of the product.

Since use of the specifications and the index will be voluntary for all but federal government agencies, the participation and cooperation of professional and industrial groups is essential to a wide acceptance

of such specifications and index. The committee anticipates that the Bureau will seek participation and cooperation to the fullest extent practicable.

The index of substitution will be developed first with respect to the components of procurement items purchased by the Federal Government in large quantities.

MARKETS FOR RECOVERED MATERIALS

The committee has received much information on the importance of expanded and stable markets for the materials recovered from waste. Formal testimony and informal discussions with parties currently involved in operating or planning resource recovery activities have indicated that the strength of recovered materials markets is the key to a successful resource recovery project, whether it involves a high technology, capital intensive waste processing plant, or a source separation scheme.

Presently there appears to be a stable market only for recovery of aluminum and to a somewhat lesser extent for additional scrap iron and steel. Other major components of the waste stream are faced with highly volatile markets, such as in the waste paper industry, or extremely limited markets such as those for waste glass and rubber. The market for energy derived from discarded materials appears to be an attractive one depending on competing local energy costs and the method of energy production from waste.

There is clearly a need for extension of recovered materials markets. Processed waste derived fuel, pyrolysis oil and gas, and steam are all capable of serving markets far in excess of their present usage. Recovered rubber and waste oil can be used to a far greater degree than today. Waste glass is beginning to be more widely accepted, however, its use is still very limited compared to its potential. Through the various divisions of the Department of Commerce the committee anticipates the encouragement of new uses for recovered materials and the identification of current and potential new markets for those materials. Moreover, resource recovery projects appear to require coordination and close proximity with product markets. A geographic identification system may be advisable and can be developed by the Department in carrying out its responsibilities.

Placing emphasis for the stimulation of technology promotion with the Department of Commerce results from two underlying factors. First, the relationship of the department with business and industry is one of historic importance and constructive progress. Second, the need to separate the functions of research, testing and regulating, from the function of technology promotion is necessary if either set of functions are to be carried out to the greatest possible extent.

The Department of Commerce has, because of its long-standing relationship with private enterprise, the channels of communication necessary to encourage greater involvement in resource recovery and use of recovered materials.

During hearings before the Subcommittee on Transportation and Commerce, a representative of the Department of Commerce indicated that the duties of the Department established under this act were appropriate to the Department and consistent with its current activities in resource recovery, materials usage and other areas.

Any possibilities of conflict of interest or institutional bias are avoided by assigning the promotion function to the Department of Commerce rather than to the Environmental Protection Agency. The agency will continue to be responsible for research and development of new resource recovery technologies as well as for evaluation of those systems already advanced through the development stage. The Department will be responsible for encouraging the implementation of various resource recovery technologies.

In this way the committee seeks to ensure that institutional biases resulting from previous work or commitments to a certain technology do not unduly influence the promotion of the technologies. Similarly, it is hoped that the choice of a certain system will be made by potential purchasers on the basis of the system's merit rather than the hope of obtaining support from a government agency perceived to have a special interest in the proliferation of the specific technology. The Committee's belief in separating the research and regulation function from the promotion function is that each function will be performed most effectively if the responsibilities are clearly separated.

Since much of the technology presently available for resource recovery is in its developmental stages the committee has provided the Secretary of Commerce with the authority to sponsor meetings between industries or individual companies for the exchange of information regarding discarded materials management. Through these meetings, technical and other information which would foster the development of resource recovery technology can be exchanged without threat of antitrust action. The committee is hopeful that companies will take advantage of this provision and benefit from the experience of each other in the resource recovery field. With resource recovery systems which are high in capital cost, mistakes in design can result in higher costs to the purchaser of the systems and ultimately to the citizen who must pay for waste disposal. Through the Department of Commerce forum, the committee hopes to provide a mechanism whereby experience in the field can be shared and the frequency and costs of technological miscalculations can be limited.

Meetings sponsored by the Department would be open to all parties with an interest in discarded materials management with notice of the meetings being served to the Attorney General and the Federal Trade Commission. All meetings would be supervised by a representative of the Department of Commerce.

A record of all such meetings is required and is made available to the Attorney General and the Federal Trade Commission should they wish to review the proceedings for possible antitrust violations outside the exemption offered by this section.

Agreements entered into as a result of the Commerce sponsored meetings must be submitted to the Attorney General and to the Federal Trade Commission twenty days before being implemented. This provides adequate opportunity to seek a restraining order should the action be contrary to the national interest. Agreements implemented under this section will be available for public inspection except for that information which constitutes proprietary information or trade secrets protected from disclosure under existing law.

Persons entering agreements under this section shall have available to them a defense to any civil or criminal action brought under the antitrust laws, provided that the agreement was not entered into for the purpose of injuring competition. The burden of proof will be carried by the person interposing the defense provided by this section except where the actions are alleged to have been taken for the purpose of injuring competition.

FEDERAL RESPONSIBILITIES

The question of what are the responsibilities of federal government facilities to the implementation of federal, state and local environmental laws has generated controversy; legislative, executive and judicial action; and a Supreme Court decision. There still remain ambiguities as to what such responsibilities are and who should take action against federal facilities that are irresponsible.

The history of this controversy stems from section 118 of the Clean Air Act Amendments of 1970 and section 313 of the Water Pollution Control Act Amendments of 1972. Both sections provide that federal facilities comply with state requirements respecting air and water pollution to the same extent as nonfederal facilities. Several states brought suit against the federal government for not complying with the state permit system and other state procedural matters. The federal agencies involved refused to acquire the state permits, to submit to required reports, conduct the required monitoring and to permit on-site inspections by state inspectors and in some cases refused to meet compliance schedules and emission limits. The question before the Courts was whether and to what extent federal facilities must comply with state and local environmental laws.

After several circuit Courts of Appeal reached conflicting decisions the United States Supreme Court heard the cases and issued decisions in *Hancock* v. *Train*, U.S. Supreme Court, No. 74–220 (June 7, 1976) and *Environmental Protection Agency* v. *California*, U.S. Supreme Court, No. 74–1435 (June 7, 1976).

The effect of both decisions is that federal facilities must comply with local pollution standards at the level set by the states, however, the Supreme Court found that there was no Congressional intention that federal facilities be subjected to every measure incorporated in a state plan designed to limit pollution. Moreover, the Court found that Congress intended to treat substantive state requirements different from procedural requirements. The federal facility was only responsible for meeting the substantive requirements. The court also found that the citizen suit provisions found in the air and water acts were the only means for the state to remedy non-compliance by federal facilities with the environmental standards established by the states pursuant to such acts.

Because of the controversy between the states and federal facilities, the Administrative Conference of the United States undertook a review of this problem as it effects all the federal environmental laws and submitted a copy of its report and recommendations to the Chairman of the Subcommittee on Transportation and Commerce on July 24, 1975. The text of the letter and recommendations follows:

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ADMINISTRATIVE CONFERENCE OF THE UNITED STATES,

Washington, D.C., July 21, 1975.

Hon. FRED B. ROONEY,
Chairman, Committee on Interstate and Foreign Commerce, Subcommittee on Transportation and Commerce, Rayburn House Office Building, Washington, D.C.

DEAR CHAIRMAN ROONEY: At its Twelfth Plenary Session, the Administrative Conference adopted Recommendation 75–4: Procedures to Ensure Compliance by Federal Facilities with Environmental Quality Standards. For your consideration, I am enclosing a copy of the recommendation as well as the staff report on which the recommendation is based. The recommendation is addressed to problems observed in the procedures now employed to ensure that over twenty-thousand federal facilities are in full compliance with national, state or local environmental quality standards. The report shows that despite Executive Order 11752 and an extensive OMB program designed to install and improve pollution abatement equipment, there remain instances of noncompliance by federal facilities. Moreover, there are unjustifiable variations among the enforcement procedures in each of the different programs designed for pollution control in air, water, noise, solid waste and ocean dumping.

The recommendation is divided into two parts. The first part proposes that a single federal agency be delegated exclusive authority to develop and administer procedures to ensure compliance by federal facilities with non-federal environmental quality standards. Since the underlying statutes in the environmental area vary, this part of the recommendation is divided between those statutes which already require full compliance by federal facilities with non-federal environment quality standards (i.e., the Clean Air Act, the Noise Control Act, the Federal Water Pollution Control Act) and the area where Congress has yet to require that federal facilities comply with non-federal environmental quality standards, namely, solid waste disposal.

The second part of the recommendation addresses the wide variety of procedures now employed in the different compliance programs. It suggests that these procedures ensure, as a minimum, (1) local public notice and notice to local officials, (2) opportunity for a public hearing, not necessarily of the adjudicatory type, and (3) authority for the presiding officer at any such hearing to make recommendations concerning compliance. The procedures all exist with respect to the ocean dumping permit program administered by the Environmental Protection Agency. However, they are lacking in various degrees in the procedures now employed under EPA's water discharge permit program and under EPA's guidelines for federal agency compliance with stationary air pollution standards. No procedures exist under the noise control program.

In the course of the study and committee consideration which preceded adoption of this recommendation, the proposals it contains were circulated for comments to all major federal agencies which own or operate federal facilities. In general, the comments received strongly endorsed the thrust of this recommendation.

I would appreciate being advised of your committee's reaction to this recommendation. I would also appreciate learning of any proposed

legislation which addresses the problems in this area. If my office can be of assistance with respect to new or existing proposed legislation, please let me know.

Sincerely yours,

ROBERT A. ANTHONY,
Chairman.

Enclosure.

RECOMMENDATION 75–4: PROCEDURES TO ENSURE COMPLIANCE BY FEDERAL FACILITIES WITH ENVIRONMENTAL QUALITY STANDARDS

(Adopted June 5–6, 1975)

The Federal Government owns or operates over 20,000 facilities, ranging from huge military establishments, national parks, and systems of prisons and veterans' hospitals to individual fish hatcheries, Coast Guard stations and research laboratories. All of these facilities are required by federal law to comply with environmental quality standards established by national, State or local law.

As part of the federal environmental protection program, a 1973 executive order directs federal agencies to assess their pollution control needs, develop plans for improvement and submit those plans and necessary budget requests for inclusion in the President's Annual Budget. This program has achieved significant results. Approximately $2.4 billion has been expended over the past eight years to improve and install pollution abatement equipment at federal facilities. Nonetheless, instance of noncompliance by federal facilities have persisted. Moreover, there are wide variations among the respective programs concerned with air, water, noise, solid waste and ocean dumping, in the openness and effectiveness of the procedures for securing federal facility compliance.

The Clean Air Act, the Federal Water Pollution Control Act, and the Noise Control Act each require agencies with control over federal facilities to comply with both federal and nonfederal pollution control standards "to the same extent (as) any person," unless otherwise exempted by statute. The Marine Protection Act requires all "persons," including federal officials, to obtain a federal permit before dumping waste material in the ocean. Under the Solid Waste Disposal Act, federal agencies need comply only with the United States Environmental Protection Agency's guidelines, which are less stringent than those of some States and localities.

The federal air, water, noise control, and solid waste statutes do not establish or specifically authorize procedures for their enforcement where federal facilities are concerned. This problem is acute when considering nonfederal environmental quality standards, which constitute the bulk of the environmental standards federal facilities must meet, because the nonfederal efforts to impose their enforcement procedures have been challenged by federal agencies. Two United States Courts of Appeals have reached opposite conclusions

concerning the authority of States to require federal facilities to obtain air emission control permits required of all non-federal sources of air pollution; a third Court of Appeals has held that federal facilities must comply with State permit requirements with respect to water quality. But any decision, even of the Supreme Court, will leave substantial procedural problems. If the authority of the States to impose their permit and other enforcement procedures upon federal facilities is upheld, some agencies will have to comply with a multitude of different State and local procedures. Because of the insufficiencies of the statutory provisions, a result denying such authority to the States would leave only the present fragmentary and ineffective federal procedures to ensure the compliance of federal facilities with environmental quality standards.

Recommendation

1. (a) The Clean Air Act, the Noise Control Act and the Federal Water Pollution Control Act should be amended to vest in a single federal agency the exclusive authority to develop and administer procedures to ensure compliance by federal facilities with nonfederal environmental quality standards. That agency should consider the use of emission control permits where they are not now employed.

(b) If the Congress amends the Solid Waste Disposal Act to require that federal facilities comply with nonfederal environmental quality standards, the amendment should vest in the single federal agency referred to in paragraph (a) exclusive authority to develop and administer procedures for compliance with such standards by federal facilities.

2. Procedures employed to ensure compliance by federal facilities with State, interstate and local environmental quality standards should provide for (i) local public notice and notice to local officials, (ii) opportunity for a public hearing (but not for a trial-type hearing except on issues of specific fact that the agency finds may best be resolved by trial-type hearing), and (iii) authority for the presiding officer at any such hearing to make recommendations concerning compliance.

With this background in mind the Committee focused on two questions: (1) What standards relating to discarded materials and hazardous waste should apply to federal facilities, and (2) who should enforce such standards.

To answer such questions the Committee makes clear in section 601 of the reported bill that the glidelines issued pursuant to Title IV of the reported bill, by the Administrator, for the development of state discarded material plans, shall become the standards for discarded materials management applicable to federal facilities. Each guideline issued by the Administrator pursuant to Title IV becomes the substantive and procedural standards to be implemented by a federal facility.

The Committee's purpose in adopting this approach, rather than subjecting federal facilities to state and local requirements, is that for all federal facilities the standards for discarded materials management will be uniform rather than subject to the requirements of the 50 state plans. Using the Title IV standards as requirements for all federal facilities the federal facilities should become the leaders in discarded materials management. The development of an procedural process for all federal facilities will assist in rapid planning and development.

With respect to the provisions relating to hazardous waste planning, the standards promulgated by the Administrator pursuant to Title III of this Act, will also be both the substantive and procedural requirements to be followed by all federal facilities.

Although Title III permits states to impose more stringent hazardous waste standards on non-federal persons subject to this Act, it does not apply to federal facilities. Federal facilities are required to meet all of the procedural and substantative requirements developed by the Administrator pursuant to Title III of this Act. This means that all federal facilities are required to make the proper filings, obtain the proper permits and follow all other requirements of Title III, both substantive and procedural.

The second question addressed by the Committee relating to enforcement, requires the Environmental Protection Agency to enforce against other federal agencies the requirements issued under Title III and IV of this Act. Not only is EPA to enforce the substantive provisions but it is also to develop procedures to insure compliance by the federal agencies with the other requirements of this act.

By adopting the approach of having a single federal agency administer and enforce the discarded materials and hazardous waste programs against federal agencies, the Committee eliminates many of the problems inherent in existing environmental laws.

First, there are clear standards, both substantive and procedural, for federal agencies to follow.

Second, there is a clear method of enforcement of such standards by the Environmental Protection Agency and through citizen suits against the federal facility or EPA if such standards are not followed.

Third, state officials would be relieved of the almost impossible burdens of enforcing federal environmental laws against federal polluters.

The use of the single agency to administer and enforce this act against federal facilities is supported by the Administrative Conference of the United States in its report of July 21, 1975, which states at pages 53–56:

> "Having uncovered a prevalent mood of discontent coupled with a variety of inconsistent court opinions, it seems incumbent on the analyst to inquire whether the intergovernmental strife and legal disputes are avoidable. If an alternative set of enforcement procedures would avoid these difficult problems, then that alternative merits serious consideration. One such alternative is for Congress to delegate express authority to a single Federal agency (EPA) to establish enforcement procedures (preferably permits) which ensure Federal facilities comply with environmental quality standards. A statutory delegation of such authority would dissolve the question of Federal supremacy and sovereign immunity. In fact, as mentioned above, many State officials would welcome the removal from their shoulders of the burden of en-

forcing environmental quality standards against Federal facilities. State and local officials repeatedly indicated in interviews with this reported their willingness to transfer Federal facility enforcement problems to an effective Federal level enforcement program . . .

Several reasons support this suggestion for a Federal enforcement program. Perhaps foremost among those reasons is the notion that the Federal Government should tend its own fences. Phrased in the alternative, why must an environmental program Congress has applied to Federal facilities rely on State and local officials, plus interested citizens, to ensure compliance? Common sense in public administration suggests that the "front line" of enforcements be maintained by the level of government posing the problem. OMB Circular A–106 already imposes the responsibilities on Federal agencies to assess problems, develop plans and budgets, and implement improvements. Sound management suggests that same level of government should investigate and enforce compliance as necessary. Should the Federal Government fail to effectively police its own facilities, there exists in four of these statutes a citizen suit provision which proves a "second line" of enforcement by non-Federal officials or interested citizens. These citizen suit provisions are valuable for plugging holes that develop in a Federal enforcement program. However, they should not be relied upon as a primary source of surveillance and enforcement . . .

From an efficiency viewpoint the idea is also extremely attractive. It would relieve agencies with facilities nationwide from the multiplicity of compliance with forms and procedures created by each of 50 States, plus numerous local agencies. It would be a relatively simple matter to implement new enforcement procedures at EPA, given the existence and experience of (1) the Office of Federal Activities in receiving and reviewing budget requests from the agencies faced with needs for pollution control equipment pursuant to OMB Circular A–106, and (2) ongoing issuance to Federal agencies of NPDES and ocean dumping permits . . .

But the fact remains, most agencies have not raised major objections. In fact, the response from agencies asked to comment on an earlier draft of this report revealed nearly unanimous willingness to accept the proposition of a single Federal agency with the authority to enforce environmental quality standards. With respect to the procedural requirements already imposed by EPA under the ocean dumping program, no formal opposition has arisen. No agency has yet challenged the permits issued. Nor has there been but one instance (in Region IV) where a Federal agency has opposition to EPA water discharge permits. That opposition was quickly resolved. The agencies seem genuinely to favor a single enforcement agency at the Federal level rather than a myriad of State and local enforcement program requirements."

After considering all aspects of the jurisdictional enforcement problem, the Committee decided to retain sovereign immunity over federal facilities. However, in order to be an environmental leader in discarded materials and hazardous waste management, the Committee requires federal agencies to implement all standards developed by EPA pursuant to this Act in the treatment of wastes.

Federal Procurement

If either resource recovery, or source separation is to be used as a strategy for reducing the volume of waste which must be disposed of, adequate markets for the recovered materials must be established. Although the index of substitution mandated in this act will help eliminate unfounded biases against recovered materials, its acceptance can be expected to take some time unless some additional stimulus to that acceptance is provided. The Committee believes that the use of federal purchasing power to provide this stimulus represents a constructive use of government power which has potential for motivating other levels of government and private industry to use greater amounts of recovered materials.

To accomplish a greater purchase of items which contain recovered materials this legislation directs that items composed of the highest percentage of recovered materials practicable be purchased unless such purchase adversely affects the maintenance of a satisfactory level of competition or unless the items are not reasonably priced or fail to meet performance specifications.

Federal agencies will also be required to review their specifications within 18 months of enactment to ensure that such specifications are based on performance and do not discriminate against recovered materials for reasons other than necessary performance requirements. Revised specifications will require reclaimed materials to the maximum extent possible without adversely affecting the intended end use of the item.

The Committee anticipates the effect of placing an emphasis on recovered materials in Federal procurement policy to be widespread. Not only will direct purchasing affect products offered by the private sector but Federal guidelines, standards and specifications used in connection with Federal grants and other Federal assistance to State and local governments can be an important stimulus for those governments and for private industry to adopt a pro-recovered materials policy.

Section-by-Section Analysis

TITLE I—GENERAL PROVISIONS

Sec. 101. Short Title and Table of Contents

This section provides that the bill when enacted may be cited as the "Resource Conservation and Recovery Act of 1976," and it also contains the table of contents for the bill.

Sec. 102. Findings

This section contains the Committees' findings that discarded material have an impact on environment and health, materials, and energy.

With respect to environment and health the Committee finds that although land is a valuable and scarce natural resource, most discarded materials are disposed of on the land in an unplanned manner.

Such unplanned methods of disposal are harmful to the environment and human health.

In addition, the Committee finds that other State and Federal environmental laws have created greater amounts of discarded material for disposal on the land, while concurrently inadequate methods of disposal of discarded materials on the land have created greater amounts of air and water pollution, and the environmental problems. Further, that open dumping is particularly harmful to the nations underground and surface water supplies and the hazardous waste presents special hazards to health in addition to those problems caused by other discarded materials.

Finally, with respect to environmental and health, the Committee finds that there usable alternatives to existing methods of land disposal.

With respect to materials, the Committee finds that millions of tons of recoverable materials are disposed of needlessly on the ground and that methods to recover such materials are available, and that such recovery would reduce the United States dependence on foreign resources.

With respect to energy the Committee finds that discarded materials represent a potential source of energy and that technology exists to produce such energy.

Sec. 103. Objectives

The objectives of the act are to protect human health and the environment, to conserve valuable materials, and to produce energy from discarded materials by establishing a cooperative effort between the federal and local governments, which includes federal technical and financial assistance, to coordinate and plan a system to recover resources and energy from discarded materials and to develop methods for the proper disposal of those discarded materials not the subject of energy or materials recovery.

Other objects of this legislation are to prohibit open dumping and to regulate the treatment, transportation, storage and disposal of hazardous waste.

Sec. 104. Definitions

This section defines the terms used in the bill. Most definitions in the bill are self-explanatory, a few of the definitions are of particular importance and merit discussion because of the intricacies of such definitions.

The term "implementation" is defined so as not to include the acquisition, leasing, construction, or modification of facilities or equipment or the acquisition, leasing, or improvement of land. After December 31, 1979 salaries of employees due pursuant to Title IV of this Act, will not be included under implementation.

The term "long-term contract" is limited to the one situation, the supply of discarded materials to a resource recovery facility.

The term "person" is self-explanatory except that section 601(b) has for purposes of Title VI the term person to include any department, agency or instrumentality of the United States.

The term "procuring agency" is limited to those federal, state or local political subdivisions which used federally appropriated funds.

Sec. 105. Governmental Cooperation

Subsection (a) provides that in order for the act to be properly implemented, interstate agreements may be necessary, and that in such cases, the governors in all involved states must consent to such agreements.

Subsection (b) requires the consent of Congress when two or more states enter into agreements, and negotiate compacts to implement the purposes of this Act.

Sec. 106. Application of Act and Integration with Other Acts

Subsection (a) provides that nothing in this Act shall be construed to apply to any activity or substance which is subject to the Federal Water Pollution Control Act, the Safe Drinking Water Act or the Atomic Energy Act of 1954 except to the extent that such provision or regulation is not inconsistent with the requirements of such Acts.

Subsection (b) provides that the Administrator shall attempt, to the maximum extent practicable, to coordinate the administration and enforcement of this Act withthe other environmental laws under the authority of the Administrator.

TITLE II—OFFICE OF DISCARDED MATERIALS; AUTHORITIES OF THE ADMINISTRATOR

Sec. 201. Office of Discarded Materials

This section establishes within the Environmental Protection Agency an Office of Discarded Materials, to be headed by a Deputy Assistant Administrator, with responsibility, other than such duties and responsibilities relating to research and development, for the implementation of this Act and the Solid Waste Disposal Act of 1965.

Sec. 202. Authorities of Administrator

Subsection (a) lists the authorities of the Administrator which are:

1. To prescribe regulations to carry out its functions under this act.
2. Consult and exchange information with other federal agencies.
3. Provide technical and financial assistance to state, local or regional discarded management authorities for the development of a discarded material plan or hazardous waste program.
4. Consult with groups interested in the discarded materials agencies that perform research and conduct studies for resource conservation and recovery.

Subsection (b) requires the Administrator to review each regulation promulgated under this Act, and where appropriate revise such regulation, not less than every three years.

Sec. 203. Supervision of Litigation

This section authorizes the Administrator, unless he authorizes the Attorney General to undertake such action, to commence or defend and supervise the civil litigation and such appeals, including appeals to the Supreme Court, that are brought to implement and enforce the provisions of this Act as they relate to the Federal facilities.

Sec. 204. Development, Evaluation, and Dissemination of Information

Subsection (a) requires the Administrator to develop and evaluate information on, methods and costs of collection and other discarded materials management practices, methods to reduce the amount of discarded material generated, existing and developing technologies for the recovery of energy or materials from discarded materials, hazardous waste, methods of financing resource recovery facilities, sanitary landfill, or solid waste treatment facilities and the availability of markets for recovered materials and energy.

