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STATE CONTROL OF RADIATION HAZARDS: AN INTERGOVERNMENTAL RELATIONS PROBLEM†

*Samuel D. Estep** and *Martin Adelman***

WHENEVER a highly-industrialized complex society assimilates a revolutionary technology, the problems which arise invariably are reflected in the legal rules and regulations by which a people govern themselves. The advent of atomic energy, the most recent technological advance having wide social impact, already has presented our legal institutions with a wide range of problems, some of which were recognized from the first enactment of federal legislation in 1946. Since then, such matters as compulsory patenting, government indemnification of private interests against unlimited nuclear tort liability, and compensation for radiation injuries have been widely discussed and analyzed in some detail. However, the growing and delicate problem of intergovernmental relations which arises from the convergence of federal, state, and local power upon the complex matter of controlling radiation hazards has been given relatively little attention.

The proper allocation of governmental power in a changing society wedded to a federal system is a continual problem, and the intergovernmental difficulties caused by the assimilation of nuclear technology may well have a significant influence on the future course of American federalism. For the doctrines that are evolved here might be adapted and extended to the problems which will arise with the advent of other technologies, if not to problems of even wider application. Of more immediate importance, the impact of both state and federal power on the nuclear industry in the area of radiation hazard control has already caused considerable friction, and it is important that the basic issues be resolved without further delay.

The purpose of this article is to set forth the nature of the intergovernmental problem. This involves an analysis of the extent and limitations of federal power, a determination of congressional intent on the issue of federal pre-emption, and an appraisal of the steps now being taken by the Atomic Energy

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Commission to turn over part of the radiation safety regulatory program to the states.

I. THE NATURE OF THE PROBLEM: ACCOMMODATION OF FEDERAL AND STATE INTERESTS

From its inception in 1946 the AEC has exercised almost complete control over the regulation of radiation health and safety matters. During the early years this control was a natural concomitant of the virtual monopoly which the federal government had over nuclear reactors and their radioactive by-products. The 1954 amendments to the Atomic Energy Act, however, permitted private enterprise to participate in the peaceful development of nuclear technology, although a concern was expressed at that time that federal control would be jeopardized by the dilution of the government monopoly.¹ Such fears proved unjustified, for although private entrepreneurs have embarked on nuclear activities in large numbers, the federal government has retained its sweeping control over radiation hazards. It should be noted, however, that when Congress enacted the 1957 amendment protecting the infant nuclear industry from unlimited tort liability, control over the *adjudication* of radiation injury claims arising from private utilization of radiation sources clearly was left primarily to the states.²

In 1959 Congress modified the act to authorize the AEC to enter into agreements with the various states which would permit the latter to regulate the health and safety aspects of a considerable area of radiation usage.³ The important and difficult problems in intergovernmental relations presented by these agreements will be discussed in some detail later; but an important initial question is the extent to which the states may constitutionally control radiation hazards absent such agreements.

Authorization to make agreements relinquishing federal control to the states is based on the assumption that the federal government has the power to pre-empt traditional state power to regulate health and safety. Some states, however, have not acquiesced in the supremacy of federal power in this area. The health

¹ Reported in Estep, *Federal Control of Health and Safety Standards in Peacetime Private Atomic Energy Activities*, 52 MICH. L. REV. 333, 334 n.6 (1954).

² STASON, ESTEP & PIERCE, *ATOMS AND THE LAW* 574 (1959) [hereinafter cited as *ATOMS AND THE LAW*]. Certain exceptions are noted at 575 nn.1276, 1278.

³ 73 Stat. 688 (1959), 42 U.S.C. § 2021 (Supp. II, 1960).

departments of at least two states apparently are taking the position that no agreements with the AEC are necessary because the federal government constitutionally cannot take away the health and safety powers residing in the states as a basic part of their police power.⁴ The same question of conflict between federal and state power has also been presented in two litigated cases.⁵

A specific example of the emerging conflict of authority illustrates the problem. In March 1961, one company asked the AEC to clarify its position on whether the AEC or the state of Pennsylvania, in the absence of any agreement, controls the disposal of wastes resulting from the processing of certain nuclear material.⁶ The company asserted that, although it was authorized by the AEC to discharge low-level wastes into a river, the Pennsylvania Department of Health and Safety ordered a fifty percent reduction in the concentration levels authorized by the AEC. Apparently the company has decided to comply with the state regulation rather than contest the validity of the state ruling.⁷

Personal conversations with private entrepreneurs in the nuclear industry (although not with those in the Pennsylvania situation) indicate that in such cases many companies are planning to meet the regulations laid down by *both* the AEC and the states—even in areas which the 1959 amendment apparently reserves exclusively to the AEC—at least until the state regulations become too onerous to accept. The reason generally given for such action is the practical consideration that the companies can ill afford to antagonize the state officials who have considerable powers over their companies in non-radiation areas, despite the fact that the companies probably could win a court fight for freedom from such state radiation regulation.

The prospect of duplicative state and federal regulations not only places an unreasonable burden on the operations of the nuclear industry, but also raises a serious question as to the nature of the basic interests of the federal and state governments which need to be safeguarded. It is obvious that both the state and federal governments have a strong interest in the health and

⁴ Officials of the health departments of Michigan and Massachusetts have taken this position publicly.

⁵ *Harris County v. United States*, 292 F.2d 370 (5th Cir. 1961); *Boswell v. City of Long Beach*, 28 U.S.L. WEEK 2481 (Cal. Super. Ct. 1960). Litigation of this point was to be commenced in Connecticut. *ATOMIC IND. REP.* 7:119 (April 12, 1961).

⁶ See *ATOMIC IND. REP.* 7:110 (April 12, 1961).

⁷ This has been reported orally to one of the writers by a government official.

safety of their respective populations. Although the state would seem to have a more direct and immediate interest, it must be kept in mind that radiation respects neither geographical boundaries nor man's efforts to neutralize it. Furthermore, the cumulative effect of repeated radiation doses and the genetic impact radiation has on reproductive cells adds a time dimension not present in traditional health and safety matters. Both these considerations of extended geographic space and genetic time provide a basis for a strong interest and responsibility on the part of the national government.

On the other hand, the national interest in health and safety of the public could hardly be jeopardized by state regulations which place stricter limits than the federal regulations impose on the permissible amount of radiation exposure. This situation, however, brings into play an entirely different federal interest: the need to develop a thriving and extensive nuclear industry within a relatively short time as industrial growth is measured. Over the years the AEC has constantly had to balance the importance of rapid development of the industry against the need for adequate protection from radiation hazards. Such judgments have often been most difficult because of the incomplete state of knowledge about both radiation hazards and nuclear technology. If the states can second-guess the AEC on where to strike the balance, the national atomic development program might well be hampered.

Nevertheless, these considerations in no way diminish the basic state interest in protecting the health and welfare of its citizens, and it may be expected that this interest will be vigorously asserted. It is hoped, however, that once the extent of the federal interest and power is clearly shown, the states will avoid unconstitutional duplicative regulations.

II. CONSTITUTIONAL DOCTRINE: THE BASIS FOR FEDERAL REGULATION

In considering the extent to which the federal government has the power under the Constitution to regulate the health and safety aspects of radiation, the interpretations the Supreme Court has given to certain provisions of the Constitution which control the distribution of power between the federal government and the states are central. Particularly relevant are the clauses found

in article I, section 8 which enumerate the powers of Congress, and in the tenth amendment which states that "The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people."

Although at one time the tenth amendment was given some significance by the Court in interpreting the grants of power to Congress, for at least the twenty years since *United States v. Darby*,⁸ the Court has considered the amendment as nothing but a truism: what has not been delegated to Congress is reserved to the states, but the first question asked is not "Is this reserved to the States?" but rather, "Is this a power delegated to Congress?" If the answer is "Yes," the tenth amendment does not reserve this area to the states.

Equally important is the fact that, although the federal government is one of delegated powers only, the Supreme Court has interpreted the grants of power to Congress very broadly.⁹ The result has been that once some activity is found to have some significant relationship, however indirectly, to a power given to Congress, there are no significant limitations upon the federal power, aside from specific prohibitions such as those found in the first eight amendments. The significance of this position for present purposes is made evident by the fact that *not once* in twenty-five years has the Supreme Court invalidated an act of Congress on the ground that the activity regulated was not within a power delegated by article I, section 8, and so was reserved to the states,¹⁰ although the sweep of many congressional enactments has been extremely broad and pervasive in areas traditionally regulated by the states.¹¹

Just before the Atomic Energy Act of 1954 was adopted an

⁸ 312 U.S. 100 (1941).

