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WHO CONTROLS LOW-LEVEL RADIOACTIVE WASTES

Joyce Wheeler Poulin*

I. INTRODUCTION

The Atomic Energy Commission (AEC) and the utility industry have committed major national resources to the development of nuclear energy. Supporters of this policy view nuclear power as a source of cheap, clean, and inexhaustible energy, and assert that scientists have reduced the risk of a serious nuclear accident to a tolerable level.1 Critics argue that the AEC has exaggerated the benefits of nuclear power and understated the risks without informing the public of the dangers involved.

The major concern of both proponents and critics has been high-level radioactive wastes which remain intensely radioactive for thousands of years. Low-level wastes, in contrast, have a relatively short life span, and can be dispersed into the air and water with less danger. Yet, the introduction of low-level wastes into the environment also poses potentially serious problems.2 Proponents of nuclear power have decided that some exposure to low-level radioactive wastes is warranted for the development of nuclear energy, even though scientists do not know the long-term effects of low-level radiation exposure and have not established the threshold for harmful radiation.3 The lack of evidence on the effects of low-level dosages renders this decision a value judgment. Therefore, it becomes important who has the responsibility for formulating the standards

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1 The risk is less than one chance in ten thousand. CONGRESSIONAL QUARTERLY, ENERGY CRISIS IN AMERICA 50 (1973).

2 The concentration of low-level radioactive wastes in natural food chains can cause grave danger to the public health. TOWARDS AN ENERGY POLICY 49 (K. Roberts ed. 1973).

for exposure to the public health and environment.\(^1\)

The Atomic Energy Act of 1946 (AEA)\(^5\) sought to control nuclear development by vesting the Atomic Energy Commission (AEC) with exclusive jurisdiction over nuclear materials.\(^6\) Reorganization Plan No. 3 of 1970\(^7\) transferred the AEC function of establishing generally applicable standards for the protection of the environment from radioactive materials to the Environmental Protection Agency (EPA). In 1972 Congress passed the Federal Water Pollution Control Act Amendments (FWPCA),\(^8\) which charged the EPA Administrator with the control of all discharges of pollutants into our nation's waters, and defined "pollutants" to include "radioactive materials."\(^9\) Under the FWPCA, the states would share responsibility for the control of pollutants.\(^10\) The FWPCA appeared to conflict with the AEA, for these acts charged both the EPA and the AEC with regulation of radioactive materials. Moreover, the National Environmental Policy Act (NEPA)\(^11\) created an overlap in jurisdiction between the two agencies because NEPA requires the AEC to consider the environmental impact of its actions.\(^12\) Thus, the AEC had broad regulatory jurisdiction over nuclear materials, with responsibility for environmental impact. In contrast, the EPA had

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\(^1\) Lave & Freeburg, *Health Effects of Electricity Generation From Coal, Oil and Nuclear Fuel*, in *Towards an Energy Policy 77* (K. Roberts ed. 1973), stated that "while large doses [of radiation] have been found to increase risk of death from leukemia and other cancers, as well as the risk of genetic death, little work has been done which gives evidence for effects of such low level dosage." *Id.*


\(^3\) The Atomic Energy Act gave the AEC broad regulatory power over three types of radioactive materials — source, byproduct, and special nuclear material. The AEA did not specifically characterize the kind of regulatory control the AEC would have over these materials which may be dispersed into the waters as pollutants. 42 U.S.C. § 2014(e)(z)(aa) (1954).


\(^6\) *Id.* § 1362(6).

\(^7\) *Id.* § 1342(a)(b)(c). However, Northern States Power Co. v. Minnesota precluded state regulation of radioactive waste releases from nuclear power plants. 447 F.2d 1143 (8th Cir.1971), *aff'd without opinion*, 405 U.S. 1035 (1972).


\(^9\) Prior to 1969 the AEC argued that its obligations were limited to radiation hazards and that it would not consider the broader environmental impact. Its position was upheld in New Hampshire v. AEC, 406 F.2d 170 (1st Cir.), *cert. denied*, 396 U.S. 962 (1969). In Calvert Cliffs' Coordinating Comm. v. AEC, the appeals court reviewed rules promulgated by the AEC pursuant to NEPA, and found that these rules evidenced a "rather thoroughgoing reluctance" on the part of the AEC to meet procedural obligations required by NEPA. The AEC had a duty to guard against environmental damage to the fullest extent possible at every important stage of the decision-making process. 449 F.2d 1109, 1113-19 (D.C. Cir. 1971).
broad responsibility for the environment, with regulatory authority over radioactive materials.

In *Train v. Colorado Public Interest Research Group, Inc. (Colorado PIRG)*, the United States Supreme Court considered the question of conflicting agency jurisdiction over discharge of nuclear wastes into our nation's waters. Relying on the legislative history of the AEA and the FWPCA, the Supreme Court decided that Congress delegated this power to the AEC. In spite of the conflicting scientific views on the effects of low-level wastes, the AEC identifies the risks to the environment and the public health as insubstantial when compared to the benefits of nuclear power. Therefore, the level of AEC regulation of low-level radioactive wastes is likely to be less than is necessary to optimally protect the public health and the environment. The Court's designation of the AEC as the governing agency is, then, prognostic of the environmental and health effects of low-level radioactive wastes.

An analysis of the acts, and the agency and court decisions involved in the regulation of radioactive wastes prior to Colorado PIRG reveals that congressional intent is inconclusive. The Supreme Court could have permitted the EPA to assert itself as the agency best-suited to regulate the dispersal of low-level radioactive wastes for the benefit of the public health and of the environment.