Subsection (b) establishes a central reference library and procedures of the dissemination of information relating to all aspects of discarded materials and hazardous waste management. Such information may be available subject to reasonable charges so as to defray expenses and is subject to the provisions of title 18 of the U.S. Code relating to confidentiality.

Subsection (c) permits the Administrator, in cooperation with the appropriate state or municipal agencies, to recommend model codes, ordinances or statutes relating to discarded material management and planning.

Subsection (d) requires the Administrator to develop and publish a recommended model cost and revenue accounting system applicable to collection, disposal and other discarded materials management functions so that the true costs of the collection and disposal of discarded materials can be determined.

Subsection (e) requires the Administrator to collect and make available information concerning the research, development, feasibility and operation of resource recovery and conservation facilities, and other technical, managerial, financial, economic and market factors.

Sec. 205 Resource Recovery Panels

Subsection (a) establishes within the office of Discarded Materials, Resource Conservation and Recovery Panels to be composed of four members. One member with expertise in financing resource facilities, one with expertise in marketing the products of resource recovery facilities, one with technical expertise and one with knowledge relating to the legal and institutional barriers of resource recovery facilities. Such members are to be employees of EPA or any other federal agency involved in resource recovery.

Subsection (b) requires that the panels assist state, local, or regional authorities in planning for construction and operation of resource recovery facilities and programs relating to resource conservation.

Sec. 206 Mining Wastes

Subsection (a) requires the Administrator to study and report on mining waste. The Administrator is directed to include in the Study and Report the sources and volume of such wastes generated each year, present disposal practices, potential dangers to human health and environment from surface runoff, leachate and air pollution by dust from such wastes, alternatives to current disposal methods from such wastes and the costs and the potential of such waste being utilized as a secondary source of the mine products.

Subsection (b) authorizes $500,000.00 for each of the fiscal years 1978 and 1979.

Sec. 207. Sludge Study

Subsection (a) requires the Administrator to study and report on sludge. The report is to include the types of sludge, including seqage, and pollution treatment residues, residues from industrial operations, and the extraction of oil from shale and coal slurry pipeline operations.

Further, the Administrator is required to study the effects of air and water pollution regulation on the increase in the volume of sludge, and the amount of sludge originating in each state and the industries producing such sludge.

Subsection (b) authorizes $500,000.00 for each of the fiscal years 1978 and 1979 to carry out this section.

Sec. 208. Grants for Discarded Tire Disposal

Subsection (a) requires the Administrator to make available grants equal to 5 percent of the purchase price of tire shreadders to eligible applicants meeting criteria developed under this section. Private purchasers are to receive priority over public purchasers, there is to be widespread geographic distribution of the grants for the purchase of tie shredding facilities, the need for such facilities within a geographic area, and the projected risk and viability of any such venture are to be the standards for the distribution of such grants.

Subsection (b) authorizes $750,000.00 for each of the fiscal years 1978 and 1979 to carry out this section.

Sec. 209. Annual Report

Under this section the Administrator is required, within 90 days of the end of each fiscal year, to make a report of the activities of the Office, including specific and detailed results of the activities and programs conducted by the Office under this act, and the effectiveness of such activities in meeting the objectives of this Act. The report is to include a summary of the outstanding discarded material problems and recommendations that would assist the Administrator to solve such problems.

Sec. 210. Authorizations

Subsection (a) authorizes $46,256,000 for fiscal year ending September 30, 1978 and $51,250,000 forthe fiscal year ending September 30, 1979.

Subsection (b) requires that not less than 20 percent of the amount appropriated under subsection (a) shall be used solely for the purposes of the Resource Conservation and Recovery Panels.

Subsection (c) requires that not less than 30 percent of the amount appropriated under subsection (a) shall be used only for the purpose of carrying out the hazardous waste title of the bill.

TITLE III HAZARDOUS WASTE MANAGEMENT

Sec. 301. Identification and Listing of Hazardous Waste

Subsection (a) requires that within 18 months after enactment, the Administrator, after notice and opportunity for public hearing and

after consultation with appropriate Federal and State agencies, promulgate criteria for identifying hazardous wastes, taking into account the toxicity of the substance, its persistence and degradability in nature, its potential for accumulation in tissue, and other related factors such as flammability, corrosiveness, and other hazardous characteristics.

Subsection (b) requires that within 18 months after enactment, after notice and public hearings, the Administrator shall promulgate regulations identifying and specifically listing those hazardous wastes subject to this title. Such regulations are to be based on the criteria promulgated under subsection (a).

Subsection (c) permits the governor of any state to petition the administrator to identify or list a discarded material as hazardous. The Administrator must act upon such petition within 90 days, and notify the Governor of his action.

Sec. 302. Standards Applicable to Generators of Hazardous Waste

This section provides that within 18 months after enactment, after notice and opportunity for public hearing, and after consultation with appropriate Federal and State agencies, the Administrator is required to promulgate regulations establishing standards for generators that are sufficient to protect human health and environment. Such standards are to establish requirements respecting record keeping practices, labeling practices for containers, identifying appropriate containers for hazardous waste and the furnishing of information concerning the general chemical composition of hazardous waste to persons transporting, treating, storing, or disposing of it.

The manifest system is required to insure that all hazardous waste generated which is designated for treatment, or storage, or disposal at a facility, other than the place of generation, be properly delivered to a facility with a permit issued under sections 305 or 306. The submission of reports to the Administrator or the appropriate State agency, setting out the quantities of hazardous waste accepted and its disposition and that of other materials under Sec. 301 is also required.

Sec. 303. Standards Applicable to Transporters of Hazardous Waste

Subsection (a) provides that not less than 18 months after enactment, after notice and opportunity for public hearings, and after consultation with the Secretary of Transportation, and the States, the Administrator shall promulgate regulations establishing standards for the transportation of hazardous wastes necessary to reasonably protect the human health and the environment. The standards are to include, but not be limited to, record keeping, the transport waste only if properly labeled, and compliance with the section 302 manifest system initiated by the generator of such hazardous wastes, and the requirement that hazardous waste be taken only to a facility that has an authorized permit.

Subsection (b) requires coordination between the Administrator and the Secretary of Transportation for the regulation of hazardous materials transportation. The Administrator is authorized to make recommendations to the Secretary respecting regulation of hazardous waste transportation and those wastes that the Administrator believes

should be added to the Secretary's list of hazardous wastes when transported.

Sec. 304. Standards Applicable to Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

This section provides that within 18 months of enactment, after notice and opportunity for public hearings, and after consultation with appropriate Federal and State Agencies, the Administrator is required to promulgate regulations applicable to the operators of facilities for the treatment, storage or disposal of hazardous waste, that reasonably protect human health and the environment. Such standards are to include, but not limited to requirements respecting the maintaining a record as to the waste treated, stored, or disposed of; monitoring and inspection, provisions for the treatment, storage or disposal and performance standards for such operations and requirements concerning the ownership, continuity, operation and training of personnel, and the financial responsibility of owners and operators, and compliance with the permit requirements of this title.

Sec. 305. Permits for the Treatment, Storage, and Disposal of Hazardous Waste

Subsection (a) requires, that within 18 months of enactment, the Administrator is to promulgate regulations requiring each person owning or operating a facility for the treatment, storage, or disposal of hazardous waste identified or listed under this title to obtain a permit for such facility. Such regulations shall take effect as provided by Section 310.

Subsection (b) requires that each application for permit contain information as required by the administrator and that such information shall include the composition, quantity, and concentrations of any hazardous wastes identified or listed under this title that are to be disposed of, treated, or stored at such facility, and the site of which such identified or listed hazardous wastes will be disposed of, treated, stored, or transported to.

Subsection (c) directs the Administrator or appropriate state agency to issue the permit to such facility, if the facility complies with all the promulgated regulations.

Subsection (d) requires that upon a determination by the Administrator or if appropriate the state, of a facility being in non-compliance with the regulations promulgated pursuant to Section 304, that the Administrator or appropriate state, shall revoke such permit.

Sec. 306. Authorized State Hazardous Waste Permit Program

Subsection (a) requires the Administrator, within 18 months after enactment to promulgate guidelines to assist the states develop hazardous waste programs.

Subsection (b) permits a state that chooses to administer and enforce the hazardous waste program, except with respect to federal facilities within its state, to develop and submit to the Administrator the State program to be administered in lieu of the federal program. After submission of the program the State is authorized to carry it out unless the Administrator, within 90 days after notice and hearing

the Administrator finds that (1) the State program is not equivalent to the federal program, (2) the state program is inconsistent with the federal program or other state programs, or (3) the state program does not provide adequate enforcement procedures.

Subsection (c) provides for an interim state authorization to carry out existing state hazardous waste programs with respect to federal facilities that are in effect on the date of enactment of this act and that are substantially equivalent to the federal programs, for a period of 24 months after the hazardous waste regulations are promulgated by the Administrator. To qualify for such interim authorization, a state must submit its program within 90 days after the Administrator promulgates his regulations pursuant to sections 302, 303, 304 and 305.

If the submitted state program is substantially equivalent to the federal program then the Administrator is required to grant the interim authorization.

Subsection (d) provides that any action taken by a state under the hazardous waste program authorized by this section shall have the same force and effect as if the action was taken by the Administrator.

Subsection (e) provides that the Administrator, after public hearings, can withdraw a states authorization to administer the hazardous waste program if the Administrator notifies the state and after a public hearing, finds that corrective action has not been taken within 90 days by the state.

Sec. 307. Inspections

Subsection (a) provides that any person who generates, stores, treats, transports or disposes of hazardous wastes shall, upon the request of an EPA officer, or appropriate state official, furnish access to and samples of, such identified or listed hazardous waste and shall allow copying of the records relating to such waste, at a reasonable time and under reasonable conditions.

Each inspection shall be completed with reasonable promptness and prior to leaving the premises the inspector shall give the owner, operator or agent a receipt describing the samples obtained, and if requested a portion of each sample equal in weight and volume to the portion retained.

Subsection (b) provides that any records obtained in an inspection shall be available to the public, except upon a showing satisfactory to the Administrator by any such person that such records, if made public, would divulge information entitled to protection under section 1905 of totle 18 of the U.S. Code, relating to disclosure of confidential information.

Sec. 308. Federal Enforcement

Subsection (a) provides that on the basis of information of a violation of any part of this title, the Administrator shall give notice to the violator of his failure to comply, and if the violation extends beyond 30 days after the Administrator's notification, the Administrator may then issue an order requiring compliance within a specified period, or may commence civil action in the United States District Court for appropriate relief. If the violation of any such requirement occurs within a state for which the administrator has authorized the state to carry out the hazardous waste program, the administrator shall give notice to the state that such violation has occurred 30 days prior to issuing an order or commencing a civil action.

If the violator has failed to take the proper corrective action he shall be liable for a penalty of not more than $25,000 per day and the administrator may suspend or revoke the violator's permit.

Subsection (b) provides that an order, suspension or revocation of a permit, shall become final, unless within 30 days the person subject to such order, revocation, suspension, requests a public hearing. If such hearing is requested the administrator shall promptly grant it and may issue subpoenas for the attendance of witnesses or the production of documents.

Subsection (c) provides that any compliance order issued persuant to this title shall state the nature of the violation, the time for compliance and the penalty if any. The penalty shall be determined taking into account the seriousness of the violation and any good faith effort on the part of the violator to comply.

Subsection (d) provides criminal penalties for those who knowingly:

1. Transport any hazardous waste to a facility that does not have a permit.
2. Dispose of any hazardous waste without having a permit.
3. Make a false statement or representation in any application, label, manifest, record, permit or other document filed in compliance with this title.

For the first offence, the fine is $25,000 per day of violation, or imprisonment not to exceed one year. Under a second conviction the fine is not more than $50,000 per day or two years in prisonment, or both.

Sec. 309. Retention of State Authority

This section provides that no state or political subdivision may impose requirements less stringent than those imposed by this title, except if application of a regulation has been postponed or enjoined by court action. Further, no state or political subdivision shall be prohibited from acting with respect to the action postponed or enjoined by such court action. Such state shall be able to act until the regulation takes effect.

Sec. 310. Effective Date

Subsection (a) requires that no later than 90 days after promulgation or revision of regulations promulgated under section 301 relating to identification or listing of hazardous wastes, any person generating, transporting to or owning or operating a facility for treatment, storage or disposal of such wastes identified or listed in Section 301, shall file with the Administrator or appropriate state a notification stating location and discription of such activity and the waste handled. Wastes identified or listed pursuant to section 301 may not be transported, treated, stored or disposed of until notification has been given pursuant to this section.

Subsection (b) requires that the regulations promulgated under this title or any revision of such regulations shall take effect 6 months after promulgation.

Sec. 311. Authorization of Assistance to States

Subsection (a) authorizes $25 million for each of the fiscal years 1978 and 1979.

Subsection (b) allocates such funds among the states on the basis of regulations promulgated by the Administrator, taking into account the hazardous waste that is generated, transported, treated, stored and disposed of in each state, the extent of human exposure to such wastes in each state, and the environment within such state to such wastes.

TITLE IV—STATE OR REGIONAL DISCARDED MATERIALS PLANS

Sec. 401. Objectives

The section states the objectives of this title which are to assist states in developing methods of disposal of discarded materials which are environmentally sound and maximize resource conservation and recovery of the nations resources. The objectives are to be accomplished through federal financial and technical assistance, comprehensive planning, and cooperation among all levels of government.

Sec. 402. Federal Guidelines for Plans

Subsection (a) requires the Administrator, within 180 days after the date of enactment, and after consultation with appropriate state and local authorities, to publish guidelines identifying these areas which have common discarded materials problems and are appropriate units for planning the management of such problems. The guidelines are to consider the size and location of areas included, the volume of discarded materials which should be included, and the available means to coordinate the plan with other regions and the state plan.

Subsection (b) requires the Administrator, within 18 months after enactment and after consultation with appropriate federal, state and local authorities to issue guidelines to assist the state to develop and implement their discarded materials plan. The guidelines are to contain methods to assist the states achieve the objectives specified in section 401. Such guidelines are to be reviewed from time to time but not less frequently than every three years.

Subsection (c) requires the Administrator in the development of the State Plan Guidelines, pursuant to subsection (b), to consider:

1. Regional, geographic, hydrolic, climatic, and other conditions, and circumstances under which discarded material practices are operated and reasonable protection of the quality of ground and surface waters from leachate contamination.
2. Characteristics and conditions of collections, storage, processing and the disposal of discarded materials and the location of such facilities and the operations conducted.
3. Methods of closing and upgrading open dumps for the purposes of eliminating health hazards.
4. Population density.

5. The types and locations of transportation within the state.
6. Profile of industries within the state.
7. Constituents and generation of waste within the state.
8. Political, economic, organizational and financial problems effecting discarded material management.
9. Types of resource recovery facilities which would be appropriate.
10. Available new and additional markets for recovered materials.

Sec. 403. Minimum Requirements for Approval of State Plan

This section provides that in order for a State plan to be approved the Plan must have the following minimum requirements:

1. That it identify the responsibility of state, local and regional authorities in the Planning and implementation of the state plan.
2. That the distribution of Federal funds to such states is reallocated among the state, local and regional authorities according to the responsibility at each level of government.
3. There is a means of coordinating regional and local plans with state plans.
4. That there shall be a prohibition on the establishment of new open dumps, and that all discarded materials must be utilized by a resource recovery facility or disposed of in a Sanitary Landfill, or otherwise disposed of in an environmentally sound manner.
5. There must be a plan to close or upgrade all existing open dumps.
6. The state must establish regulatory powers to carry out the discarded materials plan.
7. That no local government shall be prohibited under either state or local law from entering into long term contracts for the supply of discarded materials or resource recovery facilities.
8. The plan must provide that resource conservation and recovery or the disposal of materials in sanitary landfills, or such other practices as may be environmentally sound, or any combination of the above must be undertaken by the discarded materials plan.

Sec. 404. Criteria for Sanitary Landfills: Sanitary Landfills Required for All Disposal

Subsection (a) provides that no later than 1 year after enactment of the Act and after notice and public hearings and consultation with the states the Administrator is required to promulgate regulations containing criteria for determining which facility is to be classified as a sanitary landfill, and which shall be classified as a open dump, within the meaning of this Act. At a minimum a site can be classified as a sanitary landfill only if there is no reasonable probability of adverse effects on health or the environment from the disposal of discarded material at such site.

Subsection (b) requires that all disposal on land be in sanitary landfills.

76-726 O - 76 - 5

Subsection (c) provides that the effective date is to be 6 months after the date of promulgation of regulations or on approval of the state plan, whichever is later.

Sec. 405. Upgrading of Open Dumps

Subsection (a) provides that for purposes of this act, term "open dump" means that which is disposed of in an area which is not a sanitary landfill.

Subsection (b) requires that the Administrator within one year after the promulgation of the regulations defining a sanitary landfill under section 404, with cooperation with the Bureau of Census, is to inventory and publish the inventory of all disposal facilities or sites in the United States which are classified as open dumps within the meaning of this Act. Such inventory is to classify such facilities and sites on a state by state basis into five categories based on potential health hazards.

Subsection (c) requires that each state plan shall contain a requirement that all existing disposal facilities or sites or disposal materials which are open dumps within the meaning of section 404 are to be eliminated. All such facilities or sites are to be eliminated at the rate of 20% a year of the open dumps in each state, with those posing the greatest degree of health and environmental hazards eliminated first.

Sec. 406. Procedure for Development and Implementation of State Plan

Subsection (a) provides that within 180 days after the publication of the Administrator's guidelines under Section 402 relating to the identification of regions, the Governor of each state shall identify the regions in his respective state based on urban concentration, geographic conditions, markets or other factors which are appropriate for carrying out a regional discarded materials plan.

Subsection (b) requires that within 180 days after the Governor promulgates or identifies the regions within the state, that the state together with the appropriate elected officials of general purpose units of local government are to jointly identify an agency to develop a state plan and identify one or more agencies to implement such plan. However, if an areawide authority is in existence on the date of enactment, which is a multi-functional regional agency, authorized by state law to conduct discarded material planning and management and the members are appointed by the Governor, then the Governor shall identify such authority to plan and implement the discarded material plan for such area.

Subsection (c) requires that governmental units involved identify which discarded materials functions are to be planned and implemented by the state, and which functions will be planned and implemented by a regional or local authority or any combination of regional or local authorities. A State agency identified under this section shall be designated by the Governor, and local or regional agencies identified under this paragraph are to be composed of individuals at least the majority of whom are elected local officials. Further, that if within 270 days after the regions have been determined, the states, local and regional authorities cannot agree upon the government

agency that is to plan and implement the discarded material plan of a region then the Governor of the state shall designate a state agency to develop and implement a discarded material plan for such area.

Subsection (d) provides for the creation of interstate regions whenever the Administrator publishes pursuant to section 402 of this Act, a region which is located in two or more states, then the governors of the respective states, after consultation with the local and regional officials, shall attempt to enter into an agreement identifying the boundaries of such region, as the administrator identified. Further that within 180 days after the interstate region is identified by the agreement of the governors, appropriate elected officials of a general purpose unit of local government within such region shall jointly establish or designate an agency to develop and implement a plan for such region. If no such agency is established or designated by such local officials, then the governors of the respective states may by agreement establish or designate a single representative organization, including elected local officials, to plan and implement the discarded material plan for that region. Such interstate regional discarded materials plans shall be implemented by units of local government for any portion of the region which is in their jurisdiction or by multijurisdictional agencies or authorities designated in accordance with state law including those created by agreement of the local governments effected. If no such agencies are developed by the local authorities then the Governors of the respective states shall designate a single agency to plan and implement the plan.

Sec. 407. Approval of State Plan: Federal Assistance

Subsection (a) requires the administrator, within 6 months after a State plan has been submitted, to approve or disapprove of such plan. The Administrator is required to approve the plan if he determines: (1) That it meets the minimum requirements of section 403; (2) That the plan contains a provision for revision of such plan whenever the Administrator determines by regulation revision is necessary or information has become available that demonstrates the inadequacy of the discarded materials plan to effectuate the purposes of this title.

Further, the administrator is directed to review the approved plans from time to time and if he determines that revisions or corrections are necessary to bring the plan into compliance with the minimum requirements under section 403, then he shall after notice and public hearing withdraw his approval of such plan until such time as the plan is in compliance with the provisions of this title.

Under subsection (b) the states are eligible to receive federal financial assistance for planning and implementation of the discarded materials plan if, for the fiscal year 1978 the state has complied with the timing requirements of section 406 or if such state has a plan which has already been approved by the Administrator. For a state to be eligible for federal financial assistance in fiscal year 1979 the State must already have received assistance in fiscal year 1978 and the administrator determine that the plan meets the requirements of this title and that such plan is being implemented by the state.

Upon withdrawal of approval, or disapproval of a discarded materials plan by the Administrator, the Administrator shall withhold

federal financial and technical assistance from such state, except that the administrator is authorized to assist the state with technical assistance so as to help the state come into compliance with the minimum requirements of this title.

Subsection (c) states that nothing in this title is to be construed to prevent or effect any activities that are presently being carried out by a state, region, or local authority unless such action is inconsistent with the state plan approved by the administrator under this title.

Sec. 408. Federal Assistance

Subsection (a) authorizes $40 million for fiscal year 1978 and $50 million for fiscal year 1979 to be available in the form of grants to the states for the development and implementation of state plans under this title.

Subsection (b) provides that the sums appropriated to carry out this title shall be allocated among the states, in a ratio that the population in each state bears to the population in all of the states. Except that no state shall receive less than one-half of 1% of the sums allocated in any fiscal year. Further, no state is eligible to receive money if the expenditures in that state for a particular year for discarded materials management are decreased, except if such decrease is part of a general overall reduction in state spending ordered by the Governor and legislature of such state.

Further, this subsection makes clear that the funds for planning and implementation are to supplement the level of state, local, or regional funds available for the maintenance of a discarded materials program, and are not to be the sole source of funding.

Subsection (c) provides that 70 percent of the sums allocated to a state shall be reallocated by such state to the local, regional, or interstate authorities responsible for the planning and implementation of the discarded materials plan. Such reallocation shall be based on the responsibilities of the respective parties.

The remaining 30 percent of the available federal assistance allotted to the States is to be available within such states to provide assistance to municipalities with a population of fewer than 5,000 or counties with a population of fewer than 10,000; not within a metropolitan area, or identified region for discarded materials management; and in order that such communities may meet the goals of this act.

Subsection (d) provides that the Administrator may provide the state, local or regional authorities with technical assistance respecting resource conservation and resource recovery.

Subsection (e) Authorizes $2.5 million for each of the fiscal years 1978 and 1979 for the Administrator to expend for the conversion, implementation consolidation or for the construction of new discarded material facilities for communities within the United States having a population less than 25,000 persons and with discarded materials facilities in which 75% of the discarded materials disposed of are from areas outside the jurisdiction of the community and that such communities have serious invironmental problems resulting from the disposal of such wastes.

Not more than one facility per state can receive any such grant and such facility shall be consistent with the state plan under title IV of this Act.

Sec. 409. Repeal of Existing Authority

This section repeals section 207 of the Solid Waste Disposal Act of 1965.

TITLE V—DUTIES OF THE SECRETARY OF COMMERCE IN RESOURCE CONSERVATION AND RECOVERY

Sec. 501. Functions

This section provides that the Secretary of Commerce is required to encourage greater commercialization of proven resource recovery technology by providing accurate specifications for the use of recovered materials, stimulation of development of markets for recovered materials, promotion of proven technology, and a forum for the exchange of technical and economic data relating to such facilities.

Sec. 502. Development of Specifications for Secondary Materials

This section provides that the Secretary of Commerce, acting through the Bureau of Standards, is required, within one year and after hearings, to publish uniform specifications for the classification of recovered material with regard to physical and chemical properties, and to establish an index of the ability of such materials to replace virgin materials in various industrial, commercial and governmental uses.

Sec. 503. Development of Markets for Recovered Materials

This section provides that the Secretary of Commerce is directed within two years of enactment to identify the geographical locations of existing or potential markets for recovered materials, the economic and technical barriers to the uses of recovered materials, the economic and technical barriers to the uses of recovered materials, and to encourage the development of new uses for recovered materials.

Sec. 504. Technology Promotion

This section authorizes the Secretary of Commerce to evaluate the commercial feasibility of resource recovery facilities and to publish the results of such evaluation, and to develop a data base to assist persons in choosing a resource recovery technology.

Sec. 505. Information Exchange

Subsection (a) provides that the Secretary of Commerce may sponsor meetings for the exchange of information concerning all aspects of discarded material management, including patents, technology, and processes.