⁹ Whether a broad interpretation is called liberal or loose construction depends on the commentator's basic philosophy about government control of economic activities.

¹⁰ The last invalidations were *United States v. Butler*, 297 U.S. 1 (1936) (first Agricultural Adjustment Act) and *Carter v. Carter Coal Co.*, 298 U.S. 238 (1936) (Bituminous Coal Act).

¹¹ *E.g.*, *Bowles v. Willingham*, 321 U.S. 503 (1944) (war-time price control); *Yakus v. United States*, 321 U.S. 414 (1944) (war-time price control); *United States v. South-Eastern Underwriters Ass'n*, 322 U.S. 533 (1944) (Sherman Act regulation of insurance business); *Kirschbaum Co. v. Walling*, 316 U.S. 517 (1942) (regulation of wages of maintenance workers); *Wickard v. Filburn*, 317 U.S. 111 (1942) (regulation of price of wheat produced for home consumption); *Sunshine Anthracite Coal Co. v. Adkins*, 310 U.S. 381 (1940) (coal prices regulation); *United States v. Rock Royal Co-operative, Inc.*, 307 U.S. 533 (1939) (regulation of milk prices).

analysis was made of the several powers which Congress might use to justify a general regulation of health and safety hazards incident to use of all radiation sources, not just those used in federal production or research programs.¹² The conclusion reached then was that probably five different congressional powers could be used to justify extremely pervasive federal control: the spending, tax, defense, proprietary and commerce powers. Of these, the first two have not been relied upon as yet. A review of the powers actually utilized by Congress in enacting the program of federal control, and consideration of the admiralty power follows.

A. *Defense Power*

Several findings set forth by Congress in section 2 of the 1954 act assert the necessity to regulate atomic energy used not only for military purposes but also "for all other purposes" in order to "provide for the common defense and security." A detailed analysis of the possible justification for regulating radiation exposure of all persons in the United States is available¹³ and no subsequent case suggests any need to change the conclusion that: "The question would seem to be one of whether it is reasonably necessary in order to prepare adequately for eventual war that Congress regulate the manner in which workers are exposed to radiation as they handle radioactive materials in peacetime operation. The atomic energy hazards are peculiar enough so that such preparatory measures might be upheld by the Court."¹⁴ The basic premise of the argument, then as now, is that the radiation exposure reserve of the whole population, and particularly of radiation workers, is a vital factor in our national defense posture in the event of nuclear attack upon the United States.

B. *Proprietary Power*

Operation of Federal Facilities. Whether the federal government uses federal employees or hires an independent contractor to operate federally-owned nuclear facilities, federal power to regulate health and safety matters in such operations free of any interference by state or local government officials is absolutely clear,¹⁵ with the possible exception of use of state-owned facilities

¹² Estep, *supra* note 1, at 333.

¹³ *Id.* at 350-53.

¹⁴ *Id.* at 353.

¹⁵ *Leslie Miller, Inc. v. Arkansas*, 352 U.S. 187 (1956) (contractor building Air Force base not subject to state license requirements); *Carson v. Roane-Anderson Co.*,

such as sewage disposal facilities and highways, which will be discussed below.

Loan or Sale of Federal Material. In addition to its own facilities, the federal government retains ownership of all special nuclear material with which reactors are fueled.¹⁶ It also produces in federally-owned reactors the great bulk of the radioisotopes which are used by others throughout the United States. Consequently, the federal government has a considerable health and safety regulatory power arising from its power to dispose of such government-owned property upon almost any condition it sees fit to impose on the user or purchaser of these materials.¹⁷ This power is the basis for one of the findings made by Congress in section 2 of the 1954 act.¹⁸

Until very recently the federal government not only owned most of the production facilities for making radioisotopes, but also was practically the sole processor of such materials in forms useful for industrial, medical and research activities. The few radioactive isotopes not available in this manner, such as those produced in particle accelerators and a very few naturally-occurring radioactive elements, constitute an insignificant radiation hazard and Congress has made no attempt to regulate such sources. However, as more private companies operate reactors (which inevitably create radioisotopes) and enter the field of processing

342 U.S. 232 (1952) (state sales and use taxes not applicable to contractor agent of AEC); *City of Cleveland v. United States*, 323 U.S. 329 (1945) (federally-owned property not subject to state tax); *Pacific Coast Dairy, Inc. v. Department of Agriculture*, 318 U.S. 285 (1943) (state milk price-fixing statute inapplicable on Army base); *Pittman v. Home Owners' Loan Corp.*, 308 U.S. 21 (1939) (state recording tax not applicable to recording for federal agency mortgagee); *Johnson v. Maryland*, 254 U.S. 51 (1920) (postal official not subject to state driver's licensing requirements); *In re Neagle*, 135 U.S. 1 (1890) (federal marshalls not subject to state criminal prosecution for official acts); *McCulloch v. Maryland*, 17 U.S. (4 Wheat.) 159 (1819) (federal bank notes not subject to state tax).

¹⁶ Atomic Energy Act of 1954, § 52, 68 Stat. 929, 42 U.S.C. § 2072 (1958). For the statutory definitions of source, special nuclear material, and by-product material, see §§ 11(x), (y), (e) of the act. 68 Stat. 924 (1954), 42 U.S.C. §§ 2014(x), (y), (e) (1958).

¹⁷ *United States v. City and County of San Francisco*, 310 U.S. 16 (1940), discussed in *Estep*, *supra* note 1, at 339. The only subsequent case at all analogous, *Alabama v. Texas*, 347 U.S. 272 (1954) (*per curiam*), clearly corroborates the prior conclusion. In this case the Supreme Court denied the right of various states to object to the return to a few states of mineral rights in off-shore submerged lands because there are no limitations on the power of Congress to dispose of federal property.

¹⁸ Atomic Energy Act of 1954, § 2(b), 68 Stat. 921, 42 U.S.C. § 2012 (1958): "In permitting the property of the United States to be used by others, such use must be regulated in the national interest and in order to provide for the common defense and security and to protect the health and safety of the public."

radioisotopes for non-governmental use, the amount of such radioactive materials not controlled through government ownership will become significant. Congressional power to control such privately-owned material will then become a serious matter.

Because the use of special nuclear material as yet is absolutely necessary for large-scale production of radioisotopes, Congress probably can control most radioisotopes by conditioning use of special nuclear material in private facilities. Nevertheless, it is hoped that before long Congress will see fit to permit private ownership of even special nuclear material, and then it will become important to determine whether or not Congress can impose health and safety controls on use of such privately-produced and owned radioactive materials. Although for most such materials the answer seems to be an affirmative one, regulatory supervision must be based upon a power other than that which permits Congress to condition the use or disposal of government property.

C. *Admiralty Power*

Controlling the disposal of relatively low-level radioactive wastes is becoming increasingly important as the number of users of radioisotopes grows rapidly. A considerable proportion of such materials is disposed of through discharge directly or ultimately into rivers which run through the various states. In sufficiently concentrated quantities radioactive wastes so discharged can become a menace to people and property situated downstream. To the extent that these are "navigable waters" of the United States, Congress may regulate such activity under the grant of admiralty jurisdiction to the federal courts. Although this power is in the form of a grant of judicial power,¹⁹ it has been interpreted to imply a grant of authority to Congress to legislate to control such waters, separate from any power Congress may have to regulate many of the same activities under the commerce clause of the United States Constitution.²⁰ No reason exists for treating congressional power any differently when it is used to control radiation sources which might endanger normal uses of such navigable waters. Under this power Congress undoubtedly can exercise a very extensive health

¹⁹ U.S. CONST. art. III, § 2. "The judicial Power shall extend . . . to all Cases of admiralty and maritime Jurisdiction . . ."