II. CONGRESSIONAL PROGRAMS FOR RADIOACTIVE MATERIALS

A. Atomic Energy Act

The Atomic Energy Act of 1946 delegated to the AEC broad regulatory authority over source, byproduct, and special nuclear materials. "The paramount concern of Congress was the assurance of the common defense and security in the development and utilization of nuclear power, since the principal use of atomic energy at that time was for military purposes." In recognition of scientific and techni-
cal advances in the development of atomic energy for peaceful purposes, Congress amended the AEA in 1954 to encourage private, commercial development of nuclear power. The development, use, and control of atomic energy was now to be directed "so as to make the maximum contribution to the general welfare, subject at all times to the paramount objective of making the maximum contribution to the common defense and security."18

The 1954 amendment created a licensing scheme in which the AEC would authorize the private ownership of nuclear byproduct and the rental of special nuclear material for commercial purposes.19 The federal government limited possession of special nuclear materials to AEC licensees. The AEA authorized the AEC to establish such standards "as . . . [it deemed] necessary or desirable to promote the common defense and security or to protect health or to minimize danger to life or property."20

Congress adopted further amendments in 1959 to establish the respective responsibilities of the states and the AEC in regulating source, byproduct, and special nuclear material.21 Essentially, the 1959 amendments provided that the Commission would turn over to the states, as they became qualified, certain defined areas of regulatory jurisdiction,22 including control over radiation hazards.23 Notwithstanding these agreements, regulatory jurisdiction would not be transferred to the states until the AEC determined that the state had a program for the control of radiation standards adequate to protect the public health and safety. In addition, the AEC could retain jurisdiction of certain materials involving special hazards.24

In response to criticism of the dual role of the AEC as both a

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23 Id. § 2021(b).
24 Id. § 2021(c). Under this section, Congress excluded the following areas, inter alia, from state regulation: construction and operation of production or utilization facilities, including reactors; the disposal into the ocean or sea of nuclear materials as defined in the regulations or orders of the AEC; and the disposal of such other nuclear materials as the Commission determines, because of the hazards or potential hazards, should not be so disposed of without a license from the Commission. See also [1959] U.S. CODE CONG. & AD. NEWS 2880-81.
promoter and regulator of nuclear power, the Energy Reorganization Act of 1974\textsuperscript{25} abolished the AEC and separated the regulation of nuclear power from the promotion of nuclear power. The licensing and related regulatory functions of the AEC were transferred to a new Nuclear Regulatory Commission (NRC) while the operation of governmental nuclear research and production facilities were transferred to the Energy Research and Development Administration (ERDA).\textsuperscript{26} However, the Act did not expressly assign the regulation of low-level radioactive effluents to the NRC.\textsuperscript{27}

B. Federal Water Pollution Control Act Amendments of 1972

The FWPCA authorized EPA regulation of "pollutants" discharged into the nation's waters with the goal of eliminating all such discharges into navigable waters by 1985.\textsuperscript{28} The Act defined "pollutants" to include "radioactive materials"\textsuperscript{29} and defined "pollution" as the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.\textsuperscript{30} The Act charged the EPA Administrator with the promulgation of uniform effluent limitations for pollutants from particular sources.\textsuperscript{31} Moreover, the FWPCA provided a list of sources for which the EPA would establish federal standards.\textsuperscript{32} The list included electric power

\textsuperscript{26} Id. §§ 5841(f), 5842, 5814(c). See also 120 Cong. Rec. H10266 (daily ed. Oct. 9, 1974).
\textsuperscript{27} Representative Holifield characterized this bill as a traditional government structure bill that did not attempt to formulate any policy. 120 Cong. Rec. H10268 (daily ed. Oct. 9, 1974); see note 149, infra. Representative Seiberling attempted to clarify the NRC's role in regulating radioactive wastes in an amendment defining radioactive materials to include all material subject to the licensing and regulatory functions of the NRC. Representative Seiberling believed Congress assumed it had already vested the EPA with regulatory authority over nuclear wastes in Reorganization Plan No. 3 of 1970, but sought to clarify congressional intent. Representatives Holifield and Hosmer spoke publicly against the amendment, and argued that the bill under consideration would ensure protection of health from radioactive wastes by divorcing any regulatory functions of the AEC from promotional ones. 119 Cong. Rec. S42615 (1973).
\textsuperscript{29} "$\ldots\text{pollutant} \ldots$ means dredged spoil, solid waste, ... radioactive materials, heat ... and agricultural waste discharged into water." Id. § 1362(6). Excepted from this definition were boating sewage and oil well drilling discharges. Id. The EPA was also charged with issuing regulations to control thermal discharges, another waste product of nuclear power plants. Id. § 1326.
\textsuperscript{31} Id. §§ 1311, 1312, 1314(b)(h). Effluent standards limit the amount of pollutant that can emanate from a particular source. In contrast, ambient standards, a method of enforcement prior to 1972, monitor the general quality of the water surrounding a particular source of pollutant. See also 118 Cong. Rec. S33697 (1972).
plants without stipulating whether this included electricity generation by fossil fuel or nuclear power.

To enforce EPA standards, a nationwide permit program was established. The FWPCA authorized state administration of permit programs, and expressly permitted the states to adopt effluent limitations more stringent than those established by the EPA. The EPA, however, retained the authority to review permits and to revoke state permits that did not comply with EPA guidelines. Notwithstanding the permit program, the FWPCA prohibited the discharge of "any radiological, chemical, or biological warfare agent or high-level radioactive waste into navigable waters." With the passage of the FWPCA, Congress created an overlap in jurisdiction. Clearly, this Act charged the EPA with the regulation of all pollutants, including radioactive materials. However, the Act did not specify whether nuclear power plants were within EPA's regulatory power. Reorganization Plan No. 3 required the EPA to establish standards for environmental protection from radioactive materials. The AEA, however, charged the AEC with broad regulatory authority over nuclear materials for the national security and well-being. Moreover, NEPA required the AEC to consider environmental issues in addition to economic and technical considerations. The development of this legislative overlap in regulatory authority over radioactive materials confused the jurisdiction of the EPA and the AEC in the regulation of low-level radioactive wastes, as well.

II. AGENCY STRUGGLE FOR REGULATORY AUTHORITY

The AEC, the first agency to establish radiation standards, set the maximum permissible dose of radiation from all man-made sources to the general public and the maximum dose to an individual worker in the nuclear industry. The AEC subsequently estab-

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33 The permit program urged polluters to achieve "the best practical control technology currently available" by July 1, 1977, and the more stringent, "best available technology economically achievable" by July 1, 1983. Id. § 1311(b)(1)(A), (2)(A).
34 Id. § 1342(a)(b)(c).
35 Id. §1370.
36 Id. §§ 1319, 1342(c).
37 Id. § 1311(f).
38 Calvert Cliffs' Coordinating Comm. v. AEC, 449 F.2d 1110, 1113 (D.C. Cir. 1971).
39 See note 3, supra. The yearly, maximum permissible dose to the general public from all man-made sources is 0.17 rads; a rad is an acronym for radiation absorbed dose. The maximum dose for an individual worker in the industry is .5 rems. A rem, roughly equivalent to a
lished regulations requiring nuclear power reactors to "make every reasonable effort to maintain . . . releases of radioactive materials in effluents . . . as low as is reasonably achievable" and to keep these levels "as low as is reasonably achievable." Specifically, the AEC established maximum permissible releases of source, byproduct, and special nuclear material into the environment.