Subsection (b) requires that meetings held pursuant to this section include persons involved in the generation, disposal, treatment of any aspect of the management of discarded material. Notice of such meeting, with an agenda of the meetings is to be sent to the Attorney General, and Federal Trade Commission and such meeting shall be initiated and chaired by the Secretary of Commerce.

Subsection (c) requires a full and complete record of the meetings and of any communication other than communications in the meeting, between or among the participants or potential participants.

Such records shall be deposited together with any agreements resulting from such meetings with the Secretary of Commerce and shall be available to the Attorney General, Federal Trade Commission.

Subsection (d) provides that the submission and publication of the agreements for the exchange of information entered into pursuant to this section shall be submitted in writting to the Attorney General and the Federal Commission 20 days prior to being implemented. Any such agreement shall be available in accordance with 5 U.S.C. 552 except for those matters that are considered trade secrets.

Subsection (e) gives a defense to any civil or criminal action brought under the antitrust law or any similar state law in respect to actions taken to carry out any agreement for the exchange of information under this section.

However, any actions that are taken to injure competition are not covered by this section. Persons complying with the regulation promulgated under this section and using the defense provided by this subsection, shall have the burden of proof, except in cases where there is an allegation that the actions were an attempt to injure competition.

Subsection (f) provides that nothing in the section shall be construed to grant immunity for any action or agreements that occurred prior to the date of enactment of this act or subsequent to its expiration or repeal.

TITLE VI—FEDERAL RESPONSIBILITIES

Sec. 601. Application of Federal, State and Local Law to Federal Facilities

Subsection (a) requires the Administrator to promulgate regulations which shall apply to any property, facility or activity of the United States in lieu of such property, facility or activity being subject to state or local law relating to the management of discarded materials. Such regulations shall require compliance from all branches of the federal government with the administrator's guidelines and other requirements promulgated by the Administrator pursuant to Title IV.

Further, nothing in any state plan adopted pursuant to Title IV shall apply to any federal property nor is any state required to take into account, in development of its state plan, discarded materials on federal property.

The enforcement of discarded materials management is to be the responsibility of the Administrator. To enforce his standards promulgated pursuant to Title IV that relate to federal facilities, the Administrator is required to give notice to the violator of his failure to comply with such regulations. If the violation extends beyond the thirtieth day after such notice, the Administrator may issue a compliance order or commence a civil action in the U.S. district court where the violation occurs. Violators may be subject to a civil penalty of not more than $25,000 for each day of continued noncompliance. Each order shall state, with reasonable specificity, the nature of the violation, time for compliance and penalty.

Subsection (b) requires all federal facilities to comply with the hazardous waste regulations promulated by the Administrator pursuant to Title III of this Act. including the enforcement provisions of that title.

Subsection (c) authorizes the President or his designee to grant an exemption to any facility or activity of the federal government, from compliance with the hazardous waste title of this bill, if the President, or his designee, determines that the national security interests of the United States demands such exemption be made. Such exemption shall not be longer than one year, but additional exemptions may be granted for periods not to exceed one year.

Sec. 602. Federal Procurement

Subsection (a) requires that a procuring agency comply with the requirements of this section or any procurement item where the purchase price of the procured item or the fair market value of the quantity purchased during the preceding fiscal year exceeds $10,000.

Subsection (b) provides that any procurement subject to regulations promulgated under section 211 of the Solid Waste Disposal Act, shall not be subject to the requirements of this section to the extent that such requirements are inconsistent.

Subsection (c) requires that two years after the date of enactment of this Act each procuring agency shall procure items composed of the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, except, that this requirement does not apply where such items containing recovered materials are not reasonably available within a reasonable amount of time, such items do not meet performance standards, or such items are only available at an unreasonable price.

Subsection (c) also requires that agencies that generate heat, mechanical or electrical energy from fossil fuel and having a capability of using discarded materials as a primary or supplementary fuel, do so to the extent practical.

Further, contracting officers shall require venders to certify the percentage of recovered material to be utilized in the performance of the contract.

Subsection (d) requires that all federal agencies drafting or reviewing procurement specifications determine whether those specifications violate prohibitions under this section. Such review shall be undertaken within 18 months after the date of enactment.

In drafting or revising specifications after the date of enactment any arbitrary exclusion of recovered material from procurement contracts shall be eliminated, specifications shall not require the items to be manufactured solely from virgin materials, and such specifications shall require reclaimed materials be purchased to the maximum extent possible, without jeopardizing the intended end use of the product.

Subsection (e) requires the Administrator, after consultation with the General Services Administration, the Secretary of Commerce and the Public Printer, to prepare and from time to time review and revise, if appropriate the guidelines for procuring agencies in complying with requirements of this section. The guidelines shall recommend practices with respect to the procurement of items containing recovered materials and shall provide information on the availability, sources of supply, and potential users of such items and materials.

Subsection (f) requires procuring agencies, to the maximum practical, to provide for the procurement of discarded materials management services in a manner which maximizes energy and resource recovery.

Sec. 603. Cooperation with Environmental Protection Agency

This section requires all Federal Agencies having functions relating to discarded materials and hazardous waste to cooperate to the maximum extent permitted by law, with the Administrator in carrying out his functions under this Act. Such agencies are to make appropriate information available to the Administrator upon his request.

TITLE VII—MISCELLANEOUS PROVISIONS

Sec. 701. Employee Protection

This subsection (a) prohibits an employer from discharging any employee or otherwise discriminating against any employee with respect to his compensation, terms, conditions and privileges or employment, because such employee commenced or caused to be commenced a legal proceeding under this act; testified, or is about to testify in any proceeding; assisted or is about to assist, or participate in any proceeding to carry out the purposes of this Act.

Subsection (b) gives an employee discharged or otherwise discriminated against because of participation in a subsection (a) activity a remedy. Such employee can file a complaint with the Secretary of Labor, within 30 days after the alleged violation occurs, alleging such discrimination, and the Secretary of Labor shall notify the person named in the complaint of the filing of such complaint. Within 30 days of the receipt of the complaint the Secretary shall conduct an investigation of the alleged violation and shall notify the parties of his conclusions. Within the 90 days of the receipt of the complaint, unless the matter has been settled, the Secretary shall issue an order providing for appropriate relief or denying the complaint. Such order of the Secretary shall be made on the record after notice and opportunity for public hearing.

If the Secretary determines that a violation has occurred, he shall order the person who has committed the violation to take affirmative action to abate the violation, to reinstate the complainant to his former position, together with the terms, conditions and privileges of his employment, backpay, compensatory damages, and where appropriate, exemplary damages. If such order is issued the Secretary, at the request of the complainant, shall assess against the person against whom the order is issued a sum equal to the aggregate amount of all costs and expenses, including reasonable attorneys fees, reasonable incurred by the bringing of the complaint.

Subsection (c) provides that any party may obtain review of the order of the Secretary of Labor in the United States Court of Appeals for the circuit in which the violation occurs. Such petition filed with the Court of Appeals must be filed within 60 days from the issuance of the Secretary's order. Commencement of such proceedings under this paragraph shall not, unless under the order of the court, operate as a stay of the Secretary's order.

Subsection (d) provides that whenever a person has failed to comply with an order issued by the Secretary, the Secretary is directed to file a civil action in the United States district court in which the violation occurred, to enforce the order. The court shall be permitted to grant appropriate relief.

Subsection (e) provides that this section shall not apply to any employee who was acting without the direction of his employer, to deliberately cause violation of a requirement of this Act.

Sec. 702. Citizen Suits

Subsection (a) provides that any person may commence a civil action on his own behalf against any person or government instrumentality alleged to be in violation of this Act, or against the Administrator to perform any mandatory act or duty under this Act. Such actions shall be brought in the district court, for the district in which the violation occurred. Any action that is brought solely against the Administrator can only be brought in the district court where the violation occurred, or in the district court of District of Columbia.

Subsection (b) prohibits any person from commencing any action under this section unless (1) 60 days have elapsed after the plaintiff has given notice of the violation to the Administrator or to the State in which the alleged violation occurs, or to any alleged violator. If the Administrator or a state has commenced and is diligently prosecuting such civil action then no suit can be brought pursuant to subsection (a).

Subsection (c) provides that no action may be commenced prior to 60 days after the plaintiff has given notice to the Administrator. Notice is to be by registered mail. Any action brought with respect to a violation under this Act, may be brought under this section, only in the judicial district in which the violation occurs.

Subsection (d) authorizes the Administrator, if he is not a party to a lawsuit relating to this Act to intervene in such lawsuit as a matter of right.

Subsection (e) permits the court, in its final order, to award the costs of litigation, including reasonable attorneys fees and expert witness fees to any party to the litigation, whenever the court determines such an award is appropriate.

Subsection (f) preserves any rights that a party to litigation would have under any other statutes or common law to seek the enforcement of any standard or requirement relating to the management of discarded materials.

Sec. 703. Imminent Hazard

This section provides that notwithstanding any other provision of this act, upon receipt of evidence that the handling, storage, treatment, an imminent and substantial endangerment to health and the environment then the Administrator may bring suit in the United States District Court, for appropriate relief.

Sec. 704. Petition for Regulation

This section, permits any person to petition the Administrator for the promulgation of, amendment, or repeal of any regulation, under this Act. Within a reasonable amount of time, the Administrator will take such action as necessary, and shall publish notice of such action together with his reasons for taking such actions in the Federal Register.

Sec. 705. Separability.

This section provides that if any provision of this act is held invalid the application of such provision to any persons or circumstances, and the remainder of the act, shall not be affected.

Cost Estimates

In compliance with clause 7 rule XIII of the Rules of the House of Representatives, the following statement is made relative to the cost of this legislation:

Study on Mining Waste (sec. 208):	
Fiscal year:	
1978	$500,000
1979	$500,000
Sludge study (sec. 207):	
Fiscal year:	
1978	$500,000
1979	$500,000
Grants for discarded tires (sec. 208):	
Fiscal year:	
1978	$750,000
1979	$750,000
General authorizations (sec. 210):	
Fiscal year:	
1978	$46,250,000
1979	$51,250,000
Hazardous waste planning assistance (sec. 311):	
Fiscal year:	
1978	$25,000,000
1979	$25,000,000
Discarded materials planning assistance (sec. 408):	
Fiscal year:	
1978	$40,000,000
1979	$50,000,000
Special communities assistance (sec. 408):	
Fiscal year:	
1978	$2,500,000
1979	$2,500,000

In regard to Clause 2(1)(3)(C) of Rule XI of the Rules of the House of Representatives, the Committee includes the following cost estimate submitted by the Congressional Budget Office relative to the provisions of H.R. 14496:

Congressional Budget Office

cost estimate, september 9, 1976

1. Bill No. H.R. 14496.

2. Bill title: To provide technical and financial assistance for the development of management plans and facilities for the recovery of energy and other resources from discarded materials and for the safe disposal of discarded materials, to regulate the management of hazardous waste, and to amend the Solid Waste Disposal Act to provide certain authorities respecting research, development, and demonstration.

3. Purpose of bill: Part I of this legislation establishes mechanisms for cooperative effort among federal, state, and local governments and private enterprise in resource recovery;

provides for technical and financial assistance to governmental agencies for the development of plans for the disposal of discarded materials; prohibits future open dumping on land and conversion of existing open dumps to environmentally safe facilities; and requires the promulgation of regulations for the treatment, storage, transportation, and disposal of hazardous wastes. The bill authorizes the appropriation of $241 million for these purposes. Part II of this legislation expands and clarifies some of the research and information gathering and disseminating activities of EPA as provided in the Solid Waste Disposal Act (P.L. 89–272). Part II of the bill also mandates a number of studies and full-scale demonstration projects to be undertaken by EPA. The bill authorizes the appropriation of $45 million for these purposes. This is an authorization bill which requires subsequent appropriations action.

4. Cost estimate:

[In millions of dollars]

	Fiscal year—				
	1978	1979	1980	1981	1982
Part I:					
Authorization level	113.0	128.0			
Cost	19.3	92.9	103.8	25.0	
Part II:					
Authorization level	45.0				
Cost	18.7	10.7	8.9	6.7	

5. Basis of Estimate: The authorization levels used in this estimate are those stated in the bill. It should be noted that the costs of Part I and Part II are estimated separately and do, in fact, contain redundancies. For example, both parts provide authorization for mining and sludge studies (totalling $1 million in fiscal year 1978 and $1 million in fiscal year 1979) and for some general administration.

Part I—The legislation authorizes to be appropriated $500,000 in each of the fiscal years 1978 and 1979 for a study on mining waste; these amounts are assumed to spend 100 percent in the year authorized. The bill also authorizes to be appropriated $500,000 in each of the fiscal years 1978 and 1979 for a study on sludge; these amounts are assumed to spend 100 percent in the year authorized. The legislation authorizes to be appropriated $750,000 in each of the fiscal years 1978 and 1979 for grants for tire shredders; these amounts are assumed to spend at 33 percent per year beginning with the year authorized.

Section 210 of the bill authorizes to be appropriated for carrying out the general provisions of the bill, $46,250,000 for fiscal year 1978 and $51,250,000 for fiscal year 1979. Not less than 20 percent of these amounts in Section 210 are to be used for the purposes of the Resource Recovery and Conservation Panels. It is assumed here that 20 percent of the relevant authorization amounts are used for the Panels and that

these amounts spend at 50 percent in year one of the authorization and 50 percent in year two of the authorization. Not less than 30 percent of these amounts in Section 210 are to be used for Title III (relating to hazardous waste) other than Section 311. It is assumed here that 30 percent of the relevant authorization amounts are used for Title III and that these amounts spend at 30 percent in year one, 40 percent in year two, 30 percent in year three. The remaining 50 percent of the amount authorized in Section 210 is attributed to general administration and is assumed to spend 40 percent in year one, 40 percent in year two, and 20 percent in year three.

Section 311 of the bill authorizes to be appropriated $25 million for each of fiscal years 1978 and 1979 for grants to states for purposes of assisting the states in the development and implementation of state hazardous waste programs. These grants are assumed to spend at 0 percent in year one, 80 percent in year two, and 20 percent in year three. The legislation (Section 408) also authorizes to be appropriated $40 million in fiscal year 1978 and $50 million in fiscal year 1979 for the purpose of making grants to the states for the development and implementation of state plans under Title IV (state or regional discarded material plans): these grants are assumed to spend at 0 percent in year one, 80 percent in year two, and 20 percent in year three.

Part II—In Part II, this legislation authorizes to be appropriated $10 million for a number of specific studies, some of which are to be completed by October 1, 1978 (one-year studies) and others by October 1, 1979 (two-year studies). The one-year studies are assumed to spend entirely in fiscal year 1978, while the two-year studies are assumed to spend equally in fiscal year 1978 and fiscal year 1979. Likely costs for these studies were determined after consultation with EPA, Office of Technology Assessment (OTA), and House Committee on Science and Technology staff. The $10 million is estimated to spend 85 percent in fiscal year 1978 and 15 percent in fiscal year 1979.

The legislation also authorizes $35 million for certain information gathering and disseminating activities and for full-scale demonstration projects and related activities. The total $35 million is estimated to spend 41 percent in fiscal year 1978, 24 percent in fiscal year 1979, 20 percent in fiscal year 1980, and 15 percent in fiscal year 1981, although the spendout for individual items may differ from this rate. The spendout rate for the information gathering activities was determined after discussion with EPA, OTA, and House Committee on Science and Technology staff. In order to determine the spendout rate for the demonstration projects, a likely mix of new solid waste management projects was assumed and the spendout rate for these items estimated. Although the language of Part II clearly encourages cost-sharing, it is conservatively assumed in this estimate that the projects are entirely federally funded.

6. Estimate comparison: None.

7. Previous CBO estimate: CBO prepared an estimate of H.R. 14965 on August 25, 1976. That bill was incorporated as part II of this bill, and that estimate has therefore been incorporated as part of this one.
8. Estimate prepared by: Terry Nelson.
9. Estimate approved by:

R. SCHEPPACH
for JAMES L. BLUM,
Assistant Director for Budget Analysis.

INFLATIONARY IMPACT STATEMENT

As the cost estimate and spend out rates indicate, actual direct federal spending under this legislation would be on a small scale. No perceptible impact on the nation's rate of inflation should result from the federal expenditures authorized.

Although direct federal expenditures are not expected to have inflationary impact, private sector expenditures necessitated by this legislation are difficult to predict and therefore their inflationary impact is extremely difficult to estimate.

EPA estimates a dump closing cost of approximately $5,000, depending on size and location. Although there are currently about 14,000 dumps in operation, the number which would be closed or upgraded cannot be determined. EPA estimates indicate that if all currently inadequate waste disposal facilities were upgraded, costs could be about $24 million annually for ten years. It should be noted however that there is little likelihood that all dumps will be upgraded. Very many environmentally inadequate dumps will be closed at costs far below the cost of upgrading.

In addition to these monetary costs the Committee recognized important but difficult to quantify savings. Decreasing the degree of subsurface leachate, surface runoff and air pollution from discarded materials disposal sites will lessen the degree of air and water pollution, making expenditures for air and water pollution abatement more cost effective. Inadequate land disposal practices do contribute to the need to spend billions of dollars under the Air Pollution Control Act and the Federal Water Pollution Control Act as well as under the Safe Drinking Water Act. The Committee also considered the potential costs incurred with the cleanup of underground aquifers, which are the source of drinking water for approximately 50 percent of our population, and the cost of providing new alternate water supplies. The Committee found that eliminating the source of underground water pollution appeared to be much more cost effective and less inflationary in the long term than the other available alternatives.

* * * * * * *

(For the inflationary impact statement on Part II of the Resource Conservation and Recovery Act see Part II of this report.)

OVERSIGHT FINDINGS

Pursuant to Clause 2(1)(3)(A) of rule XI, and under the authority of rule X, clause 2(b)(1) and clause (3)(f), of the Rules of the House of Representatives the following statement on oversight activities is made:

The problems caused by the growing volumes of municipal, industrial and hazardous wastes that are disposed of on the land have generated tremendous interest in the 94th Congress. Three standing Congressional Committees held hearings on some aspect of municipal, industrial or hazardous waste problem.

The Subcommittee on Environment and the Atmosphere of the Committee on Science and Technology held hearings in April 1976 on H.R. 12380, the Solid Waste Energy and Recovery Act. The Subcommittee held its mark-up of the legislation on July 22 and 29, 1976 and on July 29, 1976 reported a bill to the full Committee on Science and Technology which held mark-up on the legislation and reported it to the Congress on August 10, 1976, as H.R. 14965.

The Oversight provisions of the Committee on Science and Technology relating to research and development are:

1. There is a need for more research and development. The state of the art can be greatly improved. This is not directly critical of current efforts in the field, rather it implies that more effort is needed.

2. The testimony regarding the need for more demonstrations was divided. The consensus seems to be that there is no need for a massive demonstration program. On the other hand some technologies are already to be demonstrated, and should be. There was concern that expensive demonstrations not take all funds away from research and development.

3. An R., D. & D. program should definitely include more work on small scale and low technology systems. Source separation should be a part of this effort.

4. A continuing problem with implementation of resource recovery systems is the lack of a reliable, profitable market for the recycled material.

(For a more detailed treatment of the oversight findings of the Committee on Science and Technology see Part II of this report.)

The Subcommittee on Conservation, Energy, and Natural Resources of the Government Operations Committee held oversight hearings on "Solid Waste Management and Resource Conservation" on March 23, 24, 26 and 31, 1976, and issued a report to the House June 30, 1976. The Findings of Fact and Recommendations of that Committee are listed in their entirety in a separate section of this Report entitled "Oversight Findings and Recommendations made by the Committee on Government Operations."

The Committee on Interstate and Foreign Commerce, through its Subcommittee on Transportation and Commerce, as stated in more detail under the section of this report entitled Committee Action held 15 hearing sessions on the problems associated with wastes generated by municipal, industrial and commercial activities. Although the hearings were primarily legislative in nature, the testimony focused on the ineffectiveness of the existing law and the general desire of the public, industry, environmental and local government organizations for additional legislation to solve the waste problem.

The testimony focused on the fact that the Office of Solid Waste Management within the Environmental Protection Agency has no

regulatory authority and that without such authority, the waste problems cannot be solved.

The following paragraphs state the major oversight conclusions to be drawn from the hearings undertaken by the Committee on Interstate and Foreign Commerce:

1. That there should be established within the Environmental Protection Agency a statutory office of discarded materials with clear duties and responsibilities for the implementation of a discarded materials and hazardous waste program.

2. That the Administrator should have regulatory power in the area of hazardous wastes, guideline authority in the area of municipal solid waste, and that he is to act as a catalyst with the federal procuring agencies in order to have such agencies purchase recovered materials with performance standards similar to those of virgin materials.

3. That there should be a cooperative effort between federal, state and local authorities to develop discarded materials management plans which protect human health and the environment and utilize discarded materials for the recovery of materials or energy.

4. That there should be federal technical and financial assistance for the planning and implementation of discarded materials and hazardous waste management plans.

5. That there should be no federal financial assistance to states or local governments for the construction of resource recovery facilities at this time.

Oversight Findings and Recommendations by the Committee on Government Operations

Pursuant to Rule X, clause 2(b)(2) of the Rules of the House of Representatives the following oversight findings and recommendations have been received: (Reprinted from Solid Waste—Materials and Energy Recovery; Twenty Fifth Report by the Committee on Government Operations, June 30, 1976):

III. FINDINGS OF FACT

1. Solid waste disposal is one of the most serious municipal problems; the problem is growing at an annual rate of nearly 8 percent.

2. Open dumps create health and environmental hazards.

3. Sanitary landfill disposal of municipal solid waste is the most commonly used disposal technique.

4. Sanitary landfill disposal is becoming increasingly unavailable as possible sites accessible to metropolitan areas become filled and costs of transportation mount.

5. Limitations on dumping municipal waste in the oceans, although environmentally desirable, exacerbate problems of municipal waste disposal.

6. Properly managed landfill disposal of refuse can be inexpensive and environmentally sound.

7. Technology whereby materials and energy are recovered from refuse is available.

8. Environmental, social, and economic benefits of resource recovery have been demonstrated in Europe and to a limited extent, in the United States.

9. A number of new, or heretofore undemonstrated, technologies are in various stages of development and demonstration in the United States.

13. In many cases, energy expended in recovering materials is considerably less than the energy cost of extracting virgin materials.

14. Energy recovered from refuse may be in the form of steam, steam transformed into electricity, or any one of various types of solid, liquid or gaseous fuels ("refuse-derived fuels").

15. Refuse-derived energy in the form of steam, electricity, and refuse-derived fuel has been used successfully by industries and utilities.

16. In the initial full-scale operation of some resource recovery systems, problems have emerged such as: emissions of air-polluting gases and particulates, jamming and clogging of equipment, malfunctioning of equipment, and overheating.

17. The Federal program, which is largely based on the Resource Recovery Act of 1970, is essentially a non-regulatory program of EPA intended to provide technical assistance to communities and encourage the development of new technology through limited research, development, and demonstration.

18. Although existing and emerging technologies of resource recovery sometimes present attractive and financially competitive municipal waste disposal solutions, few communities are pursuing such resource recovery solutions.

19. Institutional barriers or obstacles much more than technological problems often thwart the development and realization of resource recovery solutions to municipal solid waste problems.

20. Municipal officials are often unaware of the availability of resource recovery systems and technologies, or lack the technical capacity to determine whether such systems or technologies are reliable, or whether they are appropriate to their particular needs.

21. Municipal officials often fail to take account of the full costs of their current waste disposal system, many of which costs are hidden or overlooked.

22. Many metropolitan areas composed of a number of political jurisdictions, often including a central city, group of independent surburban communities, and a surrounding county or township often have independent authorities over municipal solid waste collection and disposal.

23. The multiple jurisdictions within metropolitan areas often are unable to coordinate or unify their various solid waste collection or disposal systems because of obstacles which include: legal barriers, inconsistent disposal systems, inability to agree as to a single comprehensive system, inability to finance proportionate shares of a new system, and inability to

provide a long-term commitment of minimum volumes of municipal refuse.

24. Most modern resource recovery systems require substantial capital investment and entail significant operation and maintenance costs.

25. Many municipalities lack the legal authority to issue revenue bonds for resource recovery.

26. Neither EPA nor any other Federal agency has authority to establish standards governing solid waste management or resource recovery.