²⁰ See *Southern Pac. Co. v. Jensen*, 244 U.S. 205 (1917); Comment, *From Judicial Grant to Legislative Power: The Admiralty Clause in the Nineteenth Century*, 67 HARV. L. REV. 1214 (1954). See also *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377 (1940).

and safety control over discharge of radioactive materials into lakes and rivers and the surrounding oceans. The original judicial limitation of navigable waters to tidal waters has long since been abandoned and such waters now include all bodies of water within the United States and its territories which form part of an *unbroken water highway system* over which foreign and interstate commerce might be carried.²¹ The Court also has defined as navigable any body of water in such an unbroken system which is capable of being made navigable, and with modern machinery this brings within the admiralty power of Congress almost all of the lakes and rivers within the various states.²²

In the 1959 amendment, Congress made it clear that the power to control such disposal was reserved to the AEC,²³ although no specific mention was made of the admiralty power. The admiralty power, however, does not justify congressional control over most *uses*²⁴ of radioactive materials now being carried out by others than the federal government. This will have to be found under the power of Congress "to regulate Commerce with foreign Nations, and among the several States. . . ."²⁵

D. Commerce Power

As pointed out elsewhere,²⁶ unquestionably Congress has *plenary* power to control the movement of goods across state lines provided the regulations do not infringe constitutionally-protected civil liberties. Carriers by rail, highway, air, and water have been subjected to such regulation, as well as those who send across state lines electrical energy, gas, oil, and wire and radio communications.²⁷ Likewise, when others than carriers send people or property across state lines, even for non-commercial purposes, these activities can be regulated or prohibited by Congress.²⁸ The shipment of radioactive materials in interstate or foreign commerce obviously is equally subject to congressional power.

²¹ Conover, *The Abandonment of the "Tidewater" Concept of Admiralty Jurisdiction in the United States*, 38 ORE. L. REV. 34 (1958). See *The Daniel Ball*, 77 U.S. (10 Wall.) 557 (1871).

²² See the discussion of Mr. Justice Reed on the issue of navigability in *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377, 404-10 nn.32-34 (1940).

²³ § 274, 73 Stat. 689 (1959), 42 U.S.C. § 2021 (c) (3) - (4) (Supp. II, 1960).

²⁴ As distinguished from disposal after use.

²⁵ U.S. CONST. art I, § 8.

²⁶ Estep, *supra* note 1, at 341.

²⁷ See list of authorities collected in KAUPER, *CONSTITUTIONAL LAW* 151-55 (2d ed. 1960).

²⁸ Estep, *supra* note 1, at 341-42.

Far more significant for present purposes is the power of Congress to control those activities which have only a "substantial effect" on commerce. Such cases as *NLRB v. Jones & Laughlin Steel Corp.*,²⁹ *United States v. Darby*,³⁰ *Wickard v. Filburn*,³¹ and *Consolidated Edison v. NLRB*³² make it clear that the indirectness of the effect is not a limitation on congressional power to control "production" of goods or services for use in interstate or foreign commerce, as well as shipments. The extension of such control even to radiation health and safety matters would seem no more an extension of commerce powers than is found in those cases which upheld regulation of wages and hours,³³ feather-bedding,³⁴ exclusive union recognition and compulsory union membership,³⁵ and strikes in interstate industries.³⁶ The scope of such power to regulate those activities which have only an indirect effect on interstate movement of goods is indicated by the recent case in which the Court held that employees of architectural and consulting engineering firms are engaged in interstate commerce, although they only prepared plans and designs for construction and repair of interstate instrumentalities or facilities.³⁷ Even professional sports spectacles³⁸ and theater attractions³⁹ held within a state are subject to the commerce power of Congress because the scope of these operations is essentially national in character.

E. *Application of Federal Powers to Radiation Protection*

In the light of the decided cases, the question arises: "Are any uses of radiation sources not subject to the power of Congress?"

As to two sources of radiation this question is not important because Congress did not choose to cover them by federal atomic energy legislation. The federal definitions of source,⁴⁰ special nu-

²⁹ 301 U.S. 1 (1937) (regulation of labor relations in plant producing for interstate market).

³⁰ 312 U.S. 100 (1941) (regulation of working conditions in plant producing for interstate market).

³¹ 317 U.S. 111 (1942) (regulation of wheat raised for home consumption).

³² 305 U.S. 197 (1938).

³³ *United States v. Darby*, 312 U.S. 100 (1941).

³⁴ *United States v. Petrillo*, 332 U.S. 1 (1947).

³⁵ *Railway Employees' Dep't v. Hanson*, 351 U.S. 225 (1956).

³⁶ *In re Debs*, 158 U.S. 564 (1895).

³⁷ *Mitchell v. Lublin, McGaughy & Associates*, 358 U.S. 207 (1959).

³⁸ *United States v. International Boxing Club*, 348 U.S. 236 (1955).

³⁹ *United States v. Shubert*, 348 U.S. 222 (1955).

⁴⁰ Atomic Energy Act of 1954 § 11 (x), 68 Stat. 924, 42 U.S.C. § 2014 (x) (1958).

clear,⁴¹ and by-product⁴² material do not permit the AEC to regulate certain radiation machines (particle accelerators and X-ray equipment), or naturally-occurring radioisotopes such as radium. Particle accelerators and naturally-radioactive materials present only limited radiation hazards but the exclusion of X-ray machines leaves outside AEC authority a very significant national radiation hazard. Because the local interest in protection against such health and safety hazards is great, undoubtedly the failure of Congress to regulate them means this regulatory power is reserved to the states under the Court's doctrines concerning the negative implications of the commerce clause upon state regulatory power.⁴³ These conclusions do not apply, of course, to regulations imposed by the Post Office Department and other federal agencies upon interstate carriers which handle shipments of dangerous materials. These materials are defined broadly enough to include radiation sources and states can neither authorize nor prohibit shipments once they are in the hands of these carriers. Relatively speaking, this is a minor limitation upon state power over this limited category of machines and materials.

Referring, however, only to by-product, source, and special nuclear materials which Congress has given the AEC power to regulate, how far can the AEC constitutionally go in regulating for health and safety reasons? The most difficult constitutional questions are presented in connection with by-product materials so the analysis will start with them.

1. *By-product Material.* To the extent by-product material is shipped across state lines, Congress has adequate power to regulate—even if solely for health and safety reasons.⁴⁴ If there is no shipment across state lines, Congress probably can continue to regulate health and safety aspects under its power to condition the use or disposal of government property without limitation at least so long as the federal government retains its present policy of ownership of all special nuclear materials. Congress, however, also purported to control all by-product material, whether or not shipped in or produced for interstate commerce.⁴⁵ The available

⁴¹ Atomic Energy Act of 1954 § 11 (y), 68 Stat. 924, 42 U.S.C. § 2014 (y) (1958).

⁴² Atomic Energy Act of 1954 § 11 (e), 68 Stat. 923, 42 U.S.C. § 2014 (e) (1958).

⁴³ See *ATOMS AND THE LAW* 1054.

⁴⁴ See text accompanying notes 27-28 *supra*.

⁴⁵ Atomic Energy Act of 1954 § 81, 68 Stat. 935, 42 U.S.C. § 2111 (1958), provides, "No person may transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, own, possess, import, or export any by-product material, except to the extent authorized by this section or by section 2112 of this title."

authorities support the conclusion that to the extent that such material is sold commercially, although solely within the state of production, it is subject to the commerce power of Congress. By combining the ideas upheld in the *Darby* and *Filburn* cases with those propounded in the *intrastate* railroad rate cases,⁴⁶ it is reasonable to predict that the Court will permit congressional control of these intrastate activities which compete with and have some economic effect on the interstate market for by-product material. Under the doctrine of *Filburn*, even production of by-product material for self-consumption might be federally controlled under the commerce power. But if the Court is unwilling to extend the *Filburn* doctrine, the amount of material produced for self-consumption will be insignificant and the resultant health hazard relatively unimportant.⁴⁷

One other minor category remains to be considered. A few radioisotopes are produced largely, if not solely, for research purposes and are not available commercially for a variety of reasons. Producers of these, therefore, are not in competition with commercial suppliers for the interstate market in by-product material. These materials produced by universities, or even private companies, for their own research because they are not feasibly available elsewhere would seem to be outside the commerce power of the federal government, although possibly within the war power in its broadest sense, or within the power to condition use of government-owned special nuclear material (which is needed to produce the by-product material). Likewise, the shipment of such materials in interstate commerce or on navigable streams, or the disposal of them into navigable waters forming part of an unbroken water highway, will be subject to federal control as indicated before. Consequently, only the use and storage or burial within one state of such self-produced material is outside the federal commerce and admiralty powers. These admittedly very small amounts of radioactive materials do not constitute much

⁴⁶ *Railroad Comm'n v. Chicago, B. & Q. R.R.*, 257 U.S. 563 (1922).