On May 22, 1973, the EPA issued regulations to implement the permit program of the FWPCA. The EPA Administrator specifically excluded nuclear power plants from the permit program upon his understanding of the relevant legislative history of the FWPCA:

The legislative history of the Act reflects that the term 'radioactive materials' as included within the definition of 'pollutant' in section 502 of the Act covers only radioactive materials which are not encompassed in the definition of source, byproduct, or special nuclear materials as defined by the Atomic Energy Act of 1954, as amended, and regulated pursuant to the latter Act. Examples of radioactive materials not covered by the Atomic Energy Act and, therefore, included within the term 'pollutant' are radium and accelerator produced isotopes.

Thus, the EPA deferred to the AEC where the jurisdiction of the two agencies overlapped.

This EPA regulation did not resolve the issue of regulatory authority over radioactive materials. Late in 1973, the AEC and the

rad, is a measure that includes an estimate of the biological impact of different types of radiation. "The lowest absorbed dosage at which medically significant damage to humans has been observed lies somewhere between 50 and 100 rad, according to some experts. A whole body single dose of 100 rad induces vomiting in about 10 percent of people so exposed. A whole body single dose of 450 rad causes death to half so exposed." ENERGY CRISIS IN AMERICA, supra note 1, at 51. Since these measures are based on a yearly exposure, they do not consider the health effects of long term buildup of radioactive materials.

10 C.F.R. § 20.1 (1976). The term "as low as is reasonably achievable" requires "taking into account the state of technology, and the economics of improvements in relation to the benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to the utilization of atomic energy in the public interest." Id. § 20.1(c).

Id. § 50.34a.

Id. § 20.106, App. B, Table II. See text at notes 44, 92, infra for other radioactive materials. However, since the long-term effects of low-level radiation exposure are not known, these standards do not consider the buildup of long-lived radionuclides.


The Brief for Amici Curiae, 14 Named States, Train v. Colorado PIRG, 426 U.S. 1 (1976), argued that any uncertainty between the establishment of standards by the EPA and the implementation by the AEC was resolved by Congress in the FWPCA of 1972 through express reaffirmation.
EPA issued joint Memoranda of Understanding. Recognizing that the agencies had complementary responsibilities in the area of environmental protection and the control of radiation, the agreement stated that the AEC facilities were subject to generally applicable environmental standards established by the EPA. The agencies agreed that AEC facilities would be operated in compliance with EPA standards, and permitted the EPA Administrator to inspect the facilities to verify compliance. However, the memoranda clearly stated that such inspection did not imply that EPA could require any alterations in the nuclear power plants to meet the EPA standards.

While these accords between the EPA and the AEC carved out a nuclear power plant exemption from the EPA’s permit program, the EPA was simultaneously trying to control radioactive emissions from nuclear power plants through a different mechanism. In September of 1973, the EPA announced plans to publish standards for the uranium fuel cycle. These proposed standards were sometimes one hundred times more stringent than those of the AEC. The EPA claimed that its authority to regulate radioactive emissions derived not only from Reorganization Plan No. 3, but also from provisions of NEPA, FWP, and the Clean Air Act.

In response to the EPA’s claim, the Office of Management and Budget (OMB) directed the EPA to discontinue its plan to develop emission standards for nuclear facilities, “so that the nuclear power industry and the general public [would] know where the responsibility lies for developing, promulgating, and enforcing radiation protection standards.” The OMB asserted that the “EPA has construed too broadly its responsibilities to set generally applicable environmental standards for the protection of the general environment from radioactive material.” In effect, the EPA retained the power to set ambient standards for the environment outside of the

38 Fed. Reg. 24936 (1972); id. at 32965; see also 40 Fed. Reg. 19439, n.3 (1975).
40 [1974] 5 ENVIR. REP. (BNA) 79.
41 See note 11, supra.
42 Clean Air Act, 42 U.S.C. §§ 1857 et seq. (1970). Standards, as defined in the Reorganization Plan No. 3, are “limits on radiation exposures or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material.” [1974] 5 ENVIR. REP. (BNA) 79. See also [1974] 4 ENVIR. REP. (BNA) 1729.
44 Id.
nuclear power plant site, but the standards "would have to reflect AEC's findings as to the practicability of emission controls"\textsuperscript{52} for particular plants. The AEC would comply with the EPA's ambient standards by setting its own effluent limitations for individual nuclear power plants.

In a position paper issued after the OMB memorandum, the EPA objected to the narrow interpretation of its authority under Reorganization Plan No. 3 and denounced the inadequacies of the AEC standards.\textsuperscript{53} The EPA protested that the OMB directive forced abandonment of specific EPA standards which would have set limitations that "over a period of time could have led to significant health benefits, [and] would have limited the total amount of long-lived radionuclides coming out of all parts of the uranium fuel cycle."\textsuperscript{54} Obviously, the AEC supported the OMB position and stated that generally applicable standards:

should be developed on the basis of a comparative-risk analysis and a general review of the technology, should be based on normal conditions of operation rather than accidents, and should be in the nature of ambient standards rather than effluent or discharge limitations which are directly related to 'hardware' and which are imposed by AEC as an integral part of its statutorily required and long established licensing process.\textsuperscript{55}

In the end, the EPA acquiesced in the OMB directive, thereby completely deferring to the AEC.\textsuperscript{56} However, the struggle between the EPA and the AEC reflects the confusion between the two spheres of jurisdiction and underscores the concerns of each agency.

\textsuperscript{52} Id.

\textsuperscript{53} Id. The EPA tendered three reasons: first, control of individual sources of radiation under existing guidelines that radiation doses be maintained as far below federal radiation protection guides 'as practicable' did not require sufficiently explicit consideration of total population dose; second, existing guidance did not deal adequately with the long-term impact of the release of long-lived radionuclides into the environment; and, third, a recent study by the National Academy of Sciences, National Research Council found that current federal radiation protection guides for the average exposure of the population were 'unnecessarily high.'