27. The states of Wisconsin and Connecticut have established statewide programs which are premised on regional approaches, anticipate resource recovery opportunities, and require cooperation with private industry.

28. The ERDA has supported limited demonstration of new resource recovery technology.

29. Banks and lending institutions have financed municipal resource recovery systems and are willing to invest in such systems if such systems can be shown to be reliable and economically viable.

IV. RECOMMENDATIONS

1. Congress should consider legislation authorizing minimum national standards for the disposal of solid waste. Such standards should take account of the health hazards and environmental degradation associated with inadequately controlled land-fill disposal of refuse and to the maximum extent possible, take account of the environmental and economic costs and benefits of land-fill disposal and the availability and feasibility of alternative systems.

2. Congress should consider including in such legislation a requirement that open dumping of refuse be prohibited after a date certain. That date should allow communities a reasonable time within which to initiate systems which meet the national standards of municipal solid waste disposal.

3. Congress should consider including in such legislation direction that the Environmental Protection Agency, in consultation with the Energy Research and Development Administration, develop and issue such national standards of municipal solid waste disposal within one year from the date of enactment of such legislation.

4. Congress should consider including in such legislation provision for penalties against any community which fails to meet the national standards of municipal waste disposal or which permits open dumping after the date or dates specified in such standards and prohibition.

5. The Environmental Protection Agency should significantly expand the scope and quality of its technical assistance to states, regions, and municipalities to aid in the development of environmentally, technically, and economically sound solutions to municipal solid waste problems. Such assistance should be made, when appropriate, by interdisciplinary teams, which should include representatives of private

76-726 O - 76 - 6

industry and financial institutions, and other Federal agencies. These teams would be available upon request to states, regions, and municipalities.

6. The Environmental Protection Agency, in consultation with representatives of states, municipalities, private industry, and other Federal agencies, should develop recommended standards for state programs of solid waste management. Such recommended standards should include: regional approaches to solid waste management and resource recovery, techniques to overcome jurisdictional differences in metropolitan areas or regions (including the creation of region-wide solid waste management authorities pursuant to state law), comparison and analysis of alternate techniques of complying with the national standards of municipal solid waste disposal; cooperation with industries and utilities; development and implementation of long-term agreements among regional solid waste managers, disposal and resource recovery facility owners, and managers and industrial and other buyers and users of recovered materials and energy; and techniques of financing region-wide solid waste disposal and resource recovery (including state authorization for the issuance of revenue bonds by regional solid waste authorities).

7. Congress should consider appropriating funds for limited Federal financial assistance to the states to assist them in the development of state-wide programs.

8. Congress should consider adopting legislation which directs that the resource recovery research and development efforts of the Environmental Protection Agency and the Energy Research and Development Administration be merged or very closely coordinated. Demonstration projects should not be supported by either agency unless both concur that adequate research and development has preceded such demonstration, that private industry would not otherwise develop and demonstrate such technology in a timely fashion, and that the technology to be demonstrated represents a significant new and beneficial potential.

9. The Congress should not authorize Federal financial assistance for the construction of resource recovery facilities or other municipal solid waste disposal facilities.

10. The Congress should not authorize Federal guarantees of municipal or state bonds intended to finance resource recovery or other municipal solid waste disposal systems.

We believe that there are a number of technologies which have been found to have great potential for energy recovery, but are in need of additional technical development.

Those recommendations of the Committee on Government Operations which fall within the legislative jurisdiction of the Committee on Interstate and Foreign Commerce are addressed in H.R. 14496.

The Committee on Government Operations recommendation number 1 is addressed by the Committee on Interstate and Foreign Commerce in Title IV of H.R. 14496 and in particular section 403 which establishes minimum standards for the approval of state discarded material plans. Section 403 leaves with the state, local regional and

interstate regions the flexability recommended by the Government Operations Committee in that the minimum standards require that the discarded materials be utilized by a resource recovery facility for the recovery of energy or materials, or that such discarded materials be disposed of in a sanitary landfill or by any other environmentally sound method of disposal, including incineration that does not conflict with the Clean Air Act.

The Committee on Government Operations recommendation number 2 is addressed by H.R. 14496 specifically in sections 403(3), 404 and 405. These sections require the Administrator to develop criteria determining the standards for a sanitary landfill and those attributes of an open dump.

Further, these sections require that EPA, after promulgation of its regulations relating to sanitary landfills and open dumps and in cooperation with the Bureau of Census, make an inventory of the open dumps that exist in the respective states. The open dumps in a state are to be closed or upgraded at the rate of 20 percent per year of the total number of such open dumps in a state as classified by the inventory, with those dumps presenting the greatest degree of environmental hazard being closed or upgraded first. The entire process is to take place over a period over six years.

The Committee on Government Operations recommendation number 3 is discussed in the part of this Report that contains the views of the Committee on Science and Technology and is termed "Coordination between EPA and ERDA."

The Committee on Government Operations recommendation number 4 is addressed by the Committee on Interstate and Foreign Commerce Committee in section 407 of the reported bill which provides that any state, or local authority which fails to meet the minimum standards provided for in section 403 becomes ineligible for federal financial or technical assistance until it regains approval for its discarded materials plan.

The Committee on Government Operations recommendation number 5 is addressed by section 205 of this legislation which provides for interdisciplinary panels to assist municipalities develop resource recovery systems and section 5 of the bill reported by the Committee on Science and Technology which provides for the coordination, collection and dissemination of information relating to all aspects of discarded materials and hazardous waste management to municipalities.

The Committee on Government Operations recommendation number 6 is addressed to section 402 of this legislation which require the Environmental Protection Agency, in consultation with state, local, regional and interstate authorities, and after public hearings, to develop guidelines to assist states develop regions necessary to implement a discarded materials plan. This section further provides the Administrator with authority to develop information to assist the state and regional authorities with alternative techniques of discarded materials management.

Section 403 also addresses recommendation number 6 by requiring that before a state or local authority is eligible for federal financial and technical assistance under Title IV, that the state or local authority cannot prohibit a local or regional authority from entering into a long-term contract with a resource recovery facility for the supply of discarded materials to such facility.

The Committee on Government Operations recommendation number 7 is addressed in this legislation by section 408 which provides for $40 million and $50 million for fiscal years 1978 and 1979 respectively, for the planning and implementation of a discarded material plan.

The Committee on Government Operations recommendation number 8 is addressed by sections 4 and 5 of the bill reported by the Committee on Science and Technology.

The Committee on Government Operations recommendations numbered 9 and 10 were addressed by the Subcommittee on Transportation and Commerce which struck in Subcommittee mark-up those provisions relating to federal financial assistance through the use of loan and bond guarantees, for the construction of resource recovery facilities.

Congressional Budget Act Information

Pursuant to section 308(a) of the Congressional Budget Act of 1974 the following statement is made: As this bill provides neither budget authority (appropriations) nor tax expenditures, section 308(a) does not apply.

Changes in Existing Law Made by the Bill, As Reported

In compliance with clause 3 of Rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italics, existing law in which no change is proposed is shown in roman):

Section 207 of the Solid Waste Disposal Act

[grants for state, interstate, and local planning

[Sec. 207. (a) The Secretary may from time to time, upon such terms and conditions consistent with this section as he finds appropriate to carry out the purposes of this Act, make grants to State, interstate, municipal, and intermunicipal agencies, and organizations composed of public officials which are eligible for assistance under section 701(g) of the Housing Act of 1954, of not to exceed 66⅔ per centum of the cost in the case of an application with respect to an area including only one municipality, and not to exceed 75 per centum of the cost in any other case, of—

[(1) making surveys of solid waste disposal practices and problems within the jurisdictional areas of such agencies and

[(2) developing and revising solid waste disposal plans as part of regional environmental protection systems for such areas, providing for recycling or recovery of materials from wastes whenever possible and including planning for the reuse of solid waste disposal areas and studies of the effect and relationship of solid waste disposal practices on areas adjacent to waste disposal sites,

[(3) developing proposals for projects to be carried out pursuant to section 208 of this Act, or

[(4) planning programs for the removal and processing of abandoned motor vehicle hulks.

[(b) Grants pursuant to this section may be made upon application therefor which—

[(1) designates or establishes a single agency (which may be an inerdepartmental agency) as the sole agency for carrying out the purposes of this section for the area involved;

[(2) indicates the manner in which provision will be made to assure full consideration of all aspects of planning essential to areawide planning for proper and effective solid waste disposal consistent with the protection of the public health and welfare, including such factors as population growth, urban and metropolitan development, land use planning, water pollution control, air pollution control, and the feasibility of regional disposal and resource recovery programs;

[(3) sets forth plans for expenditure of such grant, which plans provide reasonable assurance of carrying out the purposes of this section;

[(4) provides for submission of such reports of the activities of the agency in carrying out the purposes of this section, in such form and containing such information, as the Secretary may from time to time find necessary for carrying out the purposes of this section and for keeping such records and affording such access thereto as he may find necessary; and

[(5) provides for such fiscal-control and fund-accounting procedures as may be necessary to assure proper disbursement of and accounting for funds paid to the agency under this section.

[(c) The Secretary shall make a grant under this section only if he finds that there is satisfactory assurance that the planning of solid waste disposal will be coordinated, so far as practicable, with and not duplicate other related State, interstate, regional, and local planning activities, including those financed in part with funds pursuant to section 701 of the Housing Act of 1954.]

Agency Comment

Executive Office of the President,
Office of Management and Budget,
Washington, D.C., August 26, 1976.

Hon. Fred B. Rooney,
Chairman, Subcommittee on Transportation and Commerce, Committee on Interstate and Foreign Commerce, House Office Building, Annex 2, Washington, D.C.

Dear Mr. Chairman: This letter responds to your request in our recent meeting on your subcommittee's draft Resource Conservation and Recovery Act of 1976 (H.R. 14496).

We have thoroughly reviewed the bill and would like to focus our comments on its four major strategies to improve the Nation's solid waste management practices. These include sections:

Authorizing loan guarantees for the construction and operation of resource recovery facilities;

Establishing a comprehensive hazardous waste management system which outlines criteria for identifying, transporting and disposing of hazardous wastes;

Authorizing grants to States for developing and implementing local discarded material plans and hazardous waste management systems;

Prohibiting the continued use of open dumps and authorizing promulgation of uniform national criteria and standards for sanitary landfills.

Loan guarantees for resource recovery

On several occasions, the Administration has expressed strong opposition to the resource recovery loan guarantees strategy. We have not found convincing evidence that localities are experiencing problems in the construction of resource recovery facilities due to lack of private financing. On the contrary, the barriers to local development of resource recovery appear to be a combination of institutional, local and technical problems, often combined with uncertainty as to market demand for recovered materials. Accordingly, the Administration strongly opposes enactment of a loan guarantee program for resource recovery. I note that the House Committee on Government Operations has reached a similar conclusion.

Hazardous waste management

To the extent there is a need to control management of hazardous wastes not presently regulated, we agree with the general approach of the bill which authorizes the Environmental Protection Agency (EPA) to establish Federal guidelines, but delegates implementation to the States. If States do not enforce the guidelines, however, we believe that EPA's enforcement role should be directed against individual sources rather than against such States so as to limit Federal intervention to only the most serious threats to public health.

The Safe Drinking Water Act of 1974 was enacted to prevent contamination of drinking water caused by hazardous wastes and other contaminants. As we read the underground injection provision of that Act, we believe that a substantial proportion of hazardous wastes are currently subject to control under that authority. In drafting further controls over hazardous wastes, we would hope that the Committee would take into consideration this existing authority.

State program grants

We support requiring States to develop plans for hazardous waste management. Although we have reservations, we do not oppose requiring States to develop plans for discarded materials. However, we strongly oppose providing financial assistance for planning to States which already meet the substantive requirements of the Act, and we also strongly oppose providing assistance to States for the implementation and enforcement of State programs.

We believe these conclusions are consistent with our position that the Federal interest should be limited to initiating State and local efforts to protect the Nation's drinking water supply, and that responsibility for continuing such protection should remain with the States and localities. Accordingly, we recommend that the Act limit any grant to the planning phase, establish a specific date for termination of the grant and set eligibility criteria that would not include States which already meet the substantive requirements of the Act.

Regulation of open dumps and sanitary landfills

We support the provisions of the Act which authorize EPA to develop criteria for the siting, construction and operation of sanitary landfills. However, we do not believe that financial assistance to States should be contingent upon the adoption by State and local governments of any such criteria other than those related to control of hazardous wastes or an imminent hazard to public health. In the absence of such a hazard, we perceive no legitimate Federal interest beyond development guidelines. We note that a number of States have enacted legislation to control improper disposal practices. In particular, California has recently established a model landfill classification system.

Other issues

There are three other provisions which concern us. Establishment of a new Assistant Administrator to direct an Office of Discarded Materials would constitute an inappropriate allocation of management resources. We do not believe that the scope of activities of such an Office is sufficiently large and diverse to require Level IV supervision. Moreover, statutory establishment of the position and the Office will limit needed flexibility in the Administrator to coordinate the activities under the Act with other similar or complementary EPA activities.

We strongly oppose any implication in the Act that the EPA Administrator would be represented in court by an attorney other than the Attorney General. Whatever merit there may be in individual agencies employing their own counsel in litigation, we believe there is an overriding interest in centralizing all such activities in the Attorney General for purposes of coordination and efficiency of utilization and resources.

Finally, we object to subjecting Federal Government to the procedural requirements for reporting and obtaining permits under 50 State laws. Such requirements—more likely than not—will differ, even to the point of conflict, requiring excessive attention to the niceties of State law without any substantial benefits.

Sincerely yours,

JAMES T. LYNN, *Director.*

DEPARTMENT OF JUSTICE,
Washington, July 16, 1976.

Hon. FRED B. ROONEY,
Chairman, Subcommitee on Transportation and Commerce, House of Representatives, Washington, D.C.

DEAR MR. CHAIRMAN: This is in response to your request for the views of the Department of Justice on the issue of criminal and civil penalities in environmental laws, with specific reference to H.R. 14496, the Resource Conservation and Recovery Act of 1976.

The Department of Justice favors the inclusion of both civil and criminal sanctions for the most effective enforcement of environmental laws. It has been the experience of the Department with the Clean Air Act, 42 U.S.C. § 1857 et seq.; the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. § 1251 et seq.; the 1899 Rivers and Harbors Act, 33 U.S.C. § 401 et seq.; and other environmental statutes that both sanctions are useful in different situations.

The availability of the two types of penalties adds needed flexibility to the enforcement program. For example, the more commonly

used civil penalty is particularly appropriate for minor or unknowing or correctable violations, especially where coupled with an injunction. Procedurally, a civil action is easier to bring and simpler to prove, because of the easier "preponderance of the evidence" rather than the "beyond a reasonable doubt" standard.

The criminal penalties are often more appropriate where there is a clear, knowing disregard for the law. In practice criminal sanctions are sought in cases of blatant or repeated acts which cause significant harm to the environment or involve fraud upon the Government. Recently, we filed multicount indictments against Allied Chemical Company and others for the discharges of Kepone into the James River without a permit. As you know, one of the cases is scheduled for trial on August 30, 1976. Several years ago we filed a crimial information against Ford Motor Company for submitting false reports to the Environmental Protection Agency involving the Company's application for certificates of conformity under the Clean Air Act. The Company was convicted and fined $3,500,000.

The provision in Section 308 of H.R. 14496 of both civil and criminal penalties would give the enforcing agency valuable flexibility in dealing with violators. The acts for which criminal penalties are specified are the sorts of clear, knowing, harmful acts for which criminal penalties are particularly suited. The provision in the bill of fines "of not more than $25,000" and "imprisonment not to exceed one year" gives the sentencing judge the flexibility needed to tailor the penalty to the gravity of the particular offense. The threat of imprisonment may also serve as a useful deterrent when there is a temptation to consider fines merely part of the cost of doing business.

For these reasons it is the Department of Justice's view that both civil and criminal penalties are appropriate in environmental statutes.

We would also note that section 203 of the Act grants litigation authority to EPA. As the litigating agent for EPA in all its current legislation, the Department of Justice strongly opposes this section and plans to submit separate comments on it.

Sincerely,

PETER R. TAFT,
Assistant Attorney General,
Land and Natural Resources Division.

PART II

Part II of H.R. 14496 contains the identical text of H.R. 14965, the "Solid Waste Research and Development Act of 1976" as reported by the Committee on Science and Technology September 1, 1976.

The Committee included Part II in response to a request by the Chairman of the Committee on Science and Technology. Its inclusion is intended simply to provide a means for the Members to consider the research and development aspects of the solid waste together with programmatic and regulatory aspects which are solely within the jurisdiction of this Committee and contained in Part I of the bill.

The letter from the Committee on Science and Technology follows with the text of the report on H.R. 14965, covering Part II of the reported bill, following immediately thereafter:

COMMITTEE ON SCIENCE AND TECHNOLOGY,
U.S. HOUSE OF REPRESENTATIVES,
Washington, D.C., August 30, 1976.

HON. HARLEY O. STAGGERS,
Chairman, Interstate and Foreign Commerce Committee,
Rayburn House Office Building, Washington, D.C.

DEAR MR. CHAIRMAN: I am writing to suggest a procedure for coordinating the work of our two committees on solid waste legislation that will recognize and maintain the separate jurisdictions of the two Committees. Specifically, I want to suggest a procedure for combining our bills, H.R. 14965, and yours, H.R. 14496.

My understanding is that your bill provides for regulation of hazardous waste disposal, State planning, and related matters.

I might just note that a similar procedure was followed in the case of the Clean Air Act Amendments of 1976, H.R. 10498. That bill contains as section 107 language essentially identical to that reported by our committee as H.R. 3118, which had been developed jointly by the Subcommittee on Health and the Environment of your Committee.

As you know, the Science and Technology Committee ordered H.R. 14965 reported on August 10, 1976. This bill was drafted in consultation with your committee, authorizes programs of research, development, and demonstration and technical information collection and dissemination relating to solid waste programs.

If you agree that the programs for Research, Development and Demonstration projects in the solid waste field provided for in H.R. 14965, as reported from the Committee, would be appropriate for inclusion in H.R. 14496, the solid waste bill under consideration by your Committee, it seems to us that the provision of H.R. 14965 might be added as a separate Title to the bill you are considering, H.R. 14496, and that appropriate explanatory material from our Committee Report accompanying H.R. 14965 might also be included in the report from your Committee to accompany H.R. 14496.

I am sure that immediate technical and conforming changes which may be required by this procedure could be handled in the same spirit of cooperation that prevailed in the Clean Air Act Amendments of 1976.

If this procedure is followed, I would request that this letter be included in your Committee Report that accompanies H.R. 14496 so as to clarify and preserve the legislative jurisdiction of both Committees.

I will be happy to discuss this matter in more detail if you so desire.

Sincerely,

OLIN E. TEAGUE,
Chairman, Committee on Science and Technology.

PART II

94TH CONGRESS } HOUSE OF REPRESENTATIVES { REPORT
2d Session } { No. 94-1461

SOLID WASTE RESEARCH AND DEVELOPMENT ACT OF 1976

SEPTEMBER 1, 1976.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. TEAGUE, from the Committee on Science and Technology, submitted the following

REPORT

together with

ADDITIONAL VIEWS

[Including cost estimate of the Congressional Budget Office]
[To accompany H.R. 14965]

The Committee on Science and Technology, to whom was referred the bill (H.R. 14965) to amend the Solid Waste Disposal Act to provide certain authorities respecting research, development, and demonstration, and for other purposes, having considered the same, report favorably thereon with amendments and recommend that the bill do pass.

The amendments are listed and explained in "Committee Actions".

1. PURPOSE OF THE BILL

The purpose of the bill is to broaden the authority of the Environmental Protection Agency to conduct research on specific aspects of solid waste management and resource recovery; to provide for special studies; to provide for a program of information collection and dissemination; to ensure the coordination of solid waste research goals with regulatory and implementation policy.

* * * * * * *

2. Explanation of the Bill

BACKGROUND

This background section contains a brief, selective recitation of some of the pertinent facts pertaining to solid waste.[1] A comprehensive discussion would be too massive for a legislative report—rather, an attempt is made to present some illustrative information indicating that this is a large problem, in which additional legislation is needed.

Included below is a discussion of the sources and characteristics of the solid waste stream; of how it is disposed of and what this disposal costs; of the adverse environmental impacts that can result from improper disposal; and finally of the resources—materials and energy—that can be recovered from solid waste.

About 2.8 billion tons of solid waste are generated every year in the United States. Of this, about 1,783 million tons are from mining; 687 million are agricultural; 135 million are municipal; 260 million are industrial; and 7.3 million are sewage sludge. The two smallest categories, municipal waste and sewage sludge, are certainly not the least important. Management of municipal waste is important because it is highly visible, is generated in areas with limited storage space, and, if not handled correctly, presents a threat to the public health. Nearly 80 percent of municipal waste is combustible and if used to produce energy it could amount to about 1.5 percent of the Nation's energy consumption. Of the remaining 20 percent, about 10 percent is glass, 9 percent metal, and 1 percent miscellaneous.

Looking at the municipal solid waste stream in another way, about 80 percent is derived from market products as opposed to yard and garden sources. Excluding discarded food materials, discarded market materials account for 60 percent of the solid waste stream and this amounts to about 70 to 80 million tons annually. Waste reduction and material recycling programs are principally direct to this 70 to 80 million ton fraction.

About one-third of this post-consumer solid waste is container and packaging materials, 72 percent of the metal and glass in this fraction is composed of container and packaging materials.

Consumer durable goods—appliances, furniture, etc.—account for 10 to 12 percent of the municipal solid waste stream, while newspapers, books, and magazines account for about 8 percent.

[1] In preparing this section several documents were used as sources and are recommended to the reader interested in further information: (1) Materials Relating to the Resource Conservation and Recovery Act of 1976, Committee Print, Committee on Interstate and Foreign Commerce, U.S. House of Representatives, April, 1976. (2) GAO Report to the Congress: Using Solid Waste to Conserve Resources and to Create Energy, Comptroller General of the U.S., Feb. 27, 1975, No. RED–75–326. (3) Third Report to Congress: Resource Recovery and Waste Reduction, U.S. Environmental Protection Agency, 1975, No. SW–161.

Raw municipal refuse has a typical heating value (energy content) of about 4600 British Thermal Units (BTU) per pound. If the metal and glass fractions are removed the heat value is about 5500 BTU per pound. For comparison, coal yields 12000 BTU per pound on the average. The ash content of the refuse with glass and metal removed is about 5 percent, comparable to coal on a per-pound basis but about twice that of coal on a per-BTU basis.

Collection of municipal solid waste (commercial and residential) is a major aspect of solid waste management. On a national average basis it costs about $21 a ton to collect solid waste and about $5 a ton to further process and dispose of it in landfills. Thus, nationally this implies a direct cost of about $3.5 billion to collect and dispose of municipal solid waste, of which $2.8 billion is for collection.

In 1974, 61 percent of cities having over 10,000 population operated a residential collection system and 39 percent also collected commercial waste. Where there is no city-operated system private haulers perform the service. Private haulers collect about 50 percent of residential and 90 percent of commercial waste. Residential collection is largely manual, commercial collection is more mechanized.

Frequency of collection is twice a week in half the cities surveyed and once a week in most other cities. Once a week collection can reduce costs by nearly 50 percent.

It is believed that most municipal solid waste is still disposed of in open dumps or landfills that could not be considered truly sanitary landfills. Sanitary landfilling is a disposal method engineered to minimize environmental insults. Properly conducted, the waste is spread into thin layers, compressed, and covered with compacted earth. Few landfills have been engineered to minimize leachate problems, because this problem has only recently been recognized. However, it is now being found that water seeping through a landfill can dissolve toxic materials, etc., and cause pollution of both groundwater and surface water. Designing landfills to control leaching problems will undoubtedly raise the cost of this method.

Industrial wastes, because they tend to be concentrated and relatively uniform, are largely recycled where recycling is feasible. Collection of industrial waste generally seems to be more mechanized and efficient than municipal collection. Problems arise when flammable, toxic, corrosive, or otherwise hazardous industrial wastes must be dealt with.

Disposal of solid wastes, including hazardous wastes, can have adverse environmental impact in several ways. The following paragraphs discuss five different types of such impacts.