⁴⁷ Under the reasoning of the *Filburn* case (which permitted federal regulation of wheat raised by a farmer on his own land to feed his own livestock), even production of by-product material for self-consumption may be federally controlled under the commerce power. Admittedly, the controls in the *Filburn* case were more clearly economic regulation than are radiation hazard regulations, but if the private producer can short-cut on his hazard precautions he places himself at a competitive advantage if he sells to others. He is probably even taking himself out of the interstate market in the *Filburn* sense because, if he had to follow regulations which commercial producers are required to meet, he probably would have bought in the market instead.

of a hazard in the over-all picture and this limitation on federal power is insignificant.

2. *Source Material.* A distinction must be drawn between mining such material and transferring it after removal from its place of deposit in nature. Although serious radiation hazards are present in mining operations and the AEC is concerned about them, Congress apparently meant to leave this to the states and the AEC does not attempt to regulate such activities.⁴⁸ Any *transfer* of mined source-material, however, is subject to AEC health and safety regulations, as well as federal allocation of materials policies.⁴⁹ Until such transfer, however, the states now have exclusive power to regulate mining operations, although Congress probably could extend its power to this sphere if it cares to do so in the future upon the basis of the same authorities discussed in connection with by-product materials. Likewise, with very minor exceptions, federal regulation of all transfers of source material, even when done solely within the confines of one state, probably is constitutional under the commerce and admiralty power case authority suggested in the analysis of the power to regulate by-product materials.

3. *Special Nuclear Material.* The most important concern of the federal government here is with allocation of the supply, not the radiation health hazards of the material itself. No question can be raised about the power of the federal government to provide for the "common defense and security" by assuring an adequate supply for military purposes and by preventing the diversion of such material to those whose possession of it would constitute a threat to our national security. An adequate supply for national purposes, however, apparently is no longer a problem for either source or special nuclear material. Likewise, distribution to most domestic users will present no threat of diversion to unauthorized military uses.

Assuming neither of these concerns is involved, may Congress nevertheless regulate all such material for health and safety purposes? Under the authorities cited above with respect to any kind of material sold by the government, or shipped across state lines,

⁴⁸ Atomic Energy Act of 1954 § 61, 68 Stat. 932, 42 U.S.C. § 2092 (1958), provides for control of "any source material after removal from its place of deposit in nature." The AEC has made no attempt to regulate mining activities.

⁴⁹ Atomic Energy Act of 1954 § 62, 68 Stat. 932, 42 U.S.C. § 2092 (1958); AEC Reg. Part 40, 10 C.F.R. § 40 (1959).

or produced for shipment in interstate or foreign commerce, Congress clearly also has the power to control special nuclear material, and has exercised it. But if the policy of government ownership of special nuclear material is changed to permit private ownership, the commerce, and possibly the admiralty and war powers, will probably justify health and safety control over special nuclear material which is not directly involved in interstate commercial transfers, on the same basis as control over by-product material.

III. CONSTITUTIONAL DOCTRINE: LIMITATIONS ON FEDERAL POWER TO CONTROL STATE-OWNED FACILITIES

Of considerable importance is the possible limitation upon federal power to regulate radioactive material when state-owned facilities such as city sewage systems, state highways and city streets, and state or city research and medical treatment facilities are involved. Congress clearly may protect workers and the general public against what the federal authorities feel are unacceptable radiation hazards under the property disposal, admiralty, commerce, and war powers, as suggested earlier—even though only state-owned facilities are used by state employees or the general public. When the federal government has an important interest in such matters its interest is paramount under the supremacy clause of the Constitution. The state, therefore, cannot allow *higher* exposures and immunize such persons from regulations established by federal authority.

The federal supremacy argument, however, cannot be used to justify denial to the states of the power to establish *lower* exposure limits in the interest of health and safety if only state-owned facilities not competing in interstate business are involved. If a state wants to deny access to its toll roads and superhighways, or impose more stringent regulations than those established by federal regulations for carriage of radioactive materials upon state roads, or for discharge of such wastes into city sewage systems, or for use of these materials in state teaching, research or medical treatment institutions, surely the theory of a federal system indicates that the state may do so. Federal supersedure of such state radiation level limitations would in effect amount to taking state property without compensation to promote a federally-desired use.

This conclusion does not apply to attempts of cities to zone specifically against radiation operations on land within the city

limits. State zoning power probably is pre-empted by the federal legislation⁵⁰ because the property being controlled typically is privately-owned land, and in a conflict between state and federal regulation the latter controls under the supremacy clause. Nor is this situation analogous to the state-owned railroad which is subject to federal safety regulations because it is operating in interstate commerce.⁵¹ The state-owned facilities under consideration are not operated as a state-owned interstate commercial activity. Neither is this situation similar to cases involving the power of the federal government to tax proprietary functions being carried out by the state,⁵² because no significant diminution of federal sources of revenue would result from more stringent state control of safety in use of radiation on state-owned property, even assuming that the use is a proprietary function.

Authority upon this conflict-of-power question is almost nonexistent. Certainly if the federal government took the position that a property owner who leases his building to a user of radiation sources cannot impose radiation regulations more stringent than those established by the federal government, the answer would be that the government must condemn the property and pay just compensation.⁵³ Although the government has a legitimate interest, the possible effect on development of the nuclear field would not seem to outweigh the right of the property owner to impose his own conditions which involve less danger to health and safety. Even if the owner of a private building could be so regulated, the additional factor of state sovereignty surely leads to the conclusion that Congress could not go so far when state property which is being used for traditional governmental purposes is involved.

⁵⁰ The basis for this conclusion is set out in *ATOMS AND THE LAW*, 1047-48, 1065. *City of Tacoma v. Taxpayers of Tacoma*, 357 U.S. 320 (1958), may imply approval of such supersedure, although it actually turned on a *res judicata* point. See text accompanying note 58 *infra*.

⁵¹ *United States v. California*, 297 U.S. 175 (1936). See also *California v. United States*, 320 U.S. 577 (1944), in which state-owned wharves were subjected to federal regulations on free wharfage time and minimum prices; and *California v. Taylor*, 353 U.S. 553 (1957), in which a state-owned railroad serving interstate commerce was subjected to federal labor regulation.

⁵² *Wilmette Park District v. Campbell*, 338 U.S. 411 (1949); *New York v. United States*, 326 U.S. 572 (1946); *South Carolina v. United States*, 199 U.S. 437 (1905).

⁵³ The zoning ordinance cases permitting certain non-compensable limitations on use of private property are not controlling. In each case the government was limiting normal uses to which the owner could otherwise put his property. In the present situation federal supersedure of state limitations on the use of state property would amount to an order forbidding the owner to restrict certain uses of his property.

In two cases involving state regulation of weight and width of motor vehicles using state highways, the Supreme Court avoided the conflict of federal and state power question by finding that Congress, when it gave general regulatory power to the ICC, did not mean to preclude state regulations aimed at physically preserving the highways.⁵⁴ Nevertheless, particularly in the second case, the Court suggested that state ownership raised a serious question concerning the federal power to regulate.⁵⁵ In a more recent case involving use of highways in violation of weight limitations,⁵⁶ the Court said that the state might not suspend an interstate carrier's right to use the highways for a specified time as punishment for violating the load limits because there was no showing that this drastic measure was necessary since it could enforce its weight regulations adequately with conventional forms of punishment. There was no suggestion that the state regulations themselves were superseded.

Johnson v. Maryland,⁵⁷ decided in 1920, suggests some limitation upon the right of the state to control use of state highways. In holding that the state could not insist that federal postal employees have a state driver's license before using state roads, the Court held that the state could not so directly interfere with federal employees carrying out federal functions. For several reasons, the *Johnson* case is not controlling in the radiation case here suggested. First, at most it applied only to federal employees regulated by the state, not to workers in private industry. Second, it suggests only that the state could not establish the qualifications of government employees who operate the vehicles or facilities discharging radioactive wastes into sewage systems. There is no suggestion that the state could not enforce its traffic laws aimed at safety, such as driving on the right-hand side of the road or stopping at red lights. In the radiation situation, surely the state could regulate more stringently, or probably even prohibit, use of the state facilities to private persons and even federal authorities—so long as it did not try to dictate *qualifications* of federal

⁵⁴ *Maurer v. Hamilton*, 309 U.S. 598 (1940); *South Carolina State Highway Dep't v. Barnwell Bros.*, 303 U.S. 177 (1938).

⁵⁵ *Maurer v. Hamilton*, *supra* note 54, at 609 n.8 (Mr. Justice Stone quoting a congressional witness's report).