\textsuperscript{54} [1974] 5 ENVIR. REP. (BNA) 79.

\textsuperscript{55} [1973] 4 ENVIR. REP. (BNA) 1370.

\textsuperscript{56} [1974] 4 ENVIR. REP. (BNA) 1729.

\textsuperscript{56} Colorado PIRG maintained in its Brief for Respondent at 6, Train v. Colorado PIRG, 426 U.S. 1 (1976), that the "EPA, itself, ha[d] acknowledged that its decision to exclude radioactive materials from coverage under the FWPCA was made at AEC's request... in spite of the rather clear mandate of FWPCA for radioactive materials."
III. FEDERAL-STATE JURISDICTION PRIOR TO COLORADO PIRG

While Colorado PIRG involved federal agency jurisdiction, prior contests of state-federal jurisdiction figured prominently in the legislative history of the FWPCA relied upon in Colorado PIRG. Northern States Power Co. v. Minnesota held that the AEC's authority to regulate radioactive releases was exclusive and state regulation was precluded. This finding of the AEC's preemption of state regulation was central to resolution of the later jurisdictional controversy between the AEC and the EPA. A full consideration of Northern States is thus necessary.

Northern States Power Co. obtained a provisional permit from the AEC and applied to the Minnesota Pollution Control Agency for a waste disposal permit. A state permit was issued subject to conditions substantially more stringent than those imposed by the AEC. The power company sought a judgment declaring that Minnesota had no authority to regulate radioactive waste releases. Although the AEA did not expressly grant exclusive federal authority over radioactive discharges, the court found an implied grant of this authority in the AEC's complete regulation of "construction and operation of nuclear power plants."

The court pointed out that while the 1959 amendment to the AEA permitted surrender of AEC jurisdiction to the states, the amendment prohibited the AEC from discontinuing its responsibility for the construction and operation of any production facility. Relying on the legislative history of the AEA, the court concluded that this responsibility necessarily included the discharge of radioactive effluents from the facility or plant. Dual control by the states and the federal government could thwart the intent of Congress to delegate to the AEC the authority to establish the proper balance between desired industrial progress and adequate health and safety standards. The court concluded that the tone of the 1959 amendment relinquishing some control to the states demonstrated

57 447 F.2d 1143 (8th Cir. 1971), aff'd without opinion, 405 U.S. 1035 (1972).
58 447 F.2d at 1147.
59 Id. at 1154.
60 See note 24, supra. Mr. Lowenstein of the AEC testified before the Joint Committee on Atomic Energy, and explained that 42 U.S.C. § 2021(c) included the regulation of radioactive effluents. "We did not feel that we could begin to cut up that into pieces... The discharge of effluent from the reactor involve many questions relating to the design and construction and operating procedures. We did not think it could be considered by itself and broken away from the overall responsibility for the reactor operation." 447 F.2d at 1149 n.6.
61 447 F.2d at 1153-54.
"[c]ongressional recognition that the AEC at that time possessed the sole authority to regulate radiation hazards associated with by-product, source, and special nuclear materials. . . ." 112 AEC preemption of state regulation of nuclear wastes was firmly established. 63 Yet, resolution of the state-federal jurisdictional conflict is not pertinent to resolution of the AEC-EPA jurisdictional question, and should not have figured prominently in Colorado PIRG.

IV. JUDICIAL DISAGREEMENT OVER AGENCY JURISDICTION

A. District Court Upholds AEC Authority

In the federal district court, plaintiffs, Colorado PIRG, claimed potential harm from the radioactive effluents from two nuclear power plants operated in conformity with AEC standards. Colorado PIRG wanted the EPA to regulate the discharge of nuclear materials from the Fort St. Vrain facility, a privately-owned nuclear electric generating plant, and from the Rocky Flats Plant, a federally-owned plant. They sought a declaratory judgment that the definition of "pollutant" under the FWPCA encompassed all radioactive materials, including source, byproduct, and special nuclear material, and an injunction directing the EPA Administrator to regulate the discharge of all such materials in compliance with FWPCA standards. 64 FWPCA standards would require the EPA to set specific limits for each nuclear power plant, yet the EPA Administrator disclaimed any authority under the FWPCA. 65

The district court denied the plaintiffs' declaration and injunction and held that regulation of the discharge of byproduct materials, source materials, and special nuclear materials from a privately- or federally-owned plant was within the exclusive jurisdiction of the AEC. 66 The court weighed heavily the determination

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112 Id. at 1149.
63 The court thus narrowed the scope of any turnover agreements between the AEC and the states. See text at notes 21-23, supra.
64 Colorado PIRG alleged that initially the EPA had intended to regulate liquid radioactive wastes, but then retreated from this position when the EPA and the AEC issued their Memoranda of Understanding. The plaintiffs charged the EPA with abandonment of its mandate under the FWPCA, and challenged the supporting agreements and the OMB directive. Brief for Respondents at 4-5, 426 U.S. 1 (1976). The Supreme Court did not consider this preliminary opinion of the EPA Administrator as indicative of congressional intent, and did not rely on the EPA interpretation of the FWPCA in reaching its decision. Id. at 8 n.8.
65 Apparently the EPA Administrator was following the OMB directive at this point. See text at notes 50, 52, supra.
of the AEC and the EPA and rejected claims of AEC incompetency or insensitivity to environmental needs and public safety. The court reasoned from the legislative history of the FWPCA that the EPA could regulate some radioactive materials, but that the AEC should retain jurisdiction over the “most highly specialized and potentially dangerous area known to our civilization.”

B. Court of Appeals Overturns AEC Jurisdiction

On appeal, the United States Court of Appeals for the Tenth Circuit rejected the district court’s reliance on the legislative history of the FWPCA. The court of appeals counseled that the Act, clear and unambiguous, defines the term “pollutant,” without any qualification, to include “radioactive materials;” where Congress intended to create exemptions it was explicit. To the court of appeals the inevitable conclusion was that the term “radioactive materials” means all radioactive materials. While great weight was due statutory construction by an administrative agency, such an interpretation should not be permitted to overrule the express language of the statute. Moreover, an analysis of the whole statute demonstrated that Congress intended to eliminate all pollution.