(i) Perhaps the most pernicious effect is the contamination of ground water by leachate from land disposal of waste. About half of the U.S. domestic water supply is from underground water, and thus is potentially subject to contamination. Such contamination is especially vexing because often it is discovered after the damage is done and because the contamination is very long lasting. Thus leachate from a landfill or dump may not show up for years, maybe not even until after the landfill has been closed. However, once a contaminant is in an aquifer it can take decades or centuries to migrate out. Such considerations may make it difficult if not impossible to assign responsibility and recover damages or costs of rectifying the situation.

(ii) Similar pollution of surface waters may occur when water runs off landfills or dumps. Surface water pollution may be simpler to deal with because such long times are not involved. Runoff can also transport pollutants and contaminate crops or pastureland if the water is used for irrigation.

(iii) Solid waste disposal can contribute to air pollution through open burning, incineration, evaporation, or sublimation, and wind erosion. One should add to this the problem of generation of obnoxious odors from open dumps and from other facilities that might be well-designed but that are poorly operated.

(iv) There have also been several cases of acute poisoning when hazardous materials were improperly disposed of, and individuals or animals subsequently came into contact with them.

(v) Fires and explosions are the final example of adverse environmental impact. Open dumps and landfills are often the site of unwanted fires which may be very difficult to extinguish if the burning is occurring beneath other wastes. In cities, the improper storage of solid wastes is involved in many fires which result in loss of life and property, and add indirect costs to the direct costs of solid waste management. For example, in 1972, improper storage of solid waste was an attributed cause of 34% of fires in New York City and 47% of fires in Washington, D.C.

Many of the problems and costs mentioned above would be mitigated by a reduction in the amount of waste generated. The cost of collection and disposal of wastes depends on the amount of waste involved. In the future it is clear that (i) costs of collection will rise; (ii) in many areas it will be more and more difficult to find landfill sites; and (iii) it will be more difficult for landfills and incinerators to meet pollution control regulations. Thus it seems only logical that reduction in the amount of waste generated should be considered as an approach to mitigating the solid waste problem.

Another way to reduce the amount of material to be disposed of is to increase recycling. This means less new landfill will be needed, and less pollution from landfills and incinerators will result. The general term used, "resource recovery," refers to the extraction of any resource, including energy, from the solid waste stream. Resource recovery is thus a very broad concept which could include recovery of heat (energy) from an incinerator or extraction of iron and steel scrap from waste. One also includes in this category "source separation" efforts in which the persons or establishments generating the wastes also separate the wastes. This separation at the source keeps the wastes cleaner and thus makes them more easily recycled. For example, if paper is not separated at the source, it often cannot practically be recycled as paper (but can only be burned) because during collection and handling the paper is too degraded by mixing with other components of the waste stream.

U.S. consumption of resources, both materials and energy, continues to increase. So does our importation of various materials. For example, consider how much of its consumption of various metals the U.S. imports: 100% of our chromium consumption; over 90% of aluminum; about 80% of tin; about 70% of nickel, about 50% of zinc; and about 30% of iron and lead. From this one can see that recovery and recycling of some materials can have an impact far beyond local solid waste

disposal problems. It is not anticipated that recycling will replace importation of these materials, nor is it suggested that this a primary reason for recycling. Rather the contribution that recycling can make to reducing our dependence on foreign materials supplies may be thought of as a "free" benefit from solving local solid waste disposal problems.

There is considerable room for improvement in recycling practices—only about 20% of paper is recycled; only about 8% of post-consumer and commercial ferrous metal is recycled, and only about 1% of aluminum. There is very little recycling of other metals from the post-consumer solid waste stream although there is some recovery from industrial scrap.

Recovery of energy from solid waste is also in its infancy—EPA projects that even by 1980 only about 8% of the energy from "available" solid waste will be recovered. By "available" they mean waste generated in densely populated areas where neither the waste nor the energy or fuel need be transported long distances. The energy in this waste is not trivial, amounting to about five percent of the fuel consumed in utilities, or 28 percent of the oil expected to be delivered through the Alaskan pipeline. Various approaches are known for recovering energy from waste: One can incinerate the waste and produce steam in a water-wall incinerator, or one can process the waste to produce a solid, liquid, or gaseous fuel.

Another interesting option is being tried in Seattle where methane produced from waste will be converted to ammonia. This is related to energy needs because the natural methane (natural gas) that would have gone into producing ammonia is instead available to be used as a clean fuel.

A problem common to all resource recovery systems, whatever the resource recovered—steam, fuel, ammonia, scrap iron, paper, or other—is finding a dependable market at a price that will pay for the costs involved. The need to establish and maintain a stable market for recovered resources cannot be overemphasized.

FEDERAL PROGRAMS

The Environmental Protection Agency now conducts a program under the Solid Waste Disposal Act of 1967 (P.L. 89–272) as amended by the Resource Recovery Act of 1970 (P.L. 91–512). The present EPA program emphasizes three areas: The first area is land disposal and its environmental problems, particularly those posed by hazardous wastes, ground water contamination, and disposal of sludges from air and water pollution control operations. The second area is technical assistance to the states. The third area includes means of reducing the volume of waste that must be disposed of. This involves efforts to reduce waste generation, as well as efforts to increase resource recovery. In FY 1976 EPA's solid waste budget was about $14,500,000.

The Energy Research and Development Administration has a program to develop technologies for recovering energy or fuels from solid waste. The ERDA program is aimed at broadening the range of choice of energy recovery technologies available to officials responsible for solid waste management. This includes broadening the range of

possible energy end products, to provide for more flexibility in finding a market for these products. In FY 1976 ERDA's budget for solid waste was approximately $4,500,000.

The Bureau of Mines has a program for recovering resources from waste materials. Their program has worked with mining and industrial wastes as well as municipal wastes and special problems such as discarded autos. Over the years the Bureau of Mines has developed a great deal of expertise in this area which EPA has utilized in many cases by contracting with the Bureau.

The Bureau of Mines level of effort on processing, recovery, and utilizing materials found in municipal and industrial refuse in FY 1976 was $770,000. In addition, the Bureau allocated $1,320,000 for related investigations dealing with processing and recovering useful materials from slags, dusts, solutions and other wastes from metallurgical processes.

Several other agencies have small programs: The Federal Energy Administration, National Science Foundation, National Aeronautics and Space Administration, Department of Housing and Urban Development, and Tennessee Valley Authority. The total spending in these five agencies in FY 1975 was about $1 million.

RATIONALE FOR LEGISLATION

Although the need for reducing costs of solid waste management and the potential benefits of resource recovery would seem to lead to the adoption of new approaches, most solid waste seems to be treated now much as it has been in the past. Although there are Federal programs in place, they do not seem to be causing a broad adoption of resource recovery at the local level. Therefore it is felt that additional legislation is needed not to authorize new R.D. & D. activities, because the authority in the existing legislation is broad. Rather new legislation is needed to direct R.D. & D. activities at specific problems.

Many treatments of solid waste problems emphasize the economic barriers to resource recovery such as the need to finance a risky venture, the need to ensure a large enough waste flow to make a given facility economically viable, and the problem of marketing the recovered products whether steam, fuel, or scrap. However, such barriers are not without their technological components. That is, in many cases the barriers can be avoided by improving the technology.

Some examples will illustrate what is meant by this.

In the case of financial risk, part of the risk arises because the technology is not proven. In some cases this risk may be only perceived, not real. A program of demonstration projects will help to reduce this risk or its perception by proving the technology.

Another barrier often cited is the need for a capacity of at least 300 tons of waste per day in order to make resource recovery plants economically practical. This makes resource recovery uneconomical in sparsely populated areas because of the high costs of hauling the waste long distances. However, this limitation is, at least to some extent, merely a statement of the present state of the art. Development of new small-scale technologies could lower this limit. Such development efforts are provided for in the bill.

Markets for recovered materials also have a technological aspect. This is true for two reasons. First, the market depends to some extent on the quality of the recovered material—purity, uniformity over time, etc. This is determined in part by the technology used to recover the wastes. Second, for external reasons markets may change over time, and a resource recovery system should have the flexibility to change its end product. Again, this flexibility is to some extent technology-dependent. The bill would address both these areas.

Another reason for slow adoption of resource recovery seems to be due to the fact that available information is not being used. Most local officials do not have the competence or the time to analyze and synthesize technical reports in order to decide what is best for their local situation. This is especially critical when the reports are conflicting. To address this problem the bill provides for an active program of information collection, analysis, and dissemination.

Several specific areas of resource recovery seem to be receiving what might be called "benign neglect." For example it is often stated that recovery of plastics is very difficult and they have a high heat value so the best thing to do is to burn them. However, the raw materials that go into most plastics come from oil and coal, and are not renewable. It seems that it would be advisable to do a careful study of this situation and make a conscious decision of whether or not to proceed with a research program aimed at developing ways of recovering and sorting various plastics. The bill provides for several such studies which would be formal input for planning research, development and demonstration programs. As the studies would be published, the planning process would also have the potential benefit of broad public comment on the reports.

PROVISIONS OF THE BILL

The following is a brief, narrative description of the provisions of the bill, which is an amendment to the Solid Waste Disposal Act, as amended.

Title: The short title of the bill is the "Solid Waste Research and Development Act of 1976."

Findings: The findings present a concise statement of the need for the bill: Growth has resulted in more waste and urbanization has concentrated it. As a result many cities will soon be running out of suitable landfill sites unless something is done. Improper disposal can endanger public health, and damage the environment. In addition, our increasing efforts to control air and water pollution will develop new wastes—sludges of various types. On the other hand, recycling and reuse of materials in waste can both reduce disposal problems and conserve our resources. Energy can also be recovered from many solid wastes. Unfortunately, at this time resource recovery activity seems to be scattered, and local governments are carrying most of the solid waste burden. The Federal government could greatly assist local governments by developing and making available technical information. Further, federal programs of research, development and demonstration are needed to ensure that the technological problems of solid waste management and resource recovery are solved.

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Definitions: Two new definitions are added by Section 3. "Demonstration" is defined in order to limit construction of full-scale facilities to the initial exhibition of a new or improved technology. The purpose is to ensure that EPA's limited resources for demonstrations are used to advance the state-of-the-art.

"Sludge" is defined very broadly to include any semisolid waste, or similar material.

General Research Authority: Subsection 4(a) amends subsection 204 (a) of the Solid Waste Disposal Act. Subsection 204(a) of the Act contains the general research, development, and demonstration authority of the existing legislation and the effect of the amendment is to emphasize the new areas of research and other activities to be authorized. These new areas are: (i) small scale and low technology systems for solid waste management and resource recovery; (ii) improving the utility and marketability of recovered materials (e.g., improving the uniformity or purity of recovered scrap); (iii) improving land disposal practices to reduce adverse environmental impacts of such practices; (iv) methods for the sound management of sludge; (v) methods of hazardous waste management; and (vi) adverse effects on air quality due to burning solid waste.

Subsections 4(b) and 4(c) of the bill strike subsections 204(b) and 204(c) of the Act, and replace them with new provisions. Where new provisions replace the old, they are either simpler, modified, or in some cases greatly expanded. The following few sentences describe the changes, while the new provisions are described below in more detail. Paragraph 204(b)(1) of the act authorized the Administrator to collect and disseminate information. This authority is moved to new section 204B of the bill. Briefly, the existing language is general authority to collect and make available information while the new provisions, described more fully below, give the Administrator more instructions and provide for a more aggressive effort directed at information users. Subsection 204(a) and paragraph 204(b)(2) of the act authorized cooperation with other agencies, this authority was struck from 204(b)(2) but remains in 204(a) of the Act. Paragraph 204(b)(3) of the Act authorizes grants and contracts. This authority is now found in new paragraphs 204(c)(1) and 204(c)(2) of the bill. Subsection 204(c) of the Act provides for disposition of patent rights, etc., according to the Statement of Government Patent Policy which was promulgated by the President in his memorandum of October 10, 1963. The Committee feels that rights to patents should be governed by law rather than by executive memorandum. Therefore, patent rights, etc., are covered in new paragraph 204(c)(3) of the bill, which states that the relevant provisions of the Federal Nonnuclear Energy Research and Development Act of 1974 shall apply.

Subsection 4(b) of the bill strikes the existing language of Section 204(b) of the act and replaces it with the following provisions: Paragraph 204(b)(1) provides that the Administrator shall develop and operate a management scheme to ensure that good research ideas proceed expeditiously through development and demonstration. Of course, as ideas are tested, impractical ones should be dropped. This is a "pipe-

line" concept—the analogy being that ideas go in one end of the pipeline and proven hardware or practice comes out the other.

The second paragraph (204(b)(2)) provides specific guidance to the Environmental Protection Agency and to the Energy Research and Development Administration concerning coordination of their activities in resource recovery from solid wastes. The bill refers to the Interagency Agreement between EPA and ERDA on the Development of Energy from Solid Wastes, and provides that energy-related activities shall be governed by the agreement. The paragraph goes on to make four additional specific provisions: Clause (A) provides that the two agencies shall conduct joint planning, following which project responsibility will be assigned to one agency. This explicitly recognizes that a project must have a single leader, and, by providing for joint planning implicitly recognizes that many projects will be to some degree energy-related and will to some degree have environmental impacts. EPA's experience and technical skills relating to disposal technologies that involve energy recovery and extensive work on institutional arrangements with State and local governments should be considered when determining lead responsibility for these projects. Clause (B) provides that ERDA will have lead responsibility for input and evaluation of the energy research related portions of projects involving energy recovery from solid waste. The intent of (B) is not to undo what (A) accomplishes; rather the intent is to recognize ERDA's responsibility to develop an overall, national energy R. D. & D. strategy. Thus even if a particular project is not primarily energy-related, and is therefore assigned to EPA (as a result of joint planning), nevertheless, EPA must keep ERDA informed of progress and results, and permit ERDA to contribute to the planning, oversight, and evaluation of the energy-related aspects of the project. Clause (C) provides that EPA shall retain responsibility for the environmental, economic, and institutional aspects of solid waste projects, and shall retain the responsibility for assuring that such projects meet applicable guidelines, State plans, etc. Just as the intent of (B) is not to undo what (A) accomplishes, similarly (C) should be read in the context of (A). Thus even if the two agencies agree (as a result of their joint planning activities) that a project is primarily energy-related, and responsibility is assigned to ERDA, still the EPA must be permitted by ERDA to assure itself that the project is consistent with protection of public health, etc, and therefore must be kept informed of progress and results, and contribute to the planning, oversight, and evaluation of the project. Clause (D) provides that in carrying out the special studies under Section 204A of the bill and the information program under Section 204B of the bill, EPA shall coordinate and consult with ERDA on energy-related matters. With respect to these special studies, EPA should work closely with ERDA during the course of each study and make the results available to ERDA. With respect to information activities, clearly the purpose of this provision is to ensure that EPA and ERDA work together in developing information on energy-related projects, and to provide consistent advice to users of the information such as local officials.

It should be further emphasized that in carrying out paragraph 204(b)(2) of the bill each agency should make available to the other all information concerning any project, or plans for any project, and should permit and encourage observers from the other agency to visit and review any project related to solid waste.

Subsection 4(c) of the bill strikes the existing language of subsection 204(c) of the act and replaces it with the following provisions: Paragraph (1) authorizes the Administrator to make grants or contracts in carrying out the purposes of this act. Paragraph (2) provides that contracts shall be made pursuant to the provisions of title 10, USC section 2353. This is the law governing military contracts and this provision was in the original language of existing Section 204. Paragraph (3) provides that patents resulting from activities carried out under this act shall be handled in the same way as patents resulting from research under the Federal Nonnuclear Energy Research and Development Act of 1974. This is intended to facilitate EPA–ERDA cooperation by providing for uniform treatment of patents, and to allow the Administrator some flexibility in deciding how patent rights should be handled to best achieve the goals of this Act.

Section 5 of the bill amends the Solid Waste Disposal Act by adding new sections 204A, 204B, 204C, and 204D after section 204.

Special Studies: Section 204A provides for eleven special studies to be carried out by EPA in the next two years. The intent is to generate documents which will be the basis for decisions and plans concerning research, development, and demonstration. It is conceivable, for example, that a study might conclude that no action under this bill is called for in a certain subject area, either because no practical technology is available, or likely to be developed in the subject area, or conversely because the area is ready for private, commercial implementation (and thus beyond the scope of R., D. & D.). In any case these studies should provide a clear, open basis for policy decisions.

Subsection (a) provides for a study on glass and plastic recovery. Both these areas are technically difficult and research will be needed to develop practical techniques for their separation and recovery.

Subsection (b) provides for a systematic study of the composition of the solid waste stream. In carrying out this study, representative samples of real solid waste should be studied. The analysis of the composition should indicate where the greatest benefit can be obtained from resource recovery. For example, is it better to recover paper as paper or to recover the inherent energy by using the paper as an energy source? Clearly to answer this question one must look at the way paper is actually found in solid waste.

Subsection (c) provides for a study to determine which existing technologies are ready for implementation, which need more development, etc.

Subsection (d) provides for a study of small scale and low technology resource recovery systems. The intent is to consider, for example, small systems which might be utilized in apartment complexes and reduce collection and hauling costs. Further, systems requiring only small capital investment should be considered.

Subsection (e) provides for a study on the compatibility of low-technology and high-technology system. That is, one can foresee a situation in which some waste would be sorted before collection (households might segregate glass or newspapers for separate pickup). The balance of the waste would then go to a central facility for further processing, separation, etc. Thus the incoming waste stream would vary depending on the success of source separation efforts. The purpose of this study is to explore the sensitivity of such central processing facilities to the changing composition of the incoming solid waste stream. The goal is to insure that large, capital-intensive centralized facilities are designed to operate efficiently over some range of composition of waste input.

Subsection (f) provides for a broad study on the adverse effects of mining wastes. The Committee intends that this study should be carried out by EPA in cooperation with the other Federal agencies involved, especially the Bureau of Mines and ERDA.

The intent is for EPA to look at all mining waste disposal practices, past and present, identify the adverse effects of such wastes on the environment, including people and property located beyond the boundary of the mine, evaluate the adequacy of those practices from a technical standpoint, including the adequacy of governmental regulations governing such disposal, and make recommendations, including recommendations for additional R&D, for improvement of such practices and, where appropriate, for the development and utilization of alternative means or methods of disposal that are safe and environmentally sound. Clearly, EPA should not assume that the current waste disposal practices are environmentally or technically sound. Furthermore, it is intended that economic considerations not be the governing criterion for the development of recommendations for improved or alternate practices of waste disposal from active and abandoned mines.

Subsection (g) provides for a study of "sludge." Sludge is generated in a variety of industrial processes, pollution control processes, and other processes, such as transportation of coal by slurry pipeline. A larger and larger volume of sewage sludge, scrubber sludge, and perhaps coal sludge will have to be dealt with in the future. This study should provide the start in planning for how to deal with this problem, how to manage the sludge and, where possible, to recover resources from it.

Subsection (h) provides for a study on waste tires. This study should determine how best to deal with discarded tires and how to extract the resources they contain.

Subsection (i) provides for a broad study to focus on why resource recovery facilities are not being more rapidly constructed and put into operation. The study should also examine the premise that resource recovery is not growing at a rapid pace—perhaps resource recovery is being implemented at a higher rate than it appears. The study should provide a broad, guiding policy framework for the EPA R,D&D program, a framework into which more detailed projects would be expected to fit.

Subsection (j) provides for a study of methods for waste reduction which could be voluntarily implemented. This study should consider the broad implications of waste reduction, for example how jobs and markets would be affected. In providing for voluntary implementation the intent was to encourage EPA to seek waste reduction approaches which would be obviously beneficial to all concerned, thus likely to be voluntarily implemented.

Subsection (k) provides for a study of a hazard which is surprisingly prevalent across the United States. That is the hazard presented to aircraft by birds feeding at landfills or dumps. Apparently, many such disposal sites are located near municipal airports. The study should recommend measures to alleviate this problem.

Subsection (l) provides that the reports under (b), (c), (d), (e), (f), (g), and (k) be completed by October 1, 1978, and that the rest of the reports be completed by October 1, 1979. This subsection also provides that the study results be incorporated into research planning as provided for in section 204D.

Technical Information: Section 204B of the bill provides for a comprehensive, active technical information program in EPA. The intent is that all useful information regarding solid waste management and resource recovery be collected and made available. Emphasis is given to information on the operation of full-scale facilities (as opposed to theoretical or pilot plant information). Subsection (a) provides for the collection and coordination of such information. Subsection (b) provides for a central library where such information shall be available, and for a program of analyzing and synthesizing the information and publishing it. Such publications should be in a form useful to local officials responsible for solid waste management. Subsections (c) and (d) provide for the development of model accounting systems and model codes to help local officials carry out their responsibilities in solid waste management.

Subsection (e) provides that EPA shall ensure that results of its activities are made available to planners and decision makers.

While it is intended that EPA develop an active information dissemination program under this section, it is not intended that EPA use these provisions to force any particular point of view or technology on any interested party. It is intended that EPA actively participate in outreach programs such as technical assistance in order to ensure active, rather than passive, dissemination and application of information.

Full-Scale Demonstrations: Section 204C of the bill provides limits and guidelines to EPA in the execution of its program of demonstration of full-scale facilities. The section provides that before a full-scale demonstration project can be funded, the Administrator of EPA must make a finding that: (1) the technology or practice to be demonstrated is new, or substantially new, or improved in a significant way; (2) the assistance is authorized under section 204; (3) the facility will meet all applicable regulations and guidelines; (4) the facility is not likely to be constructed without EPA's assistance; and (5) the Federal interest in or support of the project will be terminated in a timely and appropriate manner, with compensation if necessary. The section

places time limits on funding of full-scale demonstrations: Funds can not be obligated for assistance after ten years after enactment, and funds cannot be expended after fourteen years after enactment. Thus a project begun (funds obligated) just before the end of the ten year period could be supported for four more years (for construction and test operation). However the intent is to limit the Federal participation in such full-scale facilities. Fourteen years should be sufficient time to demonstrate the benefits of resource recovery. Further, it is hoped that by providing for this cut off, EPA will be encouraged to mount an effort of some intensity.

The section provides for and encourages cooperative funding of demonstrations. It is felt that in many cases a small amount of Federal assistance will get a project off the ground, and the intent is to make that assistance available.

In some cases interesting and useful information can be obtained by monitoring and reporting on the performance of an existing resource recovery system. The section encourages EPA to adopt this practice—in effect to declare some facilities demonstration projects and to document their performance. In other words, EPA need not finance or construct a facility to make it a demonstration project. They might merely put an observing team and instruments on-site for a period of time, which would be much less expensive than constructing a facility. Of course, EPA would have to secure the permission and cooperation of the owner or operator of a facility before declaring it a demonstration.

Finally, the section provides that EPA shall not run full-scale demonstrations in-house. The intent is to emphasize the need to get new technologies out of Federal laboratories and into private companies or local governments.

Intra-agency Coordination: Section 204D of the bill provides for a formal, permanent, responsible mechanism within EPA for assuring that research development, and demonstration goals are consistent and compatible with (i) agency policy, actions, and plans relating to regulation, enforcement, or local assistance in solid waste management and resource recovery; (ii) resources (funds, staff, facilities) available for research, development and demonstration; (iii) the state-of-the-art; and (iv) similar work being done elsewhere. This section does not assume any particular split of responsibilities within EPA, but does anticipate that different parts of the agency will have different responsibilities, and the purpose of the section is to ensure that all parts have the same goals. Two examples may be helpful. First, as a new concept for resource recovery matures from a research idea, through engineering development, and into demonstration hardware, responsibility for the concept may cross from one part of EPA to another. The basic goals should not change when organizational lines are crossed. (This intent is also expressed in Sec. 204(b)(1).) A second, and perhaps more pertinent example, arises in the area of water pollution. Landfills present potential problems of water pollution. The agency thus may have two approaches to water pollution—one from solid waste disposal, the second based on regulatory authority under the Federal

Water Pollution Control Act (PL 92–500). In many cases the research needed will be common for the two approaches (e.g., development of measurement methods). The EPA program of water pollution research should address all potential uses of research information.

Thus section 204D provides that the Intra-agency Committee be composed of EPA research, development, and demonstration officials of all kinds, and regulatory and implementation officials involved in EPA solid waste programs.

It is not the intent of section 204D to provide for day-to-day supervision, but rather to ensure consistent, long-range direction to the R, D & D, program. Recognizing that agency research goals may be strongly impacted by budget restrictions, and that availability of budget authority may be influenced by the convincing demonstration of need for research results, the bill provides that the Intra-agency Committee participate in budget formulation.

