

SUBCHAPTER VIII—RESEARCH, DEVELOPMENT, DEMONSTRATION, AND INFORMATION

§ 6981. Research, demonstration, training, and other activities**(a) General authority**

The Administrator, alone or after consultation with the Secretary of Energy, 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, investigations, experiments, training, demonstrations, surveys, public education programs, 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 management programs;

(3) the planning, implementation, and operation of resource recovery and resource conservation systems and hazardous waste management systems, including the marketing of recovered resources;

(4) the production of usable forms of recovered resources, including fuel, from solid waste;

(5) the reduction of the amount of such waste and unsalvageable waste materials;

(6) 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;

(7) the identification of solid waste components and potential materials and energy recoverable from such waste components;

(8) small scale and low technology solid waste management systems, including but not limited to, resource recovery source separation systems;

(9) 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;

(10) 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;

(11) 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);

(12) methods of hazardous waste management, including methods of rendering such waste environmentally safe; and

(13) 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 treatment, disposal or energy recovery.

(b) Management program

(1)(A) In carrying out his functions pursuant to this chapter, 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.

(B) The Administrator shall (i) assist, on the basis of any research projects which are developed with assistance under this chapter or without Federal assistance, the construction of pilot plant facilities for the purpose of investigating or testing the technological feasibility of any promising new fuel, energy, or resource recovery or resource conservation method or technology; and (ii) demonstrate each such method and technology that appears justified by an evaluation at such pilot plant stage or at a pilot plant stage developed without Federal assistance. Each such demonstration shall incorporate new or innovative technical advances or shall apply such advances to different circumstances and conditions, for the purpose of evaluating design concepts or to test the performance, efficiency, and economic feasibility of a particular method or technology under actual operating conditions. Each such demonstration shall be so planned and designed that, if successful, it can be expanded or utilized directly as a full-scale operational fuel, energy, or resource recovery or resource conservation facility.

(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 Secretary of Energy pursuant to this chapter 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 Secretary of Energy, 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 responsibility of the Secretary of Energy; (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 6907 of this title, and any applicable State or regional solid waste management plan; and (D)

any activities undertaken under provisions of sections 6982 and 6983 of this title 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 Secretary of Energy.

(c) Authorities

(1) In carrying out subsection (a) of this section respecting solid waste research, studies, development, and demonstration, except as otherwise specifically provided in section 6984(d) of this title, 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 section 2353 of title 10, 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 chapter shall be subject to section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 [42 U.S.C. 5908] to the same extent and in the same manner as inventions made or conceived in the course of contracts under such Act [42 U.S.C. 5901 et seq.], except that in applying such section, the Environmental Protection Agency shall be substituted for the Secretary of Energy and the words "solid waste" shall be substituted for the word "energy" where appropriate.

(4) For carrying out the purpose of this chapter the Administrator may detail personnel of the Environmental Protection Agency to agencies eligible for assistance under this section.

(Pub. L. 89-272, title II, §8001, as added Pub. L. 94-580, §2, Oct. 21, 1976, 90 Stat. 2829; amended Pub. L. 95-91, title III, §301, title VII, §§703, 707, Aug. 4, 1977, 91 Stat. 577, 606, 607; Pub. L. 95-609, §7(s), Nov. 8, 1978, 92 Stat. 3083.)

REFERENCES IN TEXT

Such Act, referred to in subsec. (c)(3), means the Federal Nonnuclear Energy Research and Development Act of 1974, Pub. L. 93-577, Dec. 31, 1974, 88 Stat. 1878, as amended, which is classified generally to chapter 74 (§5901 et seq.) of this title. For complete classification of this Act to the Code, see Short Title note set out under section 5901 of this title and Tables.

PRIOR PROVISIONS

Provisions similar to those in this section were contained in section 3253 of this title, prior to the general amendment of the Solid Waste Disposal Act by Pub. L. 94-580.

AMENDMENTS

1978—Subsec. (a)(2). Pub. L. 95-609, §7(s)(1), substituted "management" for "disposal".

Subsec. (a)(13). Pub. L. 95-609, §7(s)(2), inserted "treatment," after "for purpose of".

TRANSFER OF FUNCTIONS

"Secretary of Energy" was substituted for "Administrator of the Federal Energy Administration, the Ad-

ministrator of the Energy Research and Development Administration, or the Chairman of the Federal Power Commission" in subsec. (a), and for "Energy Research and Development Administration" in subsecs. (b)(2) and (c)(3), in view of the termination of the Federal Energy Administration, the Energy Research and Development Administration, and the Federal Power Commission and the transfer of their functions and the functions of the Administrators and Chairman thereof (with certain exceptions) to the Secretary of Energy pursuant to sections 301, 703, and 707 of Pub. L. 95-91, which are classified to sections 7151, 7293, and 7297 of this title.