The court of appeals added parenthetically that the legislative history of the 1972 Amendments was “conflicting” and

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47 The court cited Crowther v. Seaborg, 415 F.2d 437 (10th Cir. 1969), wherein the court applauded the AEC’s exercise of “the highest degree of care, caution and expertise to prevent any possible damage to life, property and natural resources.” 373 F. Supp. at 994. Paradoxically, the Crowther court stated that the AEC standards as presently established embody a risk-benefit analysis which requires a value judgment that should be reserved for politically responsive institutions, and not the courts. Id. at 439.


49 Id. at 995. Findings in Crowther v. Seaborg, 415 F.2d 437 (10th Cir. 1969) and Northern States Power Co. v. Minnesota, 447 F.2d 1143 (8th Cir. 1971) supported AEC retention of jurisdiction. The court refused to shut or slow down plants during an energy crisis while new rules and standards were adopted by the EPA, insisting that a higher court would have to do this. 373 F. Supp. at 995 (dictum).

50 Colorado PIRG v. Train, 507 F.2d 743 (10th Cir. 1974).

51 Id. at 747.

52 507 F.2d at 747.

53 Id.

54 The court noted in Scenic Hudson Preservation Conference v. Callaway, 370 F. Supp. 162 (S.D.N.Y. 1973), aff’d 499 F.2d 127 (2d Cir. 1974), that “byproduct, source and special nuclear materials constitute virtually all of the radioactive materials that are of significant concern to water quality. . . .” The court viewed the district court’s finding that these materials are exempt from the FWPCA as a major exception to the Act. If it were the intent of Congress to create such a significant exception, the remedy lay with Congress, not with the courts. 507 F.2d at 749.
"inconclusive." 75 Apparently viewing the FWPCA as a later expression of congressional intent that prevailed over the AEA, this court held that the FWPCA authorized the EPA to assume regulatory responsibility for all radioactive materials, including source, byproduct, and special nuclear material for the eventual elimination of all pollutants into navigable waters.

C. Supreme Court Validates AEC Jurisdiction

In the United States Supreme Court,76 the EPA asserted three major problems with implementing the decision of the court of appeals. First, the decision significantly impeded efforts to establish a nationwide system of nuclear power generation.77 Any fragmentation of the licensing system prevented uniform and consistent regulations and delayed construction and operation at a time of national energy shortages.78 Second, because a nuclear power plant is a unit, not simply a group of systems, control over discharges intimately affects control over plant design. Third, the decision created uncertainty where certainty and predictability were necessary. Production of a nuclear power plant requires 8-10 years from design to construction and operation. The costs range from one-half million to more than a billion dollars. "It is extremely important to a utility considering whether to undertake such a venture that the standards with which the completed plant must comply are accurately predictable at the outset.79"

The Supreme Court held that: (1) the "pollutants" subject to regulation under the FWPCA do not include source, byproduct, and special nuclear material, and the EPA Administrator had acted in accordance with his statutory mandate in declining to regulate the discharge of such materials; and (2) the court of appeals erred by excluding reference to the legislative history of the FWPCA.80

The Supreme Court discounted Colorado PIRG's statutory argument under section 1311(f) of the FWPCA.81 Colorado PIRG argued

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75 507 F.2d at 748. However, the Court did not base its holding upon this legislative history.
76 426 U.S. 1 (1976).
77 At the time of the appeal, 116 plants had been licensed by the NRC to operate or to be constructed and another 74 applications were pending.
79 Id. at 13.
80 "When aid to construction of the meaning of words, as used in the statute, is available, there certainly can be 'no rule of law' which forbids its use, however clear the words may appear on 'superficial examination.'" 426 U.S. at 2.
that it would be inconsistent for Congress to prohibit the discharge of "radiological warfare agents" and "high-level radioactive waste," both of which are regulated by the AEA, and not regulate the discharge of other AEA-regulated materials within the FWPCA's definition of "pollutants." Colorado PIRG claimed that this overlap between the AEA and the FWPCA refuted the AEC claim that the boundaries between the two statutes were clearly drawn and that the AEA has always retained AEC authority for nuclear power plant regulation. However, the Court held that the FWPCA mandate to ban completely the discharge of certain high level nuclear wastes regulated under the AEA did not, by itself, indicate whether Congress wanted other radioactive materials regulated by the AEA to be subjected to the FWPCA's permit program.

Colorado PIRG then argued that the FWPCA disclaimer phrase, "notwithstanding any other provisions of this chapter" before the prohibition of warfare agents and high-level radioactive wastes suggested that otherwise these materials would be subject to the FWPCA's permit program. The Court noted the strength but not the conclusiveness of this argument. Sufficient ambiguity existed in the term "radioactive materials" and the "notwithstanding" phrase to require examination of the language of the FWPCA against its legislative history.

The Supreme Court asserted that "the legislative history of the FWPCA speaks with force to the question whether source, byproduct, and special nuclear materials are 'pollutants' subject to the Act's permit program." The Court concluded that the legislative history reflected an intention to preserve the pre-existing regulatory plan. To conclude otherwise "would have marked a significant alteration of the pervasive regulatory scheme embodied in the AEA."

In its examination of the legislative history, the Supreme Court relied heavily upon the House Committee Report's formulation of the definition of "pollutants" in the FWPCA. Both the House and

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82 Id.
83 426 U.S. at 10-11.
85 Id. at 11.
86 Id.
87 Id.
88 Id. at 24.
89 Id.
90 Id. at 11; H.R. REP. No. 911, 92d Cong., 2d Sess. (1972).
Senate Reports defined "pollutants" to include "radioactive materials," however, only the House Report expressly excluded source, byproduct, and special nuclear material from the definition. The Senate Committee Report noted that the FWPCA exempted nuclear fuel processing plants from EPA regulation for lack of present "technological capability to establish controls for such plants. . . ." but observed that the EPA was expected to develop that technological capability. Moreover, the Senate anticipated the addition of nuclear power plants to the list of sources regulated pursuant to the FWPCA.

The Senate Committee Report complicated the Supreme Court's analysis. The Court allowed that this reference to the development of control levels by the Bureau of Radiological Health permitted an inference that the Committee contemplated EPA control over the disputed radioactive materials. Still, the Court was "not prepared to attribute greater significance to this inference than to the more explicit statement contained in the House Committee Report, a statement . . . amply supported by the discussion on the floors of the House and the Senate."