Authorization of Appropriations: Section 6 authorizes appropriations for activities under sections 204, 204B, 204C, 204D, and 205 in the amount of $35,000,000 for fiscal year 1978. These sections cover research, development, and demonstration, and information programs (except for special studies covered below). For new section 204A, which provides for special studies, a total of $10,000,000 is authorized for fiscal years 1978 and 1979. As all the studies should be completed by the end of fiscal year 1979, no further authorization is anticipated for these studies.

Sunshine Regulations: Section 7 of the bill adds a new section 217 to the Solid Waste Disposal Act. This new section provides that EPA officials in policy or decision-making positions shall make a disclosure of all financial interests in any person applying for assistance under the act.

The provision requires officers and employees of EPA who perform any function under the Solid Waste Disposal Act to file annually statements of any known financial interest in the persons subject to that Act or who receive financial assistance under that Act. Such statements would be available to the public and would have to be reviewed by EPA. Positions within EPA that are of a non-policymaking nature could be exempted from this requirement by the Administrator.

The provision does not prevent any employee from having such interests. It merely requires that they disclose such interests. It does not apply to consultants.

Currently, EPA and other Federal agencies require their employees who are at the GS–13 level or above and in a decision-making position to file financial interest statements which are not available to the public. This requirement is not based on any statutory provision but on a 1965 Executive Order No. 11222 and Civil Service Commission regulations. But the Executive Order and regulations are not backed by any statutory provisions prescribing penalties for violations.

The provision makes it clear that the Administrator of EPA must periodically look at the positions to determine who should file and not base his decision simply on the grade level of the employee. It also mandates annual filing by the affected employee and review by the

agency and provides criminal penalties for knowing violation. Adequate provision is made for the Administrator to define what a "known financial interest" is. Indeed, as an example of such a definition, the Department of the Interior published proposed regulations defining this term on March 22, 1976, for the purposes of Public Law 94–163. That definition, which is not yet finalized, of course, is as follows:

> Any pecuniary interest of which an officer or employee is cognizant or of which he can reasonably be expected to have knowledge. This includes pecuniary interest in any person engaged in the business of exploring, developing, producing, refining, transporting by pipeline or distributing (other than at the retail level) coal, natural gas, or petroleum products, or in property from which coal, natural gas, or crude oil is commercially produced. This further includes the right to occupy or use the aforesaid business or property, or to take any benefits therefrom based upon a lease or rental agreement, or upon any formal or informal contract with a person who has such an interest where the business arrangement from which the benefit is derived or expected to be derived has been entered into between the parties or their agents. With respect to officers or employees who are beneficiaries of "blind trusts," the disclosure is required only of interests that are initially committed to the blind trust, not of interests thereafter acquired of which the employee or officer has no actual knowledge.

Finally, the regulations would be expected to make it clear that public disclosure of financial statements shall be only for lawful purposes. A violation of this requirement is subject to criminal prosecution.

PORTIONS OF THE SOLID WASTE DISPOSAL ACT UNCHANGED BY THE BILL

While H.R. 14965 makes major amendments to the Solid Waste Disposal Act, substantial portions of the Act are unchanged. The following list gives the unchanged sections of the Act:

Section 201; Short Title.

Section 202; Findings and Purposes.

Section 203; Definitions. The existing definitions are unchanged although two new ones are added by the bill.

Section 204; Research, Demonstrations, Training, and Other Activities. The bill does not change the existing authority in the Act to conduct, and encourage, cooperate with, and render financial and other assistance to appropriate public (whether Federal, State, interstate, or local) authorities, agencies, and institutions, and individuals in the conduct of, and promote the coordination of, research investigations, experiments, training, demonstrations, and surveys. The bill merely adds new areas in which these activities are to be conducted.

Section 205; Special Study and Demonstration Projects on Recovery of Useful Energy and Materials. Provides for seven areas of investigation and an annual report.

Section 206; Interstate and Interlocal Cooperation. Provides for encouragement of cooperative activities.

Section 207; Grants for State, Interstate, and Local Planning. Grants for the development of plans for solid waste disposal.

Section 208; Grants for Resource Recovery Systems and Improved Solid Waste Disposal Facilities. Authority to make grants to any State, municipal, or interstate or intermunicipal agency for the demonstration of resource recovery systems or the construction of new or improved solid waste disposal facilities.

Section 209; Recommended Guidelines. Provides for the development of guidelines for environmentally sound solid waste disposal.

Section 210; Grants or Contracts for Training Projects. Provides for grants to any eligible training organization for training in solid waste disposal techniques.

Section 211; Applicability of Solid Waste Disposal Guidelines to Executive Agencies. Executive agencies shall comply with the guidelines developed under section 209.

Section 212; National Disposal Sites Study. Provides for a study and report on the creation of a system of national disposal sites for the storage and disposal of hazardous wastes.

Section 213; Labor Standards. Provides that no grants for construction shall be made unless all laborers will be paid at rates not less than the prevailing wages.

Section 214; Other Authority not Affected. The act does not supercede or limit other authorities, etc.

Section 215; General Provisions. Provides for grant payment schedules. Prohibits grants to private profitmaking organizations.

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3. Legislative History

The first significant Federal effort in solid waste management and resource recovery was initiated in 1965 with the passage of the Solid Waste Disposal Act (P.L. 89–272). It called for a research and development program and provided funds to the States for making surveys of waste disposal practices and for developing waste disposal plans. The Resource Recovery Act of 1970 (P.L. 91–512) broadened the R&D approach to include major demonstrations and shifted the emphasis from disposal to recovery of materials and energy from solid wastes. It also required several studies and directed the Environmental Protection Agency (EPA) to issue guidelines on waste management and recovery which are mandatory on Federal agencies, but merely advisory to others.

In April 1975, the Committee on Interstate and Foreign Commerce held hearings on solid waste legislation at which witnesses endorsed comprehensive legislation establishing State solid waste management programs, eliminating freight rate discrimination, reducing the volume of wastes before they enter the solid waste stream, controlling hazardous wastes, and continuing technical assistance and research

and development. The need for private sector involvement in the resource recovery efforts of communities was emphasized, and tax incentives of various types were called for to stimulate recovery and reuse.

Environmental research and development being under the jurisdiction of the Committee on Science and Technology, the Subcommittee on the Environment and the Atmosphere held hearings in April 1976 on the Solid Waste Energy and Resource Recovery Act, H.R. 12380. Testimony ranged broadly over the subject of solid waste management and resource recovery.

Testimony at the hearings recorded the need for "low technologies" such as source separation, in addition to the high-cost "high technology" factories which would separate mixed municipal waste into its constituents. There was testimony on the need for additional large-scale multi-million dollar demonstration projects as well as testimony calling for the perfection of individual components of such systems.

There was testimony both for and against infusions of capital for construction from the Federal government. On the one hand, the lack of financing has held back cities that wish to construct facilities; on the other, there was evidence that the capital market is performing its proper role in evaluating risk factors, and the reluctance of financiers merely reflects the inadequacies of the technologies presently available. Methods of dealing with risk and overcoming the distortions in the economy were discussed.

Another concern expressed was that investments in large scale, capital-intensive resource-recovery plants would discourage the implementation of waste reduction technology. Because of the need to guarantee their ability to supply markets for recovered materials and thus their need for a steady input of recoverable waste, investors in large resource recovery systems would have no incentive to support waste reduction technologies.

Many witnesses began their testimony by reviewing the benefits and potential of resource recovery, and discussing its current status.

Briefly stated, the several methods for energy recovery that have been tried or are still being tested—waterwall incineration, refuse-derived fuel for use as a supplement to conventional fuels, and pyrolysis—have all encountered problems. There are also other waste-to-energy technologies whose developmental status ranges from purely theoretical to at least bench scale. But there was a preference for holding back and solidifying the progress made so far by perfecting components that have not performed as consistently or efficiently as designed. The same is largely true for materials separation processes, as well.

An area where there was a variety of opinion was on the role of demonstration projects, and this seemed partly due to the imprecision of the term. "Demonstration" generally refers to a full-scale or commercial-size facility or program; in many cases the demonstration will have been preceded by a small-scale "pilot project" or "pilot plant." It also carries the implication of a risk greater than the "normal" risk for any new business endeavor, and, indeed, this provides the rationale for governmental assistance.

4. Committee Actions

The Subcommittee on the Environment and the Atmosphere met on July 22 and July 29, 1976 to mark up a draft bill. The draft had been prepared in close cooperation with the Committee on Interstate and Foreign Commerce, which Committee has jurisdiction over regulatory aspects of solid waste management.

On July 29, the amended draft was ordered to be introduced as a clean bill and reported to the full Committee.

The Committee on Science and Technology met on August 10, 1976 to mark up the clean bill, H.R. 14965. Several perfecting amendments were offered by the Subcommittee chairman and adopted by voice vote.

The amendments are:

1. On page 6, amend lines 8 and 9 to read:

> (2) Any energy-related research, development, or demonstration project for the conversion, including bioconversion, of

The purpose of this amendment is simply to clarify awkward language.

2. On page 6, line 16, strike:

> and in accordance with modifications in such agreement which are mutually agreed upon by such Agency and Administration,

Paragraph 204(b)(2), from which this clause is struck, provides that EPA and ERDA shall coordinate their solid waste R. D. and D. activities according to an interagency agreement signed on May 7, 1976. In other words that agreement is incorporated into the law by reference. The purpose of this amendment is to prevent future changes in the May 7, 1976 interagency agreement between EPA and ERDA from having the force of law.

3. On page 7, line 9 amend "Section 204A" to read "sections 204A and 204B". The amendment provides that EPA and ERDA coordinate their activities under section 204B (technical information) as well as under section 204A (special studies).

4. On page 10, line 14, strike all through the period on line 2, page 11, and insert in lieu thereof the following:

> (f) The Administrator shall conduct a detailed and comprehensive study on the adverse effects of solid wastes from active and abandoned surface and underground mines on the environment, including, but not limited to the effects of such wastes on water, air, humans, health, welfare, and natural resources, and on the adequacy of means and measures currently employed by the mining industry, Government agencies, and others to dispose of and utilize such solid wastes and to prevent or substantially mitigate such adverse effects. In furtherance of this study, the Administrator shall, as he deems appropriate, review studies and other actions of other Federal agencies concerning such wastes with a view toward avoiding duplication of effort and the need to expedite such

> study. The Administrator shall publish a report of such study and shall include appropriate findings and recommendations for Federal and non-Federal actions concerning such effects."

The language of subsection (f) which was struck, provided for a study of solid waste resulting from mining. The result of the amendment is to change the focus or emphasis of the study from a study of present practices and the costs of alternative practices for disposal of solid waste from mines to a study on the adverse effects of solid waste from mines and ways to mitigate these effects. In other words the thrust of the study is somewhat changed.

5. On page 12, line 22, after "(e)," insert "(f),"

6. On page 12, line 25, delete "(f),".

The effect of these two amendments is to require that the mining waste study be completed in one year rather than two.

A quorum being present the bill, H.R. 14965, as amended, was ordered to be reported by a unanimous voice vote.

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5. Committee Recommendations

A quorum being present, the Committee favorably reported the bill, H.R. 14965, with amendments, and recommends its enactment.

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6. Committee Views

Coordination between EPA and ERDA

Paragraph 204(b)(2) as amended, makes specific provision for the coordination of the Environmental Protection Agency and the Energy Research and Development Administration in the activities under the bill. The paragraph specifies that any energy-related research, development or demonstration projects for the conversion, including bioconversion, of energy from solid waste will be administered in accordance with the current interagency agreement between ERDA and EPA, which specifies the respective responsibilities of the two agencies in such projects. Additionally, the subsection specifies that EPA will conduct the special studies activities and information coordination, collection, and dissemination activities required by new sections 204A and 204B, respectively, in coordination and consultation with the ERDA.

The Committee has adopted the coordination provision in 204(b)(2) in an attempt to establish a scheme for delineation of responsibility between EPA and ERDA in the critical area of energy conversion from solid waste. The Chairman of the Subcommittee on Environment and the Atmosphere and the Subcommittee on Energy Research, Development and Demonstration of this Committee have agreed to this delineation of responsibility between EPA and ERDA. The lan-

76-726 O - 76 - 8

guage in this bill is based on and incorporates by reference the May 7, 1976 Interagency Agreement between the Environmental Protection Agency and the Energy Research and Development Administration in the Development of Energy from Solid Wastes. The bill, thereby, would effectively codify the agreement between the agencies for the activities contained in them. The bill also would codify the agreement among the Congressional committees with legislative and oversight responsibility for solid waste technology and development.

The Committee has become convinced over the two sessions of this Congress of the absolute necessity for close cooperation and coordination between EPA and ERDA in this vital R&D effort. Both agencies have legitimate responsibilities in solid waste R&D which have been mandated by various Congressional actions. At the same time, each agency has its own specific responsibilities in such R&D. Neither agency, however, can proceed effectively on a wholly independent and uncoordinated effort. EPA and ERDA simply must work together to provide the Nation with a timely and broadly considered technical alternative for environmentally acceptable solid waste disposal that, to the extent feasible, incorporates energy and material recovery. The Interagency Agreement represents a significant first step towards that end, and the Committee commends the two agencies for this important joint initiative. Paragraph 204(b)(2) of the bill will provide the statutory mandate and mechanism for this required coordination, consultation and delineation of responsibility for these solid waste R&D activities.

Incidentally, the two Committees of the Senate (Public Works and Interior and Insular Affairs), having authorization responsibility for solid waste projects and the respective roles of EPA and ERDA, have reached an agreement on these roles similar to that is which is embodied in this bill. Further, they have adopted language almost identical to 204(b)(2) of the bill in a Senate-passed bill authorizing loan guarantees for commercial demonstration facilities for the production of synthetic fuels (S. 3105).

This Committee has included provisions specifying coordination between EPA and ERDA in a number of R&D areas in several bills in this Congress. Paragraph 204(b)(2) of the bill is the most explicit mandate of coordination thus far included in a bill by the Committee. This explicitness is a direct reflection of the increasing importance which the Committee attaches to this coordination and cooperation in addressing our Nation's related energy and environmental needs. The Committee expects both agencies to implement these provisions in the good faith spirit in which they have been legislated. While the Committee is greatly encouraged by the important joint initiative represented by their Interagency Agreement and applauds that initiative, the Committee anticipates a good faith implementation of paragraph 204(b)(2) and a resulting close coordination and cooperation between the two agencies. The two agencies should be on notice that this Committee intends to closely oversee this aspect of the H.R. 14965 program.

TECHNICAL INFORMATION

Concerning the information program provided for in section 204B of the bill the Committee feels strongly that EPA should analyze and publish reports on all demonstration projects, not just the successful ones. In any experimental program there will be some failures. In many cases the failures provide valuable lessons—these lessons should be made available to all potentially interested persons. The intent is not to encourage recrimination, but to avoid making the same mistake again and again.

Further, the Committee feels that EPA should develop a capability for monitoring and evaluating demonstration projects. This monitoring and evaluation capacity should be closely coordinated with those actually carrying out the day-to-day operation and maintenance of the demonstration facility. This may involve separate organizational entities, but in any case the organization should be alert to the necessity for an unbiased evaluative effort. In addition it is recommended that this evaluating function seek input from the regulatory and implementation side of the agency, and from outside experts. The Administrator should consider whether this function should be a part of the information program provided for in section 204B.

BUREAU OF MINES

In many of the research, development, and demonstration areas covered in this bill, the Bureau of Mines in the Department of Interior has great competence and experience. The Committee feels that the Administrator should seek consultation with the Director of the Bureau of Mines in planning the EPA program and, where appropriate, should utilize the expertise of that agency in carrying out the program. The Committee hopes that a continuing cooperative arrangement (as opposed to a series of episodic task-projects) can be developed between the two agencies.

NEED FOR CONTINUED RESEARCH, DEVELOPMENT AND DEMONSTRATION ON WASTE MANAGEMENT

The committee comments on this bill have focused on the resource recovery aspects of solid waste management. This is not meant to deemphasize the needed research, development, and demonstration for conventional solid waste management and for hazardous waste management. Generally, there are no market incentives for the private sector to invest in ways to control the environmental damages from improper waste management and disposal. The establishment of regulatory programs and the implementation of those programs will tend to stimulate investments by the private sector. Clearly, until that time comes, a large burden for this kind of research, development, and demonstration falls on the Federal government.

Particular areas of emphasis in conventional or hazardous solid waste management are: 1) ways to collect leachate, 2) ways to treat

leachate, 3) ways to incinerate and destroy organic hazardous wastes, 4) other biological and chemical treatment options for potentially hazardous wastes, 5) ways to evaluate disposal sites, and 6) ways to correct damages at disposal sites.

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7. Oversight Activities

Pursuant to clause 2(1)(3)(A) of rule XI, and under the authority of rule X, clause 2(b)(1) and clause (3)(f), of the Rules of the House of Representatives the following statement on oversight activities is made:

The April hearings of the Subcommittee on the Environment and the Atmosphere were focused on a bill, H.R. 12380*, and so were primarily legislative in nature. However, as the bill was an amendment to existing legislation, and therefore there was testimony on the Federal programs under the existing legislation, the hearings also involved oversight of Federal programs. A general review of these hearings is presented above under "Legislative History." The following paragraphs give the major oversight conclusions to be drawn from the hearings:

1. There is a need for more research and development. The state of the art can be greatly improved. This is not directly critical of current efforts in the field, rather it implies that more effort is needed.
2. The testimony regarding the need for more demonstrations was divided. The consensus seems to be that there is no need for a massive demonstration program. On the other hand some technologies are ready to be demonstrated, and should be. There was concern that expensive demonstrations not take all funds away from research and development.
3. An R, D&D program should definitely include more work on small scale and low technology systems. Source separation should be a part of this effort.
4. A continuing problem with implementation of resource recovery systems is the lack of a reliable, profitable market for the recycled material.

The bill, H.R. 14965, was drafted in response to these and other findings.

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8. Oversight Findings and Recommendations by the Committee on Government Operations

Pursuant to Rule X, clause 2(b)(2) of the Rules of the House of Representatives the following oversight findings and recommendations have been received: (Reprinted from Solid Waste—Materials

* That bill was superseded by H.R. 14965.

and Energy Recovery; Twenty Fifth Report by the Committee on Government Operations, June 30, 1976):

III. Findings of Fact

1. Solid waste disposal is one of the most serious municipal problems; the problem is growing at an annual rate of nearly 8 percent.
2. Open dumps create health and environmental hazards.
3. Sanitary landfill disposal of municipal solid waste is the most commonly used disposal technique.
4. Sanitary landfill disposal is becoming increasingly unavailable as possible sites accessible to metropolitan areas become filled and costs of transportation mount.
5. Limitations on dumping municipal waste in the oceans, although environmentally desirable, exacerbate problems of municipal waste disposal.
6. Properly managed landfill disposal of refuse can be inexpensive and environmentally sound.
7. Technology whereby materials and energy are recovered from refuse is available.
8. Environmental, social, and economic benefits of resource recovery have been demonstrated in Europe and to a limited extent, in the United States.
9. A number of new, or heretofore undemonstrated, technologies are in various stages of development and demonstration in the United States.
10. The value of energy and materials that can be recovered through a resource recovery system and the fees paid for disposal of refuse at such facility (the "dump fee") may represent all, or a significant portion, of the cost of such facility.
11. Recovery of salable energy and materials, together with "dump fees", may make resource recovery facilities economically competitive with traditional systems.
12. Markets for recovered materials are very limited and unstable.
13. In many cases, energy expended in recovering materials is considerably less than the energy cost of extracting virgin materials.
14. Energy recovered from refuse may be in the form of steam, steam transformed into electricity, or any one of various types of solid, liquid or gaseous fuels ("refuse-derived fuels").
15. Refuse-derived energy in the form of steam, electricity, and refuse-derived fuel has been used successfully by industries and utilities.
16. In the initial full-scale operation of some resource recovery systems, problems have emerged such as: emissions of air-polluting gases and particulates, jamming and clogging of equipment, malfunctioning of equipment, and overheating.

17. The Federal program, which is largely based on the Resource Recovery Act of 1970, is essentially a non-regulatory program of EPA intended to provide technical assistance to communities and encourage the development of new technology through limited research, development, and demonstration.

18. Although existing and emerging technologies of resource recovery sometimes present attractive and financially competitive municipal waste disposal solutions, few communities are pursuing such resource recovery solutions.

19. Institutional barriers or obstacles much more than technological problems often thwart the development and realization of resource recovery solutions to municipal solid waste problems.

20. Municipal officials are often unaware of the availability of resource recovery systems and technologies, or lack the technical capacity to determine whether such systems or technologies are reliable, or whether they are appropriate to their particular needs.

21. Municipal officials often fail to take account of the full costs of their current waste disposal system, many of which costs are hidden or overlooked.

22. Many metropolitan areas composed of a number of political jurisdictions, often including a central city, group of independent surburban communities, and a surrounding county or township often have independent authorities over municipal solid waste collection and disposal.

23. The multiple jurisdictions within metropolitan areas often are unable to coordinate or unify their various solid waste collection or disposal systems because of obstacles which include: legal barriers, inconsistent disposal systems, inability to agree as to a single comprehensive system, inability to finance proportionate shares of a new system, and inability to provide a long-term commitment of minimum volumes of municipal refuse.

24. Most modern resource recovery systems require substantial capital investment and entail significant operation and maintenance costs.

25. Many municipalities lack the legal authority to issue revenue bonds for resource recovery.

26. Neither EPA nor any other Federal agency has authority to establish standards governing solid waste management or resource recovery.

27. The states of Wisconsin and Connecticut have established statewide programs which are premised on regional approaches, anticipate resource recovery opportunities, and require cooperation with private industry.

28. The ERDA has supported limited demonstration of new resource recovery technology.

29. Banks and leading institutions have financed municipal resource recovery systems and are willing to invest in such systems if such systems can be shown to be reliable and economically viable.

IV. RECOMMENDATIONS

1. Congress should consider legislation authorizing minimum national standards for the disposal of solid waste. Such standards should take account of the health hazards and environmental degradation associated with inadequately controlled land-fill disposal of refuse and to the maximum extent possible, take account of the environmental and economic costs and benefits of land-fill disposal and the availability and feasibility of alternative systems.

2. Congress should consider including in such legislation a requirement that open dumping of refuse be prohibited after a date certain. That date should allow communities a reasonable time within which to initiate systems which meet the national standards of municipal solid waste disposal.

3. Congress should consider including in such legislation direction that the Environmental Protection Agency, in consultation with the Energy Research and Development Administration, develop and issue such national standards of municipal solid waste disposal within one year from the date of enactment of such legislation.

4. Congress should consider including in such legislation provision for penalties against any community which fails to meet the national standards of municipal waste disposal or which permits open dumping after the date or dates specified in such standards and prohibition.

5. The Environmental Protection Agency should significantly expand the scope and quality of its technical assistance to states, regions, and municipalities to aid in the development of environmentally, technically, and economically sound solutions to municipal solid waste problems. Such assistance should be made, when appropriate, by interdisciplinary teams, which should include representatives of private industry and financial institutions, and other Federal agencies. These teams would be available upon request to states, regions, and municipalities.

6. The Environmental Protection Agency, in consultation with representatives of states, municipalities, private industry, and other Federal agencies, should develop recommended standards for state programs of solid waste management. Such recommended standards should include: regional approaches to solid waste management and resource recovery, techniques to overcome jurisdictional differences in metropolitan areas or regions (including the creation of regionwide solid waste management authorities pursuant to state law), comparison and analysis of alternate techniques of complying with the national standards of municipal solid waste

disposal; cooperation with industries and utilities; development and implementation of long-term agreements among regional solid waste managers, disposal and resource recovery facility owners, and managers and industrial and other buyers and users of recovered materials and energy; and techniques of financing region-wide solid waste disposal and resource recovery (including state authorization for the issuance of revenue bonds by regional solid waste authorities).

7. Congress should consider appropriating funds for limited Federal financial assistance to the states to assist them in the development of state-wide programs.

8. Congress should consider adopting legislation which directs that the resource recovery research and development efforts of the Environmental Protection Agency and the Energy Research and Development Administration be merged or very closely coordinated. Demonstration projects should [not] be supported by either agency unless both concur that adequate research and development has preceded such demonstration, that private industry would not otherwise develop and demonstrate such technology in a timely fashion, and that the technology to be demonstrated represents a significant new and beneficial potential.