For transfer of certain enforcement functions of Administrator or other official of Environmental Protection Agency under this chapter to Federal Inspector, Office of Federal Inspector for the Alaska Natural Gas Transportation System, and subsequent transfer to Secretary of Energy, then to Federal Coordinator for Alaska Natural Gas Transportation Projects, see note set out under section 6903 of this title.

EPA STUDY OF METHODS TO REDUCE PLASTIC POLLUTION

Pub. L. 100-220, title II, §2202, Dec. 29, 1987, 101 Stat. 1465, directed Administrator of Environmental Protection Agency, in consultation with Secretary of Commerce, to conduct a study of the adverse effects of improper disposal of plastic articles on environment and on waste disposal, and various methods to reduce or eliminate such adverse effects, and directed Administrator, within 18 months after Dec. 29, 1987, to report results of this study to Congress.

NATIONAL ADVISORY COMMISSION ON RESOURCE CONSERVATION AND RECOVERY

Pub. L. 96-482, §33, Oct. 21, 1980, 94 Stat. 2356, as amended by Pub. L. 105-362, title V, §501(g), Nov. 10, 1998, 112 Stat. 3284, provided for establishment, membership, functions, etc., of a National Advisory Commission on Resource Conservation and Recovery, directed Commission, upon expiration of the two-year period beginning on the date when all initial members of the Commission have been appointed or the date initial funds become available, whichever is later, to transmit a final report to President and Congress containing a detailed statement of the findings and conclusions of the Commission, and terminated the Commission 30 days after submission of its final report.

SOLID WASTE CLEANUP ON FEDERAL LANDS IN ALASKA; STUDY AND REPORT TO CONGRESSIONAL COMMITTEES

Pub. L. 94-580, §3, Oct. 21, 1976, 90 Stat. 2840, provided for a study of procedures for removal of solid waste from Federal lands in Alaska and submission of a Presidential Report to the Senate Committee on Public Lands and House Committee on Interstate and Foreign Commerce no later than one year after Oct. 21, 1976, and implementing recommendations to such committees within six months thereafter, prior to repeal by Pub. L. 96-482, §30, Oct. 21, 1980, 94 Stat. 2352.

LEACHATE CONTROL RESEARCH PROGRAM IN DELAWARE

Pub. L. 94-580, §4, Oct. 21, 1976, 90 Stat. 2840, directed Administrator of Environmental Protection Agency, in order to demonstrate effective means of dealing with contamination of public water supplies by leachate from abandoned or other landfills, to provide technical and financial assistance for a research program, designed by New Castle County areawide waste treatment management program, to control leachate from Llangollen Landfill in New Castle County, Delaware, and provided up to \$250,000 in each of the fiscal years 1978 and 1979 for the operating costs of a counter-pumping program to contain the leachate from the Llangollen Landfill during the period of this study.

§ 6982. Special studies; plans for research, development, and demonstrations

(a) Glass and plastic

The Administrator shall undertake a study and publish a report on resource recovery from glass and plastic waste, including a scientific, technological, and economic investigation of potential solutions to implement such recovery.

(b) Composition of waste stream

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) Priorities study

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, water-wall furnace incinerators, dry shredded fuel systems, pyrolysis, densified refuse-derived fuel systems, anaerobic 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) Small-scale and low technology study

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) Front-end source separation

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) Mining waste

The Administrator, in consultation with the Secretary of the Interior, shall conduct a detailed and comprehensive study on the adverse effects of solid wastes from active and abandoned surface and underground mines on the en-

vironment, including, but not limited to, the effects of such wastes on humans, water, air, 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. Such study shall include an analysis of—

- (1) the sources and volume of discarded material generated per year from mining;
- (2) present disposal practices;
- (3) potential dangers to human health and the environment from surface runoff of leachate and air pollution by dust;
- (4) alternatives to current disposal methods;
- (5) the cost of those alternatives in terms of the impact on mine product costs; and
- (6) potential for use of discarded material as a secondary source of the mine product.

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. Not later than thirty-six months after October 21, 1980, 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. Such report shall be submitted to the Committee on Environment and Public Works of the United States Senate and the Committee on Energy and Commerce of the United States House of Representatives.

(g) Sludge

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) shall 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) Tires

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) Resource recovery facilities

The Administrator shall conduct research and report on the economics of, and impediments, to