This support appeared in a colloquy on the Senate floor between Senator Muskie, the primary author of the bill, and Senator Pastore, Chairman of the Joint Committee on Atomic Energy. Senator Pastore asked Senator Muskie if the definition of "pollutant" affected in any way the AEC's regulation of radioactive materials under the Atomic Energy Act of 1954. Senator Muskie responded that the FWPCA was not intended to affect the AEA and cited Northern States as support. The Court interpreted Senator Muskie's remarks as assurances that the AEC was to retain full authority over materials covered by the AEA:

The absence of any room for a state role under the AEA in setting limits on radioactive discharges from nuclear power plants stands in sharp contrast to the scheme created by the FWPCA, which envisions

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14 426 U.S. at 13.
15 Id. at 13-14.
16 Id. at 14. For the text of the colloquy on the Senate floor, see 118 CONG. REC. S38802 (1971).
the development of state permit programs, . . . and allows the States to adopt effluent limitations more stringent than those required or established under the FWPCA. 97

The Court relied upon the House consideration and defeat of the Wolff Amendment to the FWPCA as another manifestation of congressional intent to retain AEC jurisdiction. At the time the court of appeals considered Northern States, the Wolff Amendment sought to clarify the states’ authority to regulate and limit radioactive materials and thermal discharges more stringently than the EPA. 98 The proponents of the amendment assumed that the EPA already had this authority and considered the amendment recognition of states’ rights “consistent with the [House] bill’s intent to place primary responsibility for pollution control in the States.” 99 Moreover, the adoption of the amendment would signify that Congress intended the FWPCA to control nuclear and thermal pollution. 100

The House opponents of the amendment strenuously objected “to the transfer of the AEC’s regulatory authority to the States or to the EPA.” 101 Significantly, most House objections assailed state control and argued for uniformity in regulation. 102 Arguably, the EPA could provide uniformity and preempt the states as did the AEC. Colorado PIRG argued before the Court that the Wolff Amendment pertained only to the states’ jurisdictional question, and that its defeat did not indicate congressional intent to foreclose EPA regulation of low-level radioactive wastes. 103

The Supreme Court disagreed with Colorado PIRG and reasoned that the amendment would have been superfluous if AEA-regulated

100 Id. at H10654 (remarks of Rep. McClory).
101 426 U.S. at 18.
102 One representative objected to the amendment as collateral and therefore improper amendment of the AEA. 118 Cong. Rec. H10653 (remarks of Rep. Clausen). However, others objected because the AEC had the assured expertise to handle such dangerous material. Id. at H10651 (remarks of Rep. Edmondson), beyond the past capabilities of the states. Id. at H10650 (remarks of Rep. Holifield). The states’ more stringent requirements would stunt the growth of the nuclear industry in the midst of the energy crisis. Id. at H10652-53 (remarks of Reps. Hosmer and Clausen). Representative Hosmer warned that if Congress “let fifty different States set fifty different standards, and fifty different ways of handling radioactive emissions, you will ruin the nuclear industry in this country.” Id. at H10652-53.
103 426 U.S. at 20.
material were covered by the FWPCA as "pollutants" because the FWPCA already gave the states the power to set more stringent effluent limitations than the EPA. Moreover, the Court rejected the result that Colorado PIRG sought which would permit EPA regulation, and at the same time preclude state regulation of the same materials. The Court could discern nothing in the language of the FWPCA that would permit this result.

Finally, the Court concluded that when the Conference Committee simply retained the same definition of "pollutants" as the House and Senate bills without challenging the House Committee Report's exclusion of AEA-regulated materials, it tacitly adopted the House exclusion. The Court relied on the remarks of Representative Harsha, a ranking minority member of the Conference Committee, asserting that the Conference Report did not change congressional intent revealed in the Muskie-Pastore colloquy. Representative Harsha remarked that the Wolff Amendment would have overturned *Northern States*, and "pointed out the necessity of not changing the careful division of authority between the States and the Federal government over nuclear materials and facilities as enunciated in *Northern States* case. . . ." Representative Harsha reported that the Conference Committee adopted the exclusion of AEA-regulated materials as previously stated by the EPA Administrator and in the House Report. The Supreme Court concluded: "With no one expressing a different view of the Conference action, the House proceeded to agree to the Conference Report."

In brief, the Supreme Court relied on the House exclusion of AEA-regulated materials, the floor debate on the state-federal issue, the Conference Committee's silence on the import of "radioactive materials," and Representative Harsha's comments thereto. In a unanimous decision the Court held that "radioactive materials" subject to regulation under the FWPCA do not include source, byproduct, and special nuclear material, all dispersed as low-level radioactive wastes from nuclear power plants.

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101 *Id.* at 21.
102 *Id.* at 22-23.
103 *Id.* at 22.
104 *Id.* See also 118 Cong. Rec. H33747-48.
105 See text at note 92, *supra*.
106 426 U.S. at 23.
VI. ASSSESSMENT OF COLORADO PIRG AND THE LEGISLATIVE HISTORY

Seemingly, the legislative history substantiates the Supreme Court's pronouncement. However, the House Committee's failure to expressly exempt AEA-regulated materials in the language of the FWPCA undermines the Supreme Court's rationale and prompts another reading of the legislative history, and further analysis.\(^1\)

If Congress wanted to ensure that the FWPCA did not alter the AEC's exclusive jurisdiction, Congress could have made its intentions explicit in the Act. Congress was aware that the term "radioactive materials" could be read to include AEA-regulated materials. The issue was first raised in the Muskie-Pastore Senate colloquy in which Senator Muskie stated that the FWPCA did not affect the AEA.\(^2\) The House Report's express exemption of AEA-regulated materials from "radioactive materials" demonstrated the House's appreciation of the problem. Since Senate consideration of the FWPCA preceeded House consideration, this exemption responded not only to questions raised in the House but also to the Senate colloquy. Moreover, in testimony before the House Committee, several representatives of the utility industry evinced a similar concern. They requested that the House bill include a provision that materials already regulated under the AEA were not covered by the FWPCA.\(^3\) Yet, neither the Senate, House, nor Conference version of the FWPCA exempted source, byproduct, and special nuclear material.\(^4\)

The Conference Committee had ample opportunity to assess the concern of the Senate colloquy and the House Report, and to ensure

\(^1\) See text at notes 24-25, infra.

that the FWPCA did not alter the AEC's jurisdiction. The Conference Committee did, in fact, alter the definition of "pollutants." As enacted, the FWPCA definition of "pollutant" included two express exceptions essentially identical to those contained in the Senate bill. The Conference Committee rejected the two other exceptions proposed by the House, and eliminated the House and Senate provision that the term "pollutant" was "not limited to" materials specified in the definition of "pollutants." Yet, the Conference bill retained the same reference to "radioactive materials" that caused confusion in the Senate and the House. Furthermore, the Conference Report did not incorporate the exemption of low-level nuclear wastes found in the House Report.