9. The Congress should not authorize Federal financial assistance for the construction of resource recovery facilities or other municipal solid waste disposal facilities.

10. The Congress should not authorize Federal guarantees of municipal or state bonds intended to finance resource recovery or other municipal solid waste disposal systems.

* * * * *

Those recommendations of the Committee on Government Operations which fall within the jurisdiction of the Science and Technology Committee are addressed in H.R. 14965. Recommendation 5 calls for increased technical assistance to State and local agencies. The increased R, D&D program and the active technical information program address this item. Recommendation 8 calls for legislation directing close coordination between EPA and ERDA. Paragraph 204(b)(2) of the bill accomplishes this. Recommendation 8 also states that demonstrations should not be conducted unless (i) adequate research and development has preceded such demonstration, and (ii) that private industry would not otherwise develop and demonstrate such technology. Paragraph 204(b)(1) of the bill provides for appropriate research and development preceding demonstrations and section 204C of the bill provides that demonstrations can be assisted only if private industry will not conduct such demonstrations. Recommendations 9 and 10 state that Congress should not authorize financial assistance for municipal solid waste systems. Section 204C of the bill limits assistance to such systems to demonstrations of new technology, i.e. to bona fide innovative systems, precluding routine construction of such systems.

One further point should be made. Finding 7 states "Technology . . . is available." This could be taken to imply that no further research and development is needed. That this is not the implication of this finding was made clear in a letter from Chairman Ryan of the Government Operations Subcommittee on Conservation, Energy, and Natural Resources to the Chairman of the Environment and the Atmosphere Subcommittee. In his letter Chairman Ryan said, in part:

> We indicated in our report that "Technology whereby materials and energy are recovered from refuse is available." By no means, however, should this expression of the subcommittee be construed to imply that the nation has reached a complete commercialization stage, or that there is no major need for additional research, development and demonstration of resource recovery technology at the federal level. The need for a continuing and concerted RD&D program was stressed by several expert witnesses appearing before our subcommittee last March.
>
> We believe that there are a number of technologies which have been found to have great potential for energy recovery, but are in need of additional technical development.

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9. Cost and Budget Data

In accordance with the requirements of section 252(b) of the Legislative Reorganization Act of 1970, the following estimate of obligations over the next five years is made:

[In millions of dollars]

	Fiscal year—				
	1978	1979	1980	1981	1982
General R., D. & D. and information	35	40	45	50	50
Special studies	8	2			
Total	43	42	45	50	50

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10. Congressional Budget Act Information

Pursuant to section 308(a) of the Congressional Budget Act of 1974 the following statement is made: As this bill provides neither budget authority (appropriations) nor tax expenditures, section 308(a) does not apply.

11. Estimate and Comparison, Congressional Budget Office

Congress of the United States,
Congressional Budget Office,
Washington, D.C., August 25, 1976.

Hon. Olin E. Teague,
Chairman, Committee on Science and Technology,
U.S. House of Representatives,
Washington, D.C.

Dear Mr. Chairman: Pursuant to Section 403 of the Congressional Budget Act of 1974, the Congressional Budget Office has prepared the attached cost estimate for H.R. 14965, a bill to amend the Solid Waste Disposal Act to provide certain authorities respecting research, development, and demonstration.

Should the Committee so desire, we would be pleased to provide further details on the attached cost estimate.

Sincerely,

Alice M. Rivlin,
Director.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

August 25, 1976.

1. Bill number: H.R. 14965.
2. Bill title: To amend the Solid Waste Disposal Act to provide certain authorities respecting research, development, and demonstration.
3. Purpose of bill: This legislation expands and clarifies some of the research and information gathering and disseminating activities of EPA as provided in the Solid Waste Disposal Act (P.L. 89-272). Specifically, the bill authorizes studies and full-scale demonstration projects to be undertaken by EPA.
4. Cost estimate: (millions of dollars):

Budget function 300:	
Authorization level:	
Fiscal year 1978	45.00
Fiscal year 1979	-----
Fiscal year 1980	----
Fiscal year 1981	-----
Fiscal year 1982	-----
Cost:	
Fiscal year 1978	18.65
Fiscal year 1979	10.65
Fiscal year 1980	8.95
Fiscal year 1981	6.75
Fiscal year 1982	-----

5. Basis for estimate: The authorization amounts are specified in the bill. The legislation authorizes (Section 216(b)) $10 million for a number of specific studies, some of which are to be completed by 1 October 1978 (one-year studies) and others by 1 October 1979 (two-year studies). The one-year studies are assumed to spend entirely in FY 1978, while the two-year studies are assumed to spend equally in FY 1978 and FY 1979. Likely costs for these studies were determined after consultation with EPA, Office of Technology Assessment (OTA), and House Committee on Science and Technology staff. The $10 million is assumed to spend 85 percent in FY 1978 and 15 percent in FY 1979.

The legislation also authorizes (Section 216(a)) $35 million for certain information gathering and disseminating activities and for full-scale demonstration projects and related activities. The total $35 million is assumed to spend 41 percent in FY 1978, 24 percent in FY 1979, 20 percent in FY 1980, and 15 percent in FY 1981, although the spendout for individual items may differ from this rate. The spendout rate for the information gathering activities was determined after discussion with EPA, OTA, and House Committee on Science and Technology staff. In order to determine the spendout rate for the demonstration projects, a likely mix of new solid waste management projects was assumed and the spendout rate for these items estimated. Although the legislation clearly encourages cost sharing, it is conservatively assumed in this estimate that the projects are entirely federally funded.

6. Estimate comparison: None.
7. Previous CBO estimate: None.
8. Estimate prepared by: Terry Nelson (225-5275)
9. Estimate approved by: R. Scheppach for James L. Blum, Assistant Director for Budget Analysis.

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12. Effect of Legislation on Inflation

In accordance with Rule XI, Clause 2(1)(4) of the Rules of the House of Representatives the following statement is made. This bill is assessed to have negligible direct inflationary effect on prices and costs in the national economy. Insofar as the programs authorized herein are successful, the following beneficial economic effects can be expected: Costs of municipal waste disposal will be reduced. Costs of environmental pollution control will be mitigated. Use of virgin resources will be reduced. Imports of certain materials will be reduced.

13. Sectional Analysis of the Bill

Section 1: The title of the bill is the "Solid Waste Research and Development Act of 1976."

Section 2: Findings:

(1) Our Nation's economic and population growth have resulted in an increase in waste materials.

(2) Concentration of our population in urban areas has created serious problems in the disposal of solid wastes.

(3) At the present rate of growth, many cities soon will be running out of suitable solid waste disposal sites.

(4) Improper methods of disposal results in serious hazards to the public health and interfere with community life and development.

(5) Efforts to control air and water pollution increase solid waste.

(6) Recycling and reuse of solid waste can conserve our limited resources.

(7) Energy can be produced from solid waste by methods currently being developed.

(8) Present efforts at resource recovery are scattered, with the major burden for development of resource recovery systems falling on local governments.

(9) A Federal information program is needed to develop and make available information on resource recovery.

(10) A Federal program of research, development, and demonstration is needed to help local agencies carry out their responsibilities.

Section 3. Definitions:

Defines "demonstration" to limiting efforts to the initial exhibition of a new technology.

Defines "sludge" broadly; includes sewage sludge, scrubber sludge, etc.

Subsection 4(a). Amends section 204(a) of the Solid Waste Disposal Act (which contains the general R, D & D authority in that act) to add items emphasizing research on:

(6) small scale and low technology systems;

(7) improving the utility and marketability of recovered resources;

(8) improving all aspects of landfill operations to reduce the adverse environmental effects of solid waste disposal on land;

(9) improving sludge management and recovery of resources from sludge;

(10) improving hazardous waste management; and

(11) adverse effects on air quality which result from burning solid waste for disposal or energy recovery.

Subsection 4(b). Amends section 204(b) of the Solid Waste Disposal Act as follows:

(1) Provides for a management system to insure the coordination of all R, D & D activities and to expedite the development and demonstration of promising research ideas.

(2) Provides for coordination of EPA and ERDA activities in accordance with the existing interagency agreement.

(A) energy-related projects of mutual interest will be planned jointly by EPA and ERDA;

(B) recognize the role of ERDA in energy-related projects;

(C) EPA shall retain responsibility for environmental, economic, and institutional aspects and for assurance that such projects are consistent with guidelines and applicable State plans; and

(D) provides that special studies and information activities relating to energy shall be coordinated with ERDA.

Subsection 4(c). Amends section 204(c) of the Solid Waste Disposal Act as follows:

(1) authorizes EPA to make grants or enter into contracts;

(2) contracts shall be made in accordance with 10 U.S.C. 2353; (DOD Act)

(3) patents covered by same provisions as ERDA's (Federal Nonnuclear Energy Research and Development Act of 1974, P.L. 93–577).

Section 5. Amends the Solid Waste Disposal Act by inserting new sections after section 204 as follows:

Special studies plans for research, development, and demonstration

Sec. 204A. (a) Study and publish a report on glass and plastic recovery.

(b) Study and publish a report on composition of the waste stream and potential utility of components.

(c) For the purpose of setting research priorities on the techniques of energy recovery from solid waste, EPA shall study and publish a report on such techniques.

(d) Study and publish a report on small-scale and low technology systems including their application to high density housing and office complexes.

(e) Study and publish a report on compatibility of source separation with high technology resource recovery systems.

(f) Study and publish a report on adverse effects of solid waste resulting from mining.

(g) Study and publish a report on sludge; types, sources, methods of disposal, and effects of sludge; methods to recover resources from sludge.

(h) Study and publish a report on discarded tires including problems involved in collection and recovery of resources from tires.

(i) Conduct research and report on the economics of, and impediments to, resource recovery facilities.

(j) Study and publish a report on all aspects of voluntary waste reduction systems including the degree to which such waste reduction systems could result in energy conservation.

(k) Study and publish a report on systems to alleviate hazards to aviation from birds feeding on landfills around airports.

(l) Requirement to complete the research and studies and submit the reports (b), (c), (d), (e), (g), and (k) no later than October 1, 1978. Studies (a), (f), (h), (i), and (j) by October 1, 1979. Results of these studies to be used for research planning.

COORDINATION, COLLECTION, AND DISSEMINATION OF INFORMATION

SEC. 204B. (a) Collect and coordinate information on—

(1) methods and costs of collection of solid waste;

(2) management practices, including data on different management methods;

(3) amount of recoverable resources in solid waste;

(4) methods of waste reduction available;

(5) energy recovery technologies;

(6) disposition of hazardous wastes;

(7) methods of financing solid waste facilities including resource recovery facilities;

(8) market availability for recovered resources;

(9) research projects.

(b)(1) Establish a Central Reference Library containing materials collected under subsection (a) and performance information on:

(i) various methods of resource recovery;

(ii) various systems and technologies for final disposition of solid waste, and;

(iii) other aspects of solid waste management.

Such library shall contain model codes, model accounting systems, and other information collected by EPA officials which may be of value to Federal, State, and local authorities.

(2) Information in the library shall be analyzed, published and made available to State and local governments.

(c) Provides for the development of model accounting system for use by State and local governments.

(d) Provides for the development of model codes applicable to State and local governments.

(e) Provides for the collection and publication of information concerning the activities of EPA with respect to resource conservation and recovery facilities.

FULL-SCALE DEMONSTRATION FACILITIES

SEC. 204C. (a) The Administrator may enter into contracts for a full-scale demonstration facility only if—

(1) the facility demonstrates a new, unproven, or significantly improved technology;

(2) the requirements of section 204 of this Act are met;

(3) the facility complies with pertinent environmental regulations;

(4) the facility is unlikely to be constructed without EPA assistance;

(5) Federal involvement can be terminated without compromising the objectives of this Act.

(b) No financial assistance may be given for a full-scale demonstration facility after ten years after enactment.

(c)(1) EPA shall make arrangements for maximum cost-sharing with Federal, State and local agencies, private persons, or combination thereof,

(2) Where practicable EPA shall provide monitoring of facilities for the purpose of obtaining information on the operation of such facilities.

(d) EPA shall not construct or operate any full-scale facilities, except by contract.

INTRA-AGENCY COORDINATING COMMITTEE

SEC. 204D. (a) Provides for an Intra-Agency Coordinating Committee to ensure that research goals are coordinated with the regulatory policies of the EPA.

(b) The Intra-Agency Coordinating Committee shall consist of nine members. The Administrator shall act as Chairman, eight members shall be selected from officials responsible for the conduct of research and development and solid waste regulatory programs of the EPA.

(c)(1) The Committee shall stimulate communication of information between personnel in various parts of the Agency and shall recommend research goals. The Committee shall not oversee execution of research.

(2) The Committee shall participate in budget formulation for research.

(3) The Committee shall consider reports of special studies, research and demonstrations in developing research plans.

(4) The Committee shall incorporate into its research plans any other significant information recommending research programs.

(5) The Committee shall meet at least

(A) annually at budget time;

(B) annually to review research goals.

(6) The Committee shall make an annual report to the President and to Congress.

(d) The Committee is authorized to consult other agencies in formulating proposals for research.

SEC. 6. Section 216 of the Solid Waste Disposal Act (42 U.S.C. 3259) is amended to read as follows:

AUTHORIZATION OF APPROPRIATIONS

SEC. 216. (a) Appropriations are authorized not to exceed $35,000,000 for fiscal year 1978, for sections 204, 204B, 204C, 204D, and 205 of this Act.

(b) Appropriations authorized not to exceed $10,000,000 for fiscal year 1978 and 1979, for section 204A of this Act.

SEC. 7. The Solid Waste Disposal Act (42 U.S.C. 3251) amended by adding a new section:

SUNSHINE REGULATIONS

SEC. 217(a) Each officer or employee of the EPA who—

(1) performs any service under this Act; and

(2) has any known financial interest under this Act

shall file a statement of financial disclosure annually. Such statement shall be available to the public.

(b)(A) The Administrator shall define the term "known financial interest"; and

(B) The Administrator shall establish methods to monitor the filing and review of these financial statements;

(c) The Administrator shall identify positions to be exempted from financial disclosure.

(d) Defines the penalty to be imposed.

14. CHANGES IN EXISTING LAW MADE BY THE BILL, AS REPORTED

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman, and large unchanged blocks of existing law are indicated by * * *) :

SOLID WASTE DISPOSAL ACT

[PUBLIC LAW 89-272—89TH CONGRESS, S. 306, APPROVED OCTOBER 20, 1965]

AN ACT To authorize a research and development program with respect to solid-waste disposal, and for other purposes.

* * * * * * *

TITLE II—SOLID WASTE DISPOSAL

SHORT TITLE

SEC. 201. This title (hereinafter referred to as "this Act") may be cited as the "Solid Waste Disposal Act".

* * * * * * *

DEFINITIONS

* * * * * * *

(10) The term "resource recovery system" means a solid waste management system which provides for collection, separation, recycling, and recovery of solid wastes, including disposal of nonrecoverable waste residues.

(11) The term "demonstration" means the initial exhibition of a new technology process or practice or a significantly new combination of use of technologies, processes or practices, subsequent to the development stage, for the purpose of proving technological feasibility and cost effectiveness.

(12) the term "sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility or any other such waste having similar characteristics and effects.

RESEARCH, DEMONSTRATIONS, TRAINING, AND OTHER ACTIVITIES

SEC. 204. (a) The Secretary shall conduct, and encourage, cooperate with, and render financial and other assistance to appropriate public (whether Federal, State, interstate, or local) authorities, agencies, and institutions, private agencies and institutions, and individuals in the conduct of, and promote the coordination of, research, investigation, experiments, training, demonstrations, surveys, and studies relating to—

(1) any adverse health and welfare effects of the release into the environment of material present in solid waste, and methods to eliminate such effects;

(2) the operation and financing of solid waste disposal programs;

(3) the reduction of the amount of such waste and unsalvageable waste materials;

(4) the development and application of new and improved methods of collecting and disposing of solid waste and processing and recovering materials and energy from solid wastes; [and]

(5) the identification of solid waste components and potential materials and energy recoverable from such waste components[.] ;

(6) small scale and low technology solid waste management systems, including but not limited to, resource recovery source separation systems;

(7) methods to improve the performance characteristics of resources recovered from solid waste and the relationship of such performance characteristics to available and potentially available markets for such resources;

(8) improvements in land disposal practices for solid waste (including sludge) which may reduce the adverse environmental effects of such disposal and other aspects of solid waste disposal on land, including means for reducing the harmful environmental effects of earlier and existing landfills, means for restoring areas damaged by such earlier or existing landfills, means for rendering landfills safe for purposes of construction and other uses, and techniques of recovering materials and energy from landfills;

(9) methods for the sound disposal of, or recovery of resources, including energy, from sludge (including sludge from pollution control and treatment facilities, coal slurry pipelines, and other sources);

(10) methods of hazardous waste management, including methods of rendering such waste environmentally safe; and

(11) any adverse effects on air quality (particularly with regard to the emission of heavy metals) which result from solid waste which is burned (either alone or in conjunction with other substances) for purposes of disposal or energy recovery.

[(b) In carrying out the provisions of the preceeding subsection, the Secretary is authorized to—

(1) collect and make available, through publications and other appropriate means, the results of, and other information pertaining to, such research and other activities, including appropriate recommendations in connection therewith;

(2) cooperate with public and private agencies, institutions, and organizations, and with any industries involved, in the preparation and the conduct of such research and other activities; and

(3) make grants-in-aid to public or private agencies and institutions and to individuals for research, training projects, surveys, and demonstrations (including construction of facilities), and provide for the conduct of research, training, surveys, and demonstrations by contract with public or private agencies and institutions and with individuals; and such contracts for research or demonstrations or both (including contracts for construction) may be made in accordance with and subject to the limitations provided

76-726 O - 76 - 9

with respect to research contracts of the military departments in title 10, United States Code, section 2353, except that the determination, approval, and certification required thereby shall be made by the Secretary.]

(b) (1) In carrying out his functions pursuant to this Act, and any other Federal legislation respecting solid waste or discarded material research, development, and demonstrations, the Administrator shall establish a management program or system to insure the coordination of all such activities and to facilitate and accelerate the process of development of sound new technology (or other discoveries) from the research phase, through development, and into the demonstration phase.

(2) Any energy-related research, development, or demonstration project for the conversion, including bioconversion, of solid waste carried out by the Environmental Protection Agency or by the Energy Research and Development Administration pursuant to this or any other Act shall be administered in accordance with the May 7, 1976, Interagency Agreement between the Environmental Protection Agency and the Energy Research and Development Administration on the Development of Energy from Solid Wastes and specifically, that in accordance with this agreement, (A) for those energy-related projects of mutual interest, planning will be conducted jointly by the Environmental Protection Agency and the Energy Research and Development Administration, following which project responsibility will be assigned to one agency; (B) energy-related portions of projects for recovery of synthetic fuels or other forms of energy from solid waste shall be the responsibilty of the Energy Research and Development Administration; (C) the Environmental Protection Agency shall retain responsibility for the environmental, economic, and institutional aspects of solid waste projects and for assurance that such projects are consistent with any applicable suggested guidelines published pursuant to section 209(a), and any applicable State or regional solid waste management plan; and (D) any activities undertaken under provisions of section 204A and 204B as related to energy; as related to energy or synthetic fuels recovery from waste; or as related to energy conservation shall be accomplished through coordination and consultation with the Energy Research and Development Administration.

[(c) Any grant, agreement, or contract made or entered into under this section shall contain provisions effective to insure that all information, uses, processes, patents and other developments resulting from any activity undertaken pursuant to such grant, agreement, or contract will be made readily available on fair and equitable terms to industries utilizing methods of solid-waste disposal and industries engaging in furnishing devices, facilities, equipment, and supplies to be used in connection with solid-waste disposal. In carrying out the provisions of this section, the Secretary and each department, agency, and officer of the Federal Government having functions or duties under this Act shall make use of and adhere to the Statement of Government Patent Policy which was promulgated by the President in his memorandum of October 10, 1963. (3 CFR, 1963 Supp., p. 238.)]

(c) (1) In carrying out subsection (a) of this section respecting solid waste research, studies, development, and demonstration, except

as otherwise specifically provided in section 204C(d), the Administrator may make grants to or enter into contracts (including contracts for construction) with, public agencies and authorities or private persons.

(2) Contracts for research, development, or demonstrations or for both (including contracts for construction) shall be made in accordance with and subject to the limitations provided with respect to research contracts of the military departments in title 10, United States Code, section 2353, except that the determination, approval, and certification required thereby shall be made by the Administrator.

(3) Any invention made or conceived in the course of, or under, any contract under this Act shall be subject to section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 to the same extent and in the same manner as inventions made or conceived in the course of contracts under such Act, except that in applying such section, the Environmental Protection Agency shall be substituted for the Energy Research and Development Administration and the words "solid waste" shall be substituted for the word "energy" where appropriate.

SPECIAL STUDIES; PLANS FOR RESEARCH, DEVELOPMENT, AND DEMONSTRATIONS

Sec. 204A. (a) The Administrator shall undertake a study and publish a report on resource recovery from glass and plastic waste, including the technological and economic problems associated with such recovery.

(b) The Administrator shall undertake a systematic study of the composition of the solid waste stream and of anticipated future changes in the composition of such stream and shall publish a report containing the results of such study and quantitatively evaluating the potential utility of such components.

(c) For purposes of determining priorities for research on recovery of materials and energy from solid waste and developing materials and energy recovery research, development, and demonstration strategies, the Administrator shall review, and make a study of, the various existing and promising techniques of energy recovery from solid waste (including, but not limited to, waterwall furnace incinerators, dry shredded fuel systems, pyrolysis, densified refuse-derived fuel systems, anerobic digestion, and fuel and feedstock preparation systems). In carrying out such study the Administrator shall investigate with respect to each such technique—

(1) the degree of public need for the potential results of such research, development, or demonstration,

(2) the potential for research, development, and demonstration without Federal action, including the degree of restraint on such potential posed by the risks involved, and

(3) the magnitude of effort and period of time necessary to develop the technology to the point where Federal assistance can be ended.

(d) The Administrator shall undertake a comprehensive study and analysis of, and publish a report on, systems of small-scale and low technology solid waste management, including household resource recovery and resource recovery systems which have special application to multiple dwelling units and high density housing and office complexes. Such study and analysis shall include an investigation of the degree to which such systems could contribute to energy conservation.

(e) The Administrator shall undertake research and studies concerning the compatibility of front-end source separation systems with high technology resource recovery systems and shall publish a report containing the results of such research and studies.

(f) The Administrator shall conduct a detailed and comprehensive study on the adverse effects of solid wastes from active and abandoned surface and underground mines on the environment, including, but not limited to the effects of such wastes on water, air, humans, health, welfare, and natural resources, and on the adequacy of means and measures currently employed by the mining industry, Government agencies, and others to dispose of and utilize such solid wastes and to prevent or substantially mitigate such adverse effects. In furtherance of this study, the Administrator shall, as he deems appropriate, review studies and other actions of other Federal agencies concerning such wastes with a view toward avoiding duplication of effort and the need to expedite such study. The Administrator shall publish a report of such study and shall include appropriate findings and recommendations for Federal and non-Federal actions concerning such effects.

(g) The Administrator shall undertake a comprehensive study and publish a report on sludge. Such study shall include an analysis of—

(1) what types of solid waste (including but not limited to sewage and pollution treatment residues and other residues from industrial operations such as extraction of oil from shale liquefaction and gasification of coal and coal slurry pipeline operations) should be classified as sludge;

(2) the effects of air and water pollution legislation on the creation of large volumes of sludge;

(3) the amounts of sludge originating in each State and in each industry producing sludge;

(4) methods of disposal of such sludge, including the cost, efficiency, and effectiveness of such methods;

(5) alternative methods for the use of sludge, including agricultural applications of sludge and energy recovery from sludge; and

(6) methods to reclaim areas which have been used for the disposal of sludge or which have been damaged by sludge.

(h) The Administrator shall undertake a study and publish a report respecting discarded motor vehicle tires which shall include an analysis of the problems involved in the collection, recovery of resources including energy, and use of such tires.

(i) The Administrator shall conduct research and report on the economics of, and impediments to, the effective functioning of resource recovery facilities.