⁵⁶ *Castle v. Hayes Freight Lines, Inc.*, 348 U.S. 61 (1954). See also *Bibb v. Navajo Freight Lines, Inc.*, 359 U.S. 520 (1959), holding invalid an Illinois regulation requiring certain mudguards on trucks because they were not shown to be any safer than the conventional type.

⁵⁷ 254 U.S. 51 (1920).

employees using such materials. The same would be true for city sewage systems and other state facilities of the kind suggested here.

The possible implications of a recent case, *City of Tacoma v. Taxpayers of Tacoma*,⁵⁸ should not be overlooked. Here, under a federal statute a city was authorized to build a dam which would result in the flooding of a state-owned fish hatchery, and the state opposed the city's use of power under the federal statute. An argument could be made that this case permitted the federal government to dictate a use of state property contrary to that wished by the state. The case, however, does not support the application of this idea to the situation where the state imposes lower radiation exposure standards on use of its property. In the first place, the Supreme Court decided it on a procedural point involving res judicata principles, rather than on the merits of whether or not Congress could supersede state control over its own political subdivisions and property. Furthermore, there was no suggestion that this taking would be without compensation.

If this analysis is correct, a rather serious limitation on federal power exists. Transportation of radioactive material over state highways, and discharge of fairly large quantities of low-level wastes into sewage systems, are important factors in the development of the nuclear industry and of expanded use of radioisotopes. If the states enforce regulations incompatible with federal standards, as some have done already,⁵⁹ the federal government will need to resort to its condemnation power which would be prohibitively expensive, or find substitutes for these state-owned facilities. In the future, financial aid for federal highway construction might be conditioned upon acceptance of federal participation in health and safety regulations, but this will not suffice for highways already built without such conditions. Substitutes can be found, of course, but in many cases, such as air, water, or rail transportation, or collection and burial of low-level wastes, the expense will be considerably greater and actually burdensome. This fact, however, does not justify breaking down our federal system by ignoring the rights of the states and their legitimate proprietary interests in their own facilities. The best solution undoubtedly is mutual trust and cooperation. Nevertheless, the problem is not simply hypothetical; such state power is being asserted.

⁵⁸ *City of Tacoma v. Taxpayers of Tacoma*, 357 U.S. 320 (1958).

⁵⁹ Massachusetts has banned shipment on its toll roads, *ATOMIC IND. REP.* 7:66 (March 1, 1961), and AEC officials have warned of the limiting effects, *ATOMIC IND. REP.* 7:282 (Sept. 6, 1961).

IV. CONGRESSIONAL INTENT TO PRE-EMPT STATE POWER

In spite of these limitations upon federal power, for most purposes Congress has ample authority to authorize comprehensive regulation of almost all health and safety hazards arising from source, special nuclear and by-product material. In most situations the only question that remains is one of congressional intent: "Did Congress intend to pre-empt all regulatory control constitutionally within its power or, if not, what has been left for the states?" This depends upon the interpretations to be given to the 1954 act⁶⁰ and the 1959 amendment.⁶¹

A very detailed analysis was made of the federal pre-emption question as applied to atomic energy matters prior to the 1959 amendment.⁶² Although the 1954 act and its legislative history contained practically no reference to the pre-emption question, an analysis of the regulatory powers established in the act and the most nearly analogous pre-emption cases arising under other federal statutes clearly supported the conclusion that as a general proposition the AEC health and safety power in most cases pre-empted the field for the federal agency. Exceptions were found,⁶³ but the conclusion was reached that the general intent was to pre-empt the field for the federal government.

To the extent that the provisions of the 1954 act left uncertainties about Congress' intent to give the AEC exclusive jurisdiction in general, these were resolved by the 1959 amendment. Although the amendment does not expressly pre-empt the field for the federal agency, the clear implications of its provisions and the legislative history of the enactment indicate that the general theme was to preclude most state power as to radiation hazards, except to the extent that an agreement is made by the AEC to permit the state to assume some of the regulatory power previously lodged in the AEC.

One of the stated purposes of the amendment is "to clarify the respective responsibilities . . . of the States and the Commission. . . ."⁶⁴ This suggests that Congress meant to define the respective powers of the states and the AEC, and to provide that each has only such powers as are defined in the federal legisla-

⁶⁰ Atomic Energy Act of 1954, 68 Stat. 919, 42 U.S.C. § 2011 (1958).

⁶¹ 73 Stat. 688 (1959), 42 U.S.C. § 2021 (Supp. II, 1960).

⁶² *ATOMS AND THE LAW* 1008-74.

⁶³ *Id.* at 1065-67 and 1072-74.

⁶⁴ 73 Stat. 688 (1959), 42 U.S.C. § 2021 (a) (1) (Supp. II, 1960).

tion. This conclusion is corroborated by part of section 274 (b) which provides that the states have authority to regulate radiation hazards "during the duration"⁶⁵ of an agreement with the AEC. The implication "and not otherwise" is obvious. Again, subsection (c) provides that as to certain radiation activities "the Commission shall *retain* authority,"⁶⁶ and the character of these operations indicates rather clearly that Congress feels that *only* the AEC is qualified to regulate them. This implies that the AEC continues its exclusive powers over these few activities. The conclusion that could then be drawn is that state power arises *only* upon execution of an agreement.

Additional evidence is found in subsection (d) which instructs the AEC to make an agreement for state control only if it finds the state program is "adequate" and "compatible."⁶⁷ If the states already had concurrent jurisdiction there would be no need for an agreement scheme and certainly no reason to insist upon a finding of adequacy and compatibility. The amendment also has a provision for termination or suspension of an agreement with reassertion of federal authority,⁶⁸ as well as one to the effect that nothing in section 274 affects the rights of the states to regulate for purposes "other than protection against radiation hazards."⁶⁹ Neither would be necessary unless the federal act was meant to supersede state power over radiation hazards.

The interpretations here suggested certainly are what the drafters of the amendment had in mind. In several places, the committee report accompanying the bill shows that "it is not intended to leave any room for the exercise of dual or concurrent jurisdiction by States to control radiation hazards by regulating by-product, source, or special nuclear materials. The intent is to have the material regulated and licensed either by the Commission, or by the State and local governments, but not by both."⁷⁰ In the light of this evidence, therefore, a general intent to preempt, except when an agreement is made under the 1959 amendment, is the only reasonable conclusion.

Unfortunately, this disarmingly clear expression of general

⁶⁵ 73 Stat. 689 (1959), 42 U.S.C. § 2021 (b) (Supp. II, 1960).

⁶⁶ 73 Stat. 689 (1959), 42 U.S.C. § 2021 (c) (Supp. II, 1960).

⁶⁷ 73 Stat. 689 (1959), 42 U.S.C. § 2021 (d) (Supp. II, 1960).

⁶⁸ 73 Stat. 690 (1959), 42 U.S.C. § 2021 (j) (Supp. II, 1960).

⁶⁹ 73 Stat. 691 (1959), 42 U.S.C. § 2021 (k) (Supp. II, 1960).

⁷⁰ *Comments by the Joint Congressional Committee on Atomic Energy*, 86th Cong., 1st Sess. (1959), 1959 U.S. CODE CONG. & AD. NEWS 2879.

intent does not solve the hard questions which arise when consideration is given to *particular* aspects of state action which have some impact on uses of radiation sources. Consequently, other than indicating that any doubts should be resolved in favor of federal pre-emption, the 1959 amendment adds nothing to the reasoning suggested before in analyzing the pre-emption effect of the 1954 act: "In reality there is not one pre-emption question but many—as many as there are types of state health and safety actions affecting federally regulated atomic energy activities. Each of these questions can only be answered by considering the particular state action in relation to the system of federal law and administrative action as well as the nature of the matter regulated."⁷¹

Therefore, in order to bring into focus the extent to which the state can continue to regulate nuclear activity *absent* an agreement with the AEC and consistent with constitutional doctrine and congressional intent, the following conclusions about *specific* state regulatory action are suggested.

1. *Radiation sources, other than by-product, source and special nuclear material* as defined in the federal statute, can be regulated, regardless of whether or not they move in interstate commerce, provided, of course, that the regulation does not discriminate against interstate commerce⁷² and does not conflict with applicable regulations concerning interstate transportation established by federal agencies.⁷³ These sources include X-ray and fluoroscopic devices used in medicine and science, as well as in commerce and industry, atomic particle accelerators, naturally occurring radioisotopes (other than source material), and isotopes made radioactive by processes other than exposure to radiation in reactors.