The House Report's exemption of materials regulated by the AEC is a major exemption, and should not simply be implied. Because the exemption was never written in the House bill, the Senate Report, the Senate bill, or the Conference bill, it should not be considered persuasive of congressional intent. Committee reports offer little evidence of the intentions of the majority of both Houses, particularly when, as in the present case, an apparent conflict between the House and Senate reports was not expressly resolved by the Conference Committee.

The Conference Committee's silence is not necessarily an affirming indication of intent. The fact that the Conference Committee did not incorporate the House Report's exemption in the FWPCA may just as readily demonstrate rejection of the House position. The Committee may have left the ambiguity in deference to the EPA so that the EPA could assert its authority when it developed the "technological capability."

The legislative history, itself, may not be reliable. The legislative

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111 The Conference Committee's consideration of the FWPCA resulted in one of the longest conference sessions ever. 118 Cong. Rec. H33746 (1972); id. at S33692.
114 Id.
115 See notes 16 and 77, supra.
117 See text at note 94, supra.
history may have been manipulated by members of the Joint Committee of Atomic Energy.\textsuperscript{121} Colorado PIRG argued that these members, unable to obtain an express exemption of AEA-regulated materials, sought to achieve this result indirectly through the legislative history.\textsuperscript{122} Both Senator Muskie’s and Representative Harsha’s\textsuperscript{123} comments as to the effect of the FWPCA on the AEC’s jurisdiction were prompted by members of the Joint Committee. Certainly members of the Joint Committee, responsible for the AEA and congressional regulation of nuclear energy, wished to secure the AEC’s jurisdiction.

Furthermore, much of the legislative history confuses the state-federal preemption issue with the AEC-EPA jurisdictional question. For example, in the Muskie-Pastore colloquy, Senator Muskie cited the Northern States case in support of his assertion that the FWPCA would not alter AEC regulatory powers.\textsuperscript{124} Senator Pastore responded that this case was exactly his concern: “As a matter of fact, that decision held that the Federal Government did preempt in this field under existing law. That is all I am concerned with.”\textsuperscript{125} From this exchange, the Supreme Court reasoned that the AEC was to retain full authority over materials covered by the AEA. The colloquy and case, however, may be interpreted as establishing federal preemption only, without clarifying EPA and AEC jurisdiction.

Similarly, Representative Harsha’s remarks\textsuperscript{126} were read out of context, further confusing the distinction between the state-federal issue and the AEC-EPA issue. Harsha was responding to a question prompted by Northern States and the Muskie-Pastore colloquy\textsuperscript{127} whether the Conference bill changed the division of authority between the states and federal government under the AEA.\textsuperscript{128} Representative Harsha answered that the original intent as made clear in the Senate colloquy, in Northern States, and in the House Committee Report was unchanged. Harsha stated that AEA-regulated ma-

\textsuperscript{121} The Joint Committee on Atomic Energy has the dual, sometimes conflicting role of promoter and regulator, and is, therefore, anxious to create a regulatory scheme least restrictive of the development of nuclear power.

\textsuperscript{122} Brief for Respondents at 49-51, 426 U.S. 1 (1976).

\textsuperscript{123} Representative Harsha directed his remarks in answer to a question posed by Representative Anderson, a member of the Joint Committee on Atomic Energy.

\textsuperscript{124} 118 Cong. Rec. S38802 (1971).

\textsuperscript{125} Id.

\textsuperscript{126} See text at notes 108-09, supra.


\textsuperscript{128} See text at notes 124-25, infra.
terials were not included in the bill’s definition of “pollutant.” However, the question directed to Representative Harsha, the Senate colloquy, and Northern States addressed only the role of the states in the regulation of AEA materials, not the role of the EPA.

The Court’s inability to distinguish the state-federal preemption issue from the AEC-EPA controversy was somewhat understandable. The FWPCA provides for the development of state permit programs and allows the states to adopt effluent limitations more stringent than those established by the EPA.129 If the FWPCA’s authority extended to AEA-regulated materials, then the states may have assumed responsibility for the regulation of radioactive materials in contravention of Northern States. Thus the AEC-EPA question could affect the federal-state question.

However, the House recognized the need to clarify the state role when it defeated the Wolff Amendment. Arguably, defeat of that amendment precluded state regulation of nuclear materials under the FWPCA. The federal government could have preempted state regulation through the EPA rather than the AEC. On this basis, the Court could have vested the EPA with jurisdiction over nuclear wastes without upsetting the federal-state relationship outlined in Northern States and the Senate colloquy.

The Senate Report anticipated that the EPA would develop the capability to regulate low-level radioactive wastes.130 Obviously, the Senate intended to defer EPA regulation of source, byproduct, and special nuclear material only until the EPA developed the necessary expertise.131 The Senate’s intent conforms with the Northern States finding that the regulatory authority over nuclear wastes was not expressly stated in the AEA.132 Only a “congressional feeling” existed that the AEC possessed the necessary expertise at the time of the adoption of the 1959 amendment, and consequently possessed sole authority over radiation hazards.133 Under the Senate Report the EPA could have assumed jurisdiction once it developed the technical capability to set effluent limitations for nuclear power plants as it does for all other industries.134 The fact that the EPA

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131 Id.; see text at note 95, supra.
132 447 F.2d at 1149.
133 Id.
134 See text at note 95, supra. Such an interpretation would exempt nuclear power plants from a permit system administered by the EPA or the states.
did try to publish regulations applicable to nuclear power plants in 1973 demonstrates that the EPA believed it could assume regulatory authority.\textsuperscript{135}

Finally, the exemption in the House Report is contrary to the accepted meaning of radioactive materials, "any material which emits radiation."\textsuperscript{136} NRC regulations recognize this definition;\textsuperscript{137} congressional debate over the FWPCA emphasized this definition. The Conference Committee could have clarified the definition of "radioactive materials" if it intended a meaning other than that generally accepted. While the Conference Committee did carefully consider the definition of "pollutants," the Committee never qualified "radioactive materials."