(j) The Administrator shall undertake a comprehensive study and analysis of and publish a report on the environmental, social, and economic effects, cost-effectiveness, and efficiency of waste reduction systems or proposals which may, or could be, voluntarily implemented by Federal, State, and local authorities and the private sector. Such study and analysis shall include an investigation of the degree to which such waste reduction systems or proposals could result in energy conservation.

(k) The Administrator shall undertake a comprehensive study and analysis of and publish a report on systems to alleviate the hazards to aviation from birds congregating and feeding on landfills in the vicinity of airports.

(l) The Administratotor shall complete the research and studies, and submit the reports, required under subsections (b), (c), (d), (e), (f), (g), and (k) not later than October 1, 1978. The Administrator shall complete the research and studies, and submit the reports, required under subsections (a), (h), (i), and (j) not later than October 1, 1979. Upon completion, each study specified in subsections (a) through (k) of this section, the Administrator shall prepare and submit to the intra-agency coordinating committee established under section 204D a plan for research, development, and demonstration respecting the findings of the study and shall submit any legislative recommendations resulting from such study to appropriate committees of Congress.

COORDINATION, COLLECTION, AND DISSEMINATION OF INFORMATION

Sec. 204B. (a) The Administrator shall collect and coordinate information on—

(1) methods and costs of the collection of solid waste;

(2) solid waste management practices, including data on the different management methods and the cost, operation, and maintenance of such methods;

(3) the amounts and percentages of resources (including energy) that can be recovered from solid waste by use of various discarded materials management practices and various technologies;

(4) methods available to reduce the amount of solid waste that is generated;

(5) existing and developing technologies for the recovery of energy or materials from solid waste and the costs, reliability, and risks associated with such technologies;

(6) hazardous solid waste, including incidents of damage resulting from the disposal of hazardous solid wastes; inherently and potentially hazardous solid wastes; methods of neutralizing or properly disposing of hazardous solid wastes; facilities that properly dispose of hazardous wastes;

(7) methods of financing resource recovery facilities or, sanitary landfills, or hazardous solid waste treatment facilities, whichever is appropriate for the entity developing such facility or landfill (taking into account the amount of solid waste reasonably expected to be available to such entity);

(8) the availability of markets for the purchase of resources, either materials or energy, recovered from solid waste; and

(9) research and development projects respecting solid waste management.

(b)(1) The Administrator shall establish and maintain a central reference library for (A) the materials collected pursuant to subsection (a) of this section and (B) the actual performance and cost effectiveness records and other data and information with respect to—

(i) the various methods of energy and resource recovery from solid waste,

(ii) the various systems and technologies for collection, transport, storage, treatment, and final disposition of solid waste, and

(iii) other aspects of solid waste and hazardous solid waste management.

Such central reference library shall also contain, but not be limited to, the model codes and model accounting systems developed under this section, the information collected under subsection (a), and, subject to any applicable requirements of confidentiality, information respecting any aspect of solid waste provided by officers and employees of the Environmental Protection Agency which has been acquired by them in the conduct of their functions under this Act and which may be of value to Federal, State, and local authorities and other persons.

(2) Information in the central reference library shall, to the extent practicable, be collated, analyzed, verified, and published and shall be made available to State and local governments and other persons at reasonable times and subject to such reasonable charges as may be necessary to defray expenses of making such information available. The Administrator shall also implement a program for the rapid dissemination of information relating to all aspects of solid waste and hazardous solid waste management, including the results of any research, development, demonstrations, investigations, experiments, surveys or studies relating to solid waste or hazardous solid wastes that are undertaken by the Administrator or by other Federal agencies.

(c) In order to assist State and local governments in determining the costs and revenues associated with the collection and disposal of solid waste and with resource recovery operations, the Administrator shall develop and publish a recommended model cost and revenue accounting system applicable to the solid waste management functions of State and local governments. Such system shall be in accordance with generally accepted accounting principles. The Administrator shall periodically, but not less frequently than once every five years, review such accounting system and revise it as necessary.

(d) The Administrator is authorized, in cooperation with appropriate State and local agencies, to recommend model codes, ordinances, and statutes, providing for sound solid waste management.

(e) The Administrator shall collect and make available (through public education programs, publications, or other appropriate means), information concerning the activities of the Environmental Protection Agency pertaining to research, development, feasibility, and operation of resource conservation and recovery facilities, and any other technical, managerial, financial, or market aspect of such facilities.

FULL-SCALE DEMONSTRATION FACILITIES

Sec. 204C. (a) The Administrator may enter into contracts with public agencies or authorities or private persons for the construction and operation of a full-scale demonstration facility under this Act, or provide financial assistance in the form of grants to a full-scale demonstration facility under this Act only if the Administrator finds that—

(1) such facility or proposed facility will demonstrate at full scale a new or significantly improved technology or process, a practical and significant improvement in discarded material management practice, or the technological feasibility and cost effectiveness of an existing, but unproven technology, process, or practice, and will not duplicate any other Federal, State, local, or commercial facility which has been constructed or with respect to which construction has begun (determined as of the date action is taken by the Administrator under this Act).

(2) such contract or assistance meets the requirements of section 204 and meets other applicable requirements of this Act,

(3) such facility will be able to comply with the guidelines published under section 209 and with other laws and regulations for the protection of health and the environment,

(4) in the case of a contract for construction or operation, such facility is not likely to be constructed or operated by State, local, or private persons or in the case of an application for financial assistance, such facility is not likely to receive adequate financial assistance from other sources, and

(5) any Federal interest in, or assistance to, such facility will be disposed of or terminated, with appropriate compensation, within such period of time as may be necessary to carry out the basic objectives of this Act.

(b) No obligation may be made by the Administrator for financial assistance under this Act for any full-scale demonstration facility after the date ten years after the enactment of this section. No expenditure of funds for any such full-scale demonstration facility under this Act may be made by the Administrator after the date fourteen years after such date of enactment.

(c)(1) Wherever practicable, in constructing, operating, or providing financial assistance under this Act to a full-scale demonstration facility, the Administrator shall endeavor to enter into agreements and make other arrangements for maximum practicable cost sharing with other Federal, State, and local agencies, private persons, or any combination thereof.

(2) The Administrator shall enter into arrangements, wherever practicable and desirable, to provide monitoring of full-scale solid waste facilities (whether or not constructed or operated under this Act) for purposes of obtaining information concerning the performance, and other aspects, of such facilities. Where the Administrator provides only monitoring and evaluation instruments or personnel (or both) or funds for such instruments or personnel and provides no other financial assistance to a facility, notwithstanding section 204(c)(3), title to any invention made or conceived of in the course of developing,

constructing, or operating such facility shall not be required to vest in the United States and patents respecting such invention shall not be required to be issued to the United States.

(d) After the date of enactment of this section, the Administrator shall not construct or operate any full-scale facility (except by contract with public agencies or authorities or private persons).

INTRA-AGENCY COORDINATING COMMITTEE

SEC. 204D. (a) The Administrator shall establish an Intra-Agency Coordinating Committee (hereinafter in this section referred to as the "Committee") to promote coordination of the research goals of the Environmental Protection Agency with the regulatory functions of the Agency respecting solid waste.

(b) The Committee shall be comprised of nine members including the Administrator who shall act as Chairman. Eight members shall be selected by the Administrator from among officials of the Environmental Protection Agency responsible for the conduct of research, development, and demonstration and from among officials of the Agency engaged in the regulatory and implementation programs of the Agency respecting solid waste. The United States Resource Recovery Corporation may designate a representative who shall be permitted to attend and observe meetings of the Committee.

(c)(1) The Committee (A) shall stimulate the flow of information from personnel engaged in the regulatory and implementation programs of the Agency to personnel engaged in the planning of research, development, and demonstration programs and in the establishment of research goals and (B) shall recommend and propose research goals and plans. The Committee shall not oversee the execution of research, development, and demonstration programs, but shall determine whether or not appropriate research goals are being set and met in a timely fashion.

(2) The Committee shall actively participate in the development of plans and budgets for research by the Agency prior to the annual submission of the Agency's budget to the Office of Management and Budget.

(3) Reports of the special studies, research, and demonstrations provided for in section 204, 204A, and 204C shall be provided to the Committee which shall incorporate them into research plans proposed by the Committee as may be appropriate. The Committee shall report on the actions, if any, taken by the Agency pursuant to such studies.

(4) The Committee shall also receive and incorporate into its research plans other significant studies, reports, and information recommending research programs respecting solid waste. When appropriate it shall report on the actions, if any, taken by the Agency pursuant to such studies, reports, and other information.

(5) The Committee shall meet as often as necessary, but not less than twice annually as follows:

(A) at least once annually, during the time when the Agency is formulating its annual budget submission for the coming fiscal year, and

(B) at least once annually, to recommend and propose research goals and plans and to review progress of the Environmental Protection Agency toward meeting research goals.

(6) The Committee shall report annually to the President and to Congress. Such report shall be included, as a separate part, in a comprehensive annual report submitted by the Administrator to the President and Congress. Dissenting Committee members may report in an independent part of such comprehensive report.

(d) The Committee is authorized and encouraged to seek the views of other agencies in formulating its recommendations and proposals for research.".

SPECIAL STUDY AND DEMONSTRATION PROJECTS ON RECOVERY OF USEFUL ENERGY AND MATERIALS

SEC. 205. (a) The Secretary shall carry out an investigation and study to determine—

(1) means of recovering materials and energy from solid waste, recommended uses of such materials and energy for national or international welfare, including identification of potential markets for such recovered resources, and the impact of distribution of such resources on existing markets;

(2) changes in current production characteristics and production and packaging practices which would reduce the amount of solid waste;

(3) methods of collection, separation, and containerization which will encourage efficient utilization of facilities and contribute to more effective programs of reduction, reuse, or disposal of wastes;

(4) the use of Federal procurement to develop market demand for recovered resources;

* * * * * * *

[APPROPRIATIONS

[SEC. 216. (a)(1) There are authorized to be appropriated to the Secretary of Health, Education, and Welfare for carrying out the provisions of this Act (including, but not limited to, section 208), not to exceed $41,500,000 for the fiscal year ending June 30, 1971.

[(2) There are authorized to be appropriated to the Administrator of the Environmental Protection Agency to carry out the provisions of this Act, other than section 208, not to exceed $72,000,000 for the fiscal year ending June 30, 1972, not to exceed $76,000,000 for the fiscal year ending June 30, 1973, and not to exceed $76,000,000 for the fiscal year ending June 30, 1974.

[(3) There are authorized to be appropriated to the Administrator of the Environmental Protection Agency to carry out section 208 of this Act not to exceed $80,000,000 for the fiscal year ending June 30, 1972, not to exceed $140,000,000 for the fiscal year ending June 30, 1973, not to exceed $76,000,000 for the fiscal year ending June 30, 1974, and not to exceed $76,000,000 for the fiscal year ending June 30, 1975.

[(b) There are authorized to be appropriated to the Secretary of the Interior to carry out this Act not to exceed $8,750,000 for the fiscal year ending June 30, 1971, not to exceed $20,000,000 for the fiscal year ending June 30, 1972, not to exceed $22,500,000 for the fiscal year ending June 30, 1973, and not to exceed $22,500,000 for the fiscal year ending June 30, 1974. Prior to expending any funds authorized to be appropriated by this subsection, the Secretary of the Interior shall consult with the Secretary of Health, Education, and Welfare to assure that the expenditure of such funds will be consistent with the purposes of this Act.

[(c) Such portion as the Secretary may determine, but not more than 1 per centum, of any appropriation for grants, contracts, or other payments under any provision of this Act for any fiscal year beginning after June 30, 1970, shall be available for evaluation (directly, or by grants or contracts) of any program authorized by this Act.

[(d) Sums appropriated under this section shall remain available until expended.]

"*AUTHORIZATION OF APPROPRIATIONS*

SEC. 216. (a) There are authorized to be appropriated not to exceed $35,000,000 for the fiscal year 1978 to carry out section 204, 204B, 204C, 204D, and 205 of this Act.

(b) There are authorized to be appropriated not to exceed $10,000,000 for the fiscal years 1978 and 1979 to carry out section 204A of this Act."

SUNSHINE REGULATIONS

SEC. 217. (a) Each officer or employee of the Administrator who—

(1) performs any function or duty under this Act; and

(2) has any known financial interest in any person who applies for or receives financial assistance under this Act

shall, beginning on February 1, 1977, annually file with the Administrator a written statement concerning all such interests held by such officer or employee during the preceding calendar year. Such statement shall be available to the public.

(b) The Administrator shall—

(1) act within ninety days after the date of enactment of this Act—

(A) to define the term 'known financial interest' for purposes of subsection (a) of this section; and

(B) to establish the methods by which the requirement to file written statements specified in subsection (a) of this section will be monitored and enforced, including appropriate provision for the filing by such officers and employees of such statements and the review by the Administrator of such statements; and

(2) report to the Congress on June 1, 1978, and of each succeeding calendar year with respect to such disclosures and the actions taken in regard thereto during the preceding calendar year.

(c) In the rules prescribed under subsection (b) of this section, the Administrator may identify specific positions within the Environmental Protection Agency which are of a nonpolicymaking nature and provide that officers or employees occuping such positions shall be exempt from the requirements of this section.

(d) Any officer or employee who is subject to, and knowingly violates, this section shall be fined not more than $2,500 or imprisoned not more than one year, or both.".

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15. DEPARTMENT RECOMMENDATIONS

Department recommendations were solicited on August 3, 1976 from the Department of Interior, the General Accounting Office, the Bureau of Mines, the Federal Energy Administration, ERDA, and EPA. Only FEA has commented.

FEDERAL ENERGY ADMINISTRATION,
Washington, D.C., August 18, 1976.

Hon. OLIN E. TEAGUE,
Chairman, Committee on Science and Technology,
House of Representatives,
Washington, D.C.

DEAR MR. CHAIRMAN: The Administrator has received your request for the views of the Federal Energy Administration (FEA) on H.R. 14965, a bill introduced by Mr. Brown of California on July 30, 1976, which has been cited as the "Solid Waste Research and Development Act of 1976".

Deputy Assistant Administrator John Freeman testified on the subject of solid waste management before the House Committee on Government Operations in March of this year. A copy of his testimony outlining FEA's views on the subject is attached for your information.

Sincerely,

PAUL GYR,
Director for Congressional Affairs.

Enclosure.

STATEMENT OF JOHN K. FREEMAN, DEPUTY ASSISTANT ADMINISTRATOR, ENERGY RESOURCE DEVELOPMENT, FEDERAL ENERGY ADMINISTRATION

Introduction

Mr. Chairman, I would like to thank you for the opportunity to testify today on solid waste management and resource recovery of materials and energy. While the recovery of materials is an important concern, I will address primarily the recovery of energy from municipal wastes. Enormous quantities of organic waste materials are generated each year in the United States. However, these wastes are expected to supply only a small, but locally significant, portion of our energy needs during the next decade.

Organic wastes are complex but may be grouped in seven categories: (1) municipal solid waste; (2) manure; (3) agricultural wastes; (4) logging and wood residues; (5) industrial wastes; (6) sewage sludge; and (7) miscellaneous wastes. Gross estimates indicate these wastes amount to more than 2 billion tons per year. Eighty percent of the total amount is in the initial three categories.

Municipal solid waste

Only about ten percent of the organic waste is considered accessible for recovery due to its physical dispersion. Municipal solid waste (MSW) is a notable exception. In addition to the relative concentration of MSW, it is a promising near-term resource because:

Much of the basic technology to obtain energy from wastes is available;

MSW collection systems exist in all major population centers;

MSW is a renewable resource;

In addition to yielding recyclable materials, MSW may provide energy;

Use of MSW as a source of recoverable energy and materials provides an environmentally desirable alternative to current waste disposal practices.

Processes which have a high potential for producing energy from MSW within the next decade include: 1) direct combustion wherein the organic materials are used alone or as a supplementary fuel; 2) pyrolysis to produce gases and oil; 3) gasification resulting in a low Btu gas of about 300 Btu per cubic foot; and 4) fermentation producing a gaseous fuel containing 500 to 700 Btu per cubic foot. Of these technologies, direct combustion is the least complex and has been demonstrated commercially in several locations. Moreover, a fledgling industry is growing to support the needs for urban waste combustion and recovery of useable materials such as metals and glass.

The Federal Energy Administration views MSW as a meaningful renewable source of energy. One ton of MSW has a heating value of about nine million Btu or 1.5 barrels of oil. MSW has a low sulfur content which enhances its value as a fuel.

The amount of MSW collected annually is the energy equivalent of 200 million barrels of oil or about one-third of our present Middle East oil imports. We estimate that without Federal involvement between now and 1985, there will be constructed in the U.S. energy and resource recovery facilities to use about 86,000 tons of MSW per day. This would make use of only about one-fifth of the waste collected.

In Europe, where the cost of landfill as well as energy has been significantly higher than in this country, energy recovery through direct combustion of MSW is a well-established practice. There are currently about 150 plants in operation in Europe that are recovering energy from waste. Some of these plants have been operating for over ten years.

In this country, little interest has been shown until recently in recovering energy from urban refuse. One important reason is that we have had abundant and relatively inexpensive energy supplies. Also, the cost of waste disposal has been cheap as well. Thus, it has not

been economically worthwhile to recover the energy in our solid waste streams. Additionally, there are institutional barriers which limit the acceptance of recovery systems.

However, with the rising cost of energy and landfill disposal, the economics of resource recovery are becoming more favorable. There is little doubt that in the future, resource recovery from MSW will be a part of every large city's waste disposal system. Since the cost of energy and waste disposal varies from region to region, energy and resource recovery will *not* become economically viable in all areas of the country at the same time.

Private industry is becoming active in recovering energy and useful materials from municipal solid waste. An example of this is at Saugus, Massachusetts, where a large refuse-to-energy plant has just begun operation. This project was the result of a cooperative effort by 16 communities and several industries. The plant has the potential of saving approximately 400,000 barrels of residual fuel oil a year. Other projects are underway by private industry which have the potential of aiding our effort to achieve energy independence.

FEA activities

Despite these efforts, the implementation of MSW energy and resource recovery projects is not proceeding as rapidly as we would like. The reasons for this are many and complex. One of the most critical impediments to implementation is in the catchall category of "institutional barriers."

Because of entrenched practices with regard to solid waste management, there are many institutional barriers that will delay the implementation of resource recovery beyond the time when it becomes economically viable. One of FEA's objectives is to identify those institutional barriers that prevent the greater use of MSW as an energy source.

The primary focus of our effort has been to try to understand the barriers preventing electric utilities from utilizing solid waste. Utilities are particularly attractive because of their proximity to population centers and their ability to use a vast quantity of solid waste. For example, in a relatively small boiler (100 megawatts), the Union Electric Company of St. Louis burns ten tons of solid waste along with 56 tons of coal per hour.

Preliminary results from an FEA study analyzing the institutional barriers indicate that one reason why utilities are unwilling to burn refuse as a fuel supplement is a reluctance to become directly involved in the refuse management problems of municipalities. Many utility officials feel this would be a diversion from their normal function of providing reliable, efficient power. Another apparent institutional barrier is uncertainty about how capital and operating costs associated with solid waste projects would be treated by regulatory commissions. Also, the capital and operating costs involved in burning MSW are not sufficiently defined; and regulatory uncertainties at the Federal and State level cause uncertainties in the economic feasibility of compliance with air and water emission standards.

In addition to the institutional barriers study, FEA is participating in a study with the Tennessee Valley Authority (TVA) and the Environmental Protection Agency (EPA) to examine the feasibility of establishing a regional resource recovery facility that would supply waste to one or more of TVA's boilers. Because TVA is the largest steam electric utility in the country in a region of relatively low fuel cost and low cost landfill, a successful demonstration of resource recovery would probably cause a large number of utilities to adopt the practice of utilizing solid waste as a supplemental fuel.

On a small scale, FEA is participating with the Department of Housing and Urban Development (HUD) in an examination of the feasibility of installing a heat recovery incinerator as part of HUD's Modular Integrated Utility System program. FEA will inform state and local governments about ways they may reduce these barriers to implementation of economically feasible energy recovery. The fact that it is becoming feasible is demonstrated by a number of resource recovery facilities that have not required any Federal assistance. Union Electric is planning to expand its demonstration project into a fully operational, privately funded 8,000 ton-a-day operation. The City of Milwaukee, Wisconsin has signed a contract with a private company to build a resource recovery plant. There are other examples that could be added, and the list is increasing.

FEA's solid waste efforts differ significantly from the programs of EPA, ERDA, and the Bureau of Mines in that we are not involved in developing new technologies and hardware and thus have no research and development program. Rather, the FEA effort centers on studying the institutional and financial barriers which are a significant handicap to the recovery of energy and resources.

Once the institutional barriers are delineated more fully, policies to encourage the overcoming of these barriers will be formulated. Thus we see as FEA's role in the solid waste area as one of expediting commercialization. The technology and hardware development problems are best left with other agencies. In this way, we feel FEA's effort will complement the efforts of other agencies in the solid waste area.

The Federal outlook

With America's energy demand increasing, municipal solid wastes are potentially a good source of energy in both the short or long terms due to existing collection systems, lack of alternative uses for MSW, the location of many landfills near large users of energy, and strong citizen opinions in favor of utilizing solid wastes. Implementing energy and resource recovery projects should be basically a State and local responsibility.

In conclusion, organic wastes can supply needed energy with currently available technology. An effective program to use MSW requires the active cooperation of State and local governments along with the participation of private industry. FEA will endeavor to inform State and local authorities about ways they may reduce the institutional barriers which limit the use of MSW and about ways they may encourage the implementation of economically feasible energy recovery.

16. ADDITIONAL VIEW OF HON. MIKE McCORMACK AND HON. BARRY M. GOLDWATER, JR.

This legislation represents a major milestone in the continuing Congressional efforts to forge an effective coordination of our Nation's energy and environmental R&D programs. As the Committee View in this report discusses, Paragraph 204(b)(2) of H.R. 14965 specifies a statutory mechanism for the coordination of the activities of the Energy Research and Development Administration and the Environmental Protection Agency and delineates the respective responsibilities of the two agencies in solid waste disposal R, D & D. These provisions effectively codify and expand a May 7, 1976 agreement by the two agencies. This section is virtually identical to a provision included in the Senate's ERDA authorization bill for Fiscal Year 1977 in a section authorizing loan guarantees for commercial demonstrations of similar types of technology. Together, then, the two sections, if enacted, will provide a single, uniform statutory scheme for the coordination of all of ERDA's and EPA's research, development and demonstration projects in solid waste disposal.

Importantly, the provisions in Section 4(b) also represent agreements by both the Chairmen of the Senate committees with jurisdiction over such projects and the leaderships of this Committee's responsible subcommittees, the Subcommittee on Environment and Atmosphere and the Subcommittee on Energy Research, Development and Demonstration. The provisions also are directly responsive to the recent recommendation of the House Committee on Government Operations in its June 30, 1976 report, "Solid Waste-Materials and Energy Recovery," that Congress consider legislation directing such ERDA and EPA coordination. The section, thereby, encompasses the full spectrum of Congressional and Executive Branch responsibility for the timely development of advanced solid waste disposal technology for the Nation.

We wish to note, as the Chairman and Ranking Minority Member of the Energy Research, Development and Demonstration Subcommittee, that this milestone is a direct result of the great spirit of compromise and cooperation with which Subcommittee Chairman George E. Brown, Jr. fashioned this legislation. We want to commend him for his initiative and to express respect for his faithfulness to such a positive approach to the legislative process in this Committee.

We would only add one final comment on the coordination issue. The Committee View ends by forcefully stating the Committee's desire that the agencies implement these provisions in good faith and effectively achieve the intended coordination and the Committee's intention to closely oversee that implementation. The two Subcommittees and our Full Committee have spent a great deal of time and effort in this Congress in addressing the coordination of ERDA and EPA R&D programs. There has been progress, as evidenced by the interagency agreement on solid waste disposal R&D and the section in this

bill. The time has now arrived for ERDA and EPA to achieve the intended coordination across the board in their R&D programs without any further Congressional action. The time is now for the two agencies to jointly attack the many complex and difficult energy and environmental problems which the Nation faces today and for the foreseeable future. We expect that that joint attack will be mounted in carrying out FY 1977 programs, and in preparing and presenting the FY 1978 program requests. Our FY '77 oversight and FY '78 authorization hearings will provide an opportunity for the agencies to demonstrate their joint, coordinated efforts and we will be fully expecting that result.

MIKE MCCORMACK.
BARRY M. GOLDWATER, JR.