2. *Non-radiation hazards* in construction and operation, even of federally-licensed activities such as reactors, can be regulated. These hazards could be subjected to state and local rules dealing with electrical wiring, plumbing and sanitation, structural design and materials, fire prevention and equipment, elevator design and safety features, ventilation (to the extent that radioactive material is not involved), safety features on non-radiation machinery and equipment, and other matters not directly related to radiation safety.⁷⁴ To the extent, however, that any of these regulations con-

⁷¹ ATOMS AND THE LAW 1054.

⁷² *Dean Milk Co. v. City of Madison*, 340 U.S. 349 (1951), and cases cited therein.

⁷³ Such as those general regulations issued for rail, air, and water carriers by federal agencies.

⁷⁴ ATOMS AND THE LAW 1055-58.

stitute an obstacle to compliance with a federal regulation, although the purpose of the state industrial safety requirement is different from that of the AEC's regulation, there would be pre-emption.⁷⁵ If this analysis is correct, state and local governments may require submission of installation plans and specifications to appropriate officials. From this analysis it also follows that a doctor licensed by the AEC must nevertheless have a state license to practice medicine.

3. *Zoning* of nuclear installations again falls partly within and partly without the category of powers the states or local governmental units can continue to exercise. The only health and safety determination made by the Commission is that a particular production or utilization facility is radiologically safe for a proposed site. The Supreme Court, therefore, would not deny to the states or local governments the power to exclude the facility from a particular location altogether, if the reason for doing so is not related to radiation health and safety and the facility is not owned by the federal government. The holder of a facility construction permit from the Commission could be prohibited by a state from building in an area zoned against commercial and industrial establishments.⁷⁶ The issuance of a construction permit indicates no more than the fact, as determined by the Commission, that there is reasonable assurance of radiation safety. The issuance does not suggest that the Commission has determined that operation of the facility in the particular location will not affect the health and safety of the public in some other objectionable manner, such as by substantially increasing truck traffic on residential streets. Such facilities which are owned by and operated for the federal government for its own purposes, however, are not subject to local zoning laws.⁷⁷ Likewise, if the zoning ordinance discriminates against radiation facilities it falls within the scope of the federal health and safety program and pre-emption principles apply. The federal legislation also does preclude the state from

⁷⁵ *Id.* at 1056.

⁷⁶ *Id.* at 1065.

⁷⁷ No Supreme Court cases directly on point were found, but the federal government so assumes in purchasing property such as for military bases. The conclusion follows logically from the basic attitude expressed by the Court in such cases as *TVA v. Welch*, 327 U.S. 546 (1946) and *Berman v. Parker*, 348 U.S. 26 (1954), although overriding of state zoning laws was not included in either case. "Once the object is within the authority of Congress, the right to realize it through the exercise of eminent domain is clear. For the power of eminent domain is merely the means to the end." *Berman v. Parker*, *supra* at 33.

allowing a damage action to private persons for what might be called psychological nuisance created by the loss in property values which might arise solely from fear of the mere existence of a reactor or reprocessing plant.⁷⁸ The same reasoning controlling applicability of zoning regulations supports this conclusion.

4. *Registration* with state and local authorities can be required of federal licensees of radiation sources because this constitutes no serious interference or substantial burden upon the AEC program and is very necessary if local authorities are to carry out such functions as fire and police protection with a minimum of risk.

5. *Violation of federal regulations* probably can be controlled by state injunctive or criminal sanctions imposed on those operating within the state even if no agreement has been made with the AEC permitting the state to assume regulation of radiation hazards.⁷⁹

6. *State-owned facilities* such as highways and sewage systems can be regulated under stricter standards than those imposed under any federal license for reasons pointed out before.⁸⁰ More liberal state regulations, however, would not immunize the licensee from federal authority.

7. *State-licensing* of operations regulated under the federal program almost surely is precluded—unless the state executes a section 274 agreement. This conclusion applies even to those activities exempted by the AEC from its licensing regulations, or covered by a general license, because in these cases the AEC has determined that these matters do not need to be stringently controlled.⁸¹ Several characteristics of the federal licensing scheme justify this conclusion. The scheme established by Congress and implemented by the AEC is extraordinarily pervasive. In addition, the AEC is directed—not merely permitted—to establish a licensing program. It seems clear from all the evidence that Congress did not intend that the states could second-guess the AEC's judgment on where to strike the balance between rapid development of this vital industry and adequate radiation safeguards.

Of course, the state can ask the AEC to consider its interests in

⁷⁸ ATOMS AND THE LAW 350-54.

⁷⁹ *Id.* at 1072-74.

⁸⁰ Text following note 58 *supra*.

⁸¹ ATOMS AND THE LAW 1063-67.

deciding whether or not to grant a license.⁸² And once a license is granted, the state can enter into a limited agreement with the AEC which would permit state inspection of federally-licensed activities in cooperation with federal authorities.⁸³ This agreement might be adopted in situations in which the AEC (or the state) does not care to make an agreement for the latter to assume full regulatory power.

But aside from these rather narrow ranges of state power, the generally pre-emptive effect of the federal legislation leads to only one conclusion: unless a state executes an agreement with the AEC, the state is constitutionally precluded from imposing general health and safety regulations upon users of source, special nuclear and by-product materials. Therefore, if the states want to resume their traditional role in protecting public health and safety, they must meet the criteria established by the AEC for executing such agreements.

V. THE FEDERAL "TURN-OVER" PLAN

The plan adopted by Congress in 1959,⁸⁴ and implemented by the promulgation of criteria in 1961 by the AEC,⁸⁵ provides for a *partial* and *conditional* turn-over of regulatory power after a state has entered into an agreement with the AEC. In addition, the right to rescind the grant of power is reserved under certain conditions.⁸⁶ This method of distributing governmental power, by which the states are required to satisfy detailed conditions before the AEC will relinquish its regulatory control, has yet to be tried in the United States on any significant scale,⁸⁷ and should be scrutinized most carefully because the way in which the problem of federal relinquishment is handled here is likely to have an effect on our federal system that transcends this particular technology.

Heretofore, Congress has adopted many different methods of adjusting power between the federal government and the states

⁸² 73 Stat. 691 (1959), 42 U.S.C. § 2021 (i) (Supp. II, 1960).

⁸³ 73 Stat. 690 (1959), 42 U.S.C. § 2021 (i) (Supp. II, 1960).

⁸⁴ Atomic Energy Act of 1954, § 274, added by 73 Stat. 688 (1959), 42 U.S.C. § 2021 (Supp. II, 1960).

⁸⁵ 26 Fed. Reg. 2536 (1961).

⁸⁶ Atomic Energy Act of 1954, § 274, added by 73 Stat. 690 (1959), 42 U.S.C. § 2021 (j) (Supp. II, 1960).

⁸⁷ *But cf.* National Labor Relations Act § 10(a), added by 61 Stat. 146 (1947), 29 U.S.C. § 160 (1958), under which the NLRB is authorized to cede, by agreement, jurisdiction in certain cases to a state.

in dealing with such matters as liquor control,⁸⁸ highways,⁸⁹ public health,⁹⁰ social security,⁹¹ river pollution,⁹² and employer liability.⁹³ Traditionally, however, once the federal government has returned regulatory power to the states, Congress has given the states discretion to decide whether or not regulation is necessary and, if so, to determine what regulations to impose. But with nuclear energy Congress has developed a method of turning over regulatory control to the states which protects essential federal interests by requiring the AEC to develop and apply conditions precedent to the transfer of power. In the past, Congress usually has obtained state adoption of a federally-desired program by buying it through financial inducements. This has taken the form of tax rebates (*e.g.*, estate tax⁹⁴ and unemployment compensation⁹⁵), or federal grants-in-aid conditioned on meeting specific prerequisites (*e.g.*, highway building programs⁹⁶). In none of these cases did the federal government give the states power when uniformity of regulation was considered essential, or investigate the qualifications of state personnel, or keep regulatory power if the states did not assume responsibility.

This new plan for controlling radiation hazards can be described as a federally-imposed regulatory scheme which is administered by the states which develop the details that are not specified in the federal criteria. This federal-state relationship retains the advantages of local administration and law-making while protect-

⁸⁸ After a long and turbulent history of state and federal liquor control in the United States, the twenty-first amendment was ratified. This amendment has been held to give the states unrestricted power to legislate on liquor control. *Finch Co. v. McKittrick*, 305 U.S. 395 (1939).

⁸⁹ Highway construction has called forth extensive grants-in-aid programs. See, *e.g.*, 72 Stat. 885, 23 U.S.C. § 101 (1958).