The Conference Committee expressly provided two exemptions to the definition of "pollutants."\textsuperscript{138} When Congress enumerates certain exceptions in a statute, presumptively no other exceptions are intended.\textsuperscript{139} The popular definition of radioactive materials and the express inclusion of some other exemptions from the definition of "pollutants" indicate that the FWPCA delegated to the EPA regulatory authority over all radioactive materials.

Some of the legislative history suggests that Congress intended to exempt source, byproduct, and special nuclear material from the definition of "pollutants." However, other legislative history precludes such an inconvertible exemption. Where such conflict appears in the legislative history and where such ambiguity confounds the definition of radioactive materials, consideration of the broad purposes of the FWPCA and the AEA is necessary.

The major purpose of the FWPCA is to control all "pollutants" discharged into the nation’s navigable waters.\textsuperscript{140} Such an expansive goal calls for broad construction of the Act. The definition of "pollutant" triggers the pollution control mechanisms of the FWPCA, and therefore, particularly merits a broad construction. A broad construction of "radioactive materials" reinforces the purpose of the Act. In contrast, the original purpose of the AEA was singularly directed toward the control of nuclear development for the

\textsuperscript{135} See text at notes 47-55, \textit{supra}.
\textsuperscript{136} 40 Fed. Reg. 23419, 23423 (1975).
\textsuperscript{137} 10 C.F.R. \textsection 20.3(13) (1976). Radioactive material is defined to include "any such material whether or not subject to licensing control by the Commission." \textit{Id.}
\textsuperscript{138} See note 29, \textit{supra}.
\textsuperscript{139} 2A \textsc{Sands}, \textsc{Statutes and Statutory Construction}, \textsection 47.11 (4th ed. 1973).
national security, and later, toward the peaceful development of nuclear power. The AEA’s concern at all times has been the control of critical amounts of radioactive materials in furtherance of the national security. Prior to Colorado PIRG, where the FWPCA and the AEA overlapped in jurisdiction, the EPA could have asserted jurisdiction over low-level radioactive pollutants.

The struggle for regulatory authority in 1973, culminating in the OMB directive, demonstrated that initially it was not clear to the AEC and the EPA which had jurisdiction. The AEC thought it was exercising the authority it always had, namely imposing “radionuclide release limits, dose limits and requirements for implementing such limits.” The Supreme Court in Colorado PIRG supported the AEC’s position when it noted that the EPA role was not totally negated:

EPA was to set generally applicable radiation standards, limiting the total amount of permissible radiation in the environment from major categories of sources, while the AEC was to prescribe the limitations applicable to discharges of licensed materials from particular sources which contribute to the total.

But requiring the EPA to set standards for the general environment conflicts with the control mechanisms of the FWPCA which sought to replace less effective ambient standards with stringent effluent limitations giving pollution enforcers real leverage over individual sources. Moreover, the FWPCA did authorize the EPA to regulate thermal pollution which is also integral to the construction and operation of a nuclear power plant.

The contrasting goals of the FWPCA and the AEA cause the EPA and AEC regulatory decisions for nuclear wastes to rest on very different considerations. The AEC’s “low as achievable” guidelines are the result of a benefit-risk calculation which weights such factors as cost and the nation’s increasing energy needs over environmental concerns. In contrast, the EPA’s calculations were the result of a balancing scheme aimed at limiting radiation doses to the “lowest feasible levels” for the protection of the public health and environment, while maintaining nuclear power plants to benefit

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113 See text at notes 45-49, supra.
111 Train v. Colorado PIRG, 426 U.S. at 24.
public health and welfare. The EPA's foremost concern is the public health and the environment, whereas the AEC's is the growth of nuclear power.

VII. CONCLUSION

The Supreme Court held in Colorado PIRG that the EPA's role in protecting the environment from excessive radiation attributable to AEA-regulated materials had not been totally negated. The EPA still retained the authority transferred under Reorganization Plan No. 3 to establish applicable environmental standards for the protection of the general environment from radioactive material. Relying on the legislative history of the AEA and FWPCA, the Court resolved that the passage of the FWPCA did not create an overlap in jurisdiction. Congress vested in the AEC the exclusive regulatory authority for low-level radioactive wastes discharged from nuclear power plants. However, an alternate reading of the legislative history was possible and disclosed sufficient ambiguity so that the Supreme Court could have resolved the jurisdictional question in favor of the EPA.

The effect of Colorado PIRG is that the EPA will not regulate radioactive wastes discharged from nuclear power plants. Colorado PIRG, however, does not resolve the nuclear power industry's fear of multiple sets of review, because the EPA still retains authority for thermal pollution. Furthermore, the case creates an inequitable exception; the EPA will regulate all industries except nuclear power. Past actions of the NRC do not promise that it will act in the best interest of the public health and environment. The creation of the NRC offered no guarantees that members of the Commission would not be committed to nuclear development. In fact, some former Commissioners of the AEC joined the NRC. Thus, the
standards for an industry that threatens the nation's health and environment may be less stringent than society requires.

The NRC has not adequately faced the conflict between nuclear generation of electricity and environmental and public safety. NRC actions have proved to be hasty and unsatisfactory. Nuclear power plants continue to be constructed and licensed without any assurance that the wastes problems are solved, or even stringently regulated. Congressional action is overdue. Congress' failure to resolve the problem of radioactive materials in concrete statutory language endangers the public health and environment. The nature of radioactive wastes complicates Congress' considerations.

Yet, the complexity of nuclear questions need not preclude EPA regulation. Rather, the nature of radioactive materials supports arguments for EPA jurisdiction. The setting of standards for nuclear materials is a matter of public policy. Congress has a duty to place this responsibility with an agency committed to the protection of the public health and environment.

151 See note 54, supra.