⁹⁰ In the public health field the federal government provides advice and assistance to the states in addition to financial assistance to many state health programs. See Public Health Service Act, 58 Stat. 682 (1944), as amended, 42 U.S.C. §§ 201-292 (1958).

⁹¹ Grants-in-aid programs are used extensively by the federal government for social welfare purposes. See, *e.g.*, Social Security Act, 49 Stat. 620 (1935), as amended, 42 U.S.C. §§ 1301-71 (1958).

⁹² The Water Pollution Control Act, 62 Stat. 1155 (1948), as amended, 33 U.S.C. § 466 (1958) authorizes the Secretary of Health, Education and Welfare to seek a federal injunction to abate water pollution which endangers the health and welfare of persons in a state other than that in which the discharge originates.

⁹³ Congress has given state courts concurrent jurisdiction in the enforcement of rights under FELA, 35 Stat. 65 (1908), 45 U.S.C. § 51 (1958).

⁹⁴ INT. REV. CODE OF 1954, § 2011.

⁹⁵ Social Security Act, 49 Stat. 620, 626 (1935), as amended, 42 U.S.C. §§ 301, 501 (1958).

⁹⁶ 72 Stat. 885, 887 (1958), 23 U.S.C. §§ 101, 103 (1958).

ing federal policy through the use of federally-developed conditions for turn-over of control to the states.

In analyzing the plan adopted, consideration will be given, first, to the statutory provisions for relinquishment; second, to the provision for recovery of federal control; third, to the area of delegation proscribed by the amendment; fourth, to the specific criteria promulgated by the AEC, and then to judicial review of AEC determinations. The adequacy of the total scheme as a method of resolving the federal-state control question will then be evaluated.

A. *Statutory Requirements for Relinquishment to the States*

After the governor of a state certifies that his state is ready to take over control,⁹⁷ the Commission must find that the state program is (1) "compatible"⁹⁸ with the AEC's program, and (2) that the state program is "adequate to protect the public health and safety"⁹⁹ These requirements present questions of fact for the Commission's determination and therefore give considerable discretion to the Commission. Nevertheless, there are some guides in the legislative history which limit this discretion. There are a few minor additional prerequisites to turn-over,¹⁰⁰ but *adequacy* and *compatibility* are the basic ones, and of these two, compatibility presents the more sensitive issues.

In explaining the meaning of the compatibility requirement, the committee report makes it clear that this means "identical,"¹⁰¹ except for minor variations such as terminology or periods for measuring maximum permissible exposures. The committee report states that the language "to the extent feasible," was removed from the proposed bill so that there would be no danger of "conflicting, overlapping, and inconsistent standards in different jurisdictions, to the hindrance of industry and jeopardy of public safety."¹⁰²

As to the "adequate state program" requirement, Congress seems to be concerned only that the AEC find that there is a

⁹⁷ § 274, 73 Stat. 689 (1959), 42 U.S.C. § 2021 (d) (1) (Supp. II, 1960).

⁹⁸ Atomic Energy Act of 1954, § 274, added by 73 Stat. 689 (1959), 42 U.S.C. § 2021 (d) (2) (Supp. II, 1960).

⁹⁹ *Ibid.*

¹⁰⁰ Atomic Energy Act of 1954, § 274, added by 73 Stat. 689 (1959), 42 U.S.C. § 2021 (e) (Supp. II, 1960).

¹⁰¹ S. REP. NO. 870, 86th Cong., 1st Sess. 11 (1959).

¹⁰² *Id.* at 9.

large enough staff of well-qualified state personnel to assure protection against health hazards.¹⁰³

B. *Recovery of Federal Control: Termination or Suspension of the Agreement*

Although Congress has made clear its desire to achieve a non-duplicative and uniform regulatory program, the provision for termination or suspension of a section 274 agreement creates a serious interpretation problem which may be indicative of an unresolved congressional ambivalence when the amendment was adopted in 1959. The agreement with a state can be abrogated "if the Commission finds that such termination or suspension is required to protect the public health and safety."¹⁰⁴ Once the AEC has found that a state's program is adequate and compatible, it would be reluctant to find that the once-adequate program is now insufficient, but it has the express power to do so. On the other hand, no express statutory language gives the AEC the power to rescind the agreement if the state subsequently establishes a program which is no longer compatible with the federal criteria, assuming the public health and safety are not endangered. This would be true if the state imposed more stringent standards. However, an interpretation of the statute which would restrict the power of a state to deviate from the criteria is possible. This view is that the specific provision for termination or suspension implies only that the AEC must always reserve the power to rescind for health reasons, but does not preclude the AEC from placing in the turn-over agreement a reservation of additional grounds for rescission. This interpretation is somewhat strained, however, because the *expressio unius* canon of construction would indicate a contrary conclusion and, in addition, the committee report makes it clear that the rescission power is "to be exercised only under extraordinary circumstances."¹⁰⁵

Apparently Congress never quite made up its mind whether it wanted unfettered state control so long as a state continued to have adequate facilities for protecting the public health and safety, or whether it envisioned an active partnership between the federal government and the states with the federal interest protected by

¹⁰³ *Id.* at 8.

¹⁰⁴ Atomic Energy Act of 1954, § 274, added by 73 Stat. 690 (1959), 42 U.S.C. § 2021 (j) (Supp. II, 1960).

¹⁰⁵ S. REP. No. 870, 86th Cong., 1st Sess. 12 (1959).

continuation of the initial criteria of compatibility. The better approach would be to have general standards established by the AEC, allowing the states considerable discretion as to the methods of implementation and enforcement within their boundaries, but not permitting state deviation from federal standards which would interfere with national policy. This result can best be brought about by a congressional amendment giving the AEC authority to revoke or suspend state authority if a state deviates substantially from the standards laid down in the criteria or deviates from reasonable future changes in AEC regulations. Lacking such an amendment, the AEC should exact a promise from the states that they will not deviate substantially from the criteria, on penalty of termination or suspension. Even if such a promise would have no legal force, its moral force would probably be sufficient to restrain a state from departing from the federal standards.

C. *Statutory Limitations on Agency Delegation*

Certain restrictions are imposed upon the AEC by the 1959 amendment that severely limit the extent to which the AEC may permit the states to regulate radiation hazards. Thus, the AEC cannot agree to allow a state to regulate production or utilization facilities;¹⁰⁶ the export or import of by-product, source or special nuclear material;¹⁰⁷ any special nuclear material in quantities sufficient to form a critical mass;¹⁰⁸ or disposal of wastes into oceans or seas.¹⁰⁹ An appraisal of the more important of these restrictions will show that many of them are not necessary for the protection of federal interests, but could be handled by the agreement-making process.

1. *Production and Utilization Facilities.* The AEC is not permitted to return to the states power to control the production of special nuclear material or the utilization of it in reactors. Typically these installations are the largest and most complex of our nuclear facilities and present the greatest dangers to the pub-

¹⁰⁶ Atomic Energy Act of 1954, § 274, added by 73 Stat. 689 (1959), 42 U.S.C. § 2021 (c) (1) (Supp. II, 1960).

¹⁰⁷ Atomic Energy Act of 1954, § 274, added by 73 Stat. 689 (1959), 42 U.S.C. § 2021 (c) (2) (Supp. II, 1960).

¹⁰⁸ This prohibition is not explicitly stated in § 274. However, it may be implied from § 274 (b) (3) which authorizes states by agreement to regulate "special nuclear materials in quantities not sufficient to form a critical mass." 73 Stat. 689 (1959), 42 U.S.C. § 2021 (c) (3) (Supp. II, 1960).

¹⁰⁹ Atomic Energy Act of 1954, § 274, added by 73 Stat. 689 (1959), 42 U.S.C. § 2021 (c) (3) (Supp. II, 1960).

lic health and safety. Retention of federal control to protect the national security is necessary, but national security is not, by itself, a sufficient reason for refusing to permit state regulation of the safety features of production and utilization facilities. The primary justification for the exclusion of the states in this area seems to be that analysis of the very complex technical data needed to assure safety is beyond the capabilities of existing state personnel.¹¹⁰ A second reason may be the feeling that the development of this technology is so important, both for the national economy and for our international relations, that the delicate balance between rapid development and protection of public health and safety should be the responsibility of the federal government. However, these objectives could be met by the use of federally-imposed criteria in the same way as they will be applied to by-product, source, and special nuclear materials of less than a critical mass. In this area, Congress should amend section 274 to give the AEC authority to turn over control to the states, but also to refuse to transfer regulatory power to the states if the Commission determines that the hazards or potential hazards are such that regulation should continue with the AEC.¹¹¹ The AEC probably has such discretion through its determination of "adequacy." Nevertheless, because of the great risks involved in this area, the authority to refuse transfer of control should be unambiguously stated.

2. *Export or Import of By-product, Source, or Special Nuclear Material.* The states are precluded from the regulation of the export and import of the three categories of materials which they can regulate. The states have never been permitted to control exports and imports¹¹² and no reason exists for permitting them to do so with respect to radiation sources any more than with other dangerous materials.

3. *Waste Disposal into the Oceans.* The precise reason for precluding the states from regulating disposal of waste materials into oceans and seas is difficult to ascertain, although there can be little dispute over the extent of federal power in this area.¹¹³

¹¹⁰ S. REP. NO. 870, 86th Cong., 1st Sess. 9 (1959).

¹¹¹ The Committee Report recognizes that § 274 is interim legislation. *Id.* at 9.

¹¹² U.S. CONST. art. I, § 10.

¹¹³ See *United States v. Texas*, 339 U.S. 707 (1950), which sustained federal ownership of mineral deposits underlying the coastal waters on the theory that the federal government had sovereign control and dominion over the marginal seas. See also *United States v. Louisiana*, 339 U.S. 699 (1950); *United States v. California*, 332 U.S. 19 (1947).

Three possibilities suggest themselves. Congress may have reasoned that exclusive federal control must be retained because such disposal has obvious international consequences. However, the danger of intermeddling state regulation would be eliminated by the establishment of federally-imposed maximum permissible concentrations and the barring of disposal in places where, in the opinion of the federal government, it could create international repercussions.

Another possible reason is that preparations for such waste disposal are so technical that state personnel are not qualified to handle the determinations necessary to control such activities. The operational problems are not nearly as complex as those involved in the evaluation of reactors, however, and would seem to be well within the competence of some state agencies. Furthermore, the AEC has discretionary power to refuse to transfer control of certain waste disposal operations¹¹⁴ and this power is ample to handle the situation where the hazards are too great for state control.

In any event, a third reason does justify exclusive federal control. Except for mineral rights held by certain states, the submerged land under our coastal waters is legally owned by the federal government. Therefore, it would seem that control of such areas should be in the federal government, if Congress thought it wise to assert control based on ownership. Under the last of the three possible justifications, exclusive federal control should not apply to inland waters which flow directly into the oceans whereas the first two possible reasons raise questions about the control of disposal in streams emptying into coastal waters.¹¹⁵

4. *Transfer of Nuclear Material.* In addition to the proscribed areas of delegation, the AEC is authorized, although not directed, to license all transfers of possession or control of any product containing any by-product, source or special nuclear material which the states may control after an agreement is made pursuant to the amendment. As explained by the committee report, the AEC requested this provision.¹¹⁶ The Commission did not pro-

¹¹⁴ Atomic Energy Act of 1954, § 274, added by 73 Stat. 689 (1959), 42 U.S.C. § 2021 (c) (4) (Supp. II, 1960).

¹¹⁵ Apparently, the AEC is not planning to assert exclusive control of streams or rivers emptying into coastal waters. See 26 Fed. Reg. 7884 (1961) in which the AEC defines ocean or sea to mean "any part of the territorial waters of the United States and any international waters." See S. REP. NO. 870, 86th Cong., 1st Sess. 10-11 (1959).

¹¹⁶ S. REP. NO. 870, 86th Cong., 1st Sess. 10-11 (1959).

pose to attempt to regulate "manufacture, transportation, or use" of such products but felt that when they are sold in interstate and foreign commerce it is important that uniform rules be applied.¹¹⁷ Furthermore, the AEC explained that if the expected rapid growth in use of such materials in interstate products does occur, the extent of such distribution in the country as a whole becomes important and transcends state lines.¹¹⁸ Nevertheless, it would seem that like most other federal objectives these can be met through the use of federal-state agreements.

D. *Atomic Energy Commission Criteria*

Although no formal agreements are effective as yet,¹¹⁹ the broad outlines of what these agreements will contain can be determined from a detailed analysis of the AEC's criteria which are now in final form. To a large extent the criteria represent the judgment of the AEC on the proper allocation of regulatory power. This judgment, however, had to be exercised within the scope of the "adequacy" and "compatibility" requirements specified by Congress. In analyzing the criteria, several standards are used by the authors as a guide in determining whether the AEC should impose these limitations upon the states in order to protect the federal interests implicit in the compatibility and adequacy requirements. They are (1) the need for a national uniform requirement, (2) the value of experimentation by the states, (3) the national implications of the health and safety dangers involved, and (4) the promotion of the development of the nuclear industry.

The criteria are divided into eight sections. The first states the dual objectives of any regulation program, "to protect the health and safety of the people" and to encourage "the constructive uses of radiation."¹²⁰

1. *Establishing Standards.* Potentially there are two types of regulations in this area. One involves the setting of basic standards. The other is the detailing of the means for meeting these standards. Except in a few isolated instances,¹²¹ the criteria in this

¹¹⁷ *Ibid.*

¹¹⁸ *Ibid.*

¹¹⁹ The AEC has recently announced a proposed agreement with Kentucky, 26 Fed. Reg. 7889 (1961). However, the agreement is phrased in general terms and does not change the following analysis.

¹²⁰ Criterion 1, 26 Fed. Reg. 2537 (1961).

¹²¹ *E.g.*, AEC regulations concerning disposal by burial in soil. 10 C.F.R. 20.304 (1959).

section set the standards and leave to the states considerable freedom to experiment with various methods of achieving compliance with these standards. The criteria require that state maximum permissible exposure levels for workers and the public must conform¹²² with AEC standards. The standards for waste disposal also are required to be consistent with the AEC regulations.¹²³ Therefore, the states are not permitted to legislate on these important matters affecting the health and safety of their citizens. Nevertheless, Congress and the AEC have made the proper decision. The present low levels at which the standards are pegged are a response to fears of genetic injuries, although there is also some concern with the various forms of somatic radiation injuries. Genetic injuries are of national as well as local concern, particularly in a mobile society, because their effects are expressed in many generations. Furthermore, the total exposure from civilian uses of radiation sources of our population may have some bearing on our ability to withstand a nuclear attack. In addition, imposition of standards lower than the AEC's would prove costly to the industry and might seriously impede the national policy of promoting atomic development. All these federal interests should be and are protected by the criteria.

The AEC, on the other hand, is permitting the states considerable discretion in the implementation of these standards.¹²⁴ In addition to providing a suitable climate for the development of new and improved methods of implementing present standards, the plan should promote an increased state feeling of responsibility for, and participation in, the country's atomic energy program.

In the area of technical definitions and terminology, the AEC is requiring only that the states strive for uniformity.¹²⁵ Here the AEC should have *required* uniformity. Little can be hoped for by state experimentation, and a uniform terminology would facilitate communication throughout the country. The only justification for failing to require uniformity is that some states in their previous regulation of X-rays may have developed their own terminologies, making it difficult to change suddenly to uniform terminology and technical definitions. When writing agreements under the existing statute, the AEC should permit

¹²² Criterion 3, 26 Fed. Reg. 2537 (1961).

¹²³ Criterion 9, 26 Fed. Reg. 2537 (1961).

¹²⁴ Criteria 3 and 9, 26 Fed. Reg. 2537 (1961).

¹²⁵ Criterion 3, 26 Fed. Reg. 2537 (1961).

deviation in terminology and technical definitions only when the imposition of uniform national terminology would present a serious hardship to the state.

Similarly, the AEC specifies that it is desirable to achieve uniformity in labels, signs and symbols, and the posting thereof.¹²⁶ Here also, uniformity would be very desirable, but the effects are localized and not too important. The AEC is requiring uniformity in labels, signs, and symbols affixed to radioactive products which are transferred from "person to person"¹²⁷ and this will probably control the most significant cases. However, the criteria do not define "person to person." It is possible to interpret this literally so that uniformity would be required every time a person handed radioactive material to another person. On the other hand, it may refer only to the situation where a transfer of legal control is made, such as when one corporation sells the product to another. The difference in these two interpretations is significant in considering the practical effect of the uniformity requirement.

The AEC is requiring that the regulations applicable to the shipment of radioactive materials be compatible with those established by the various authorities of the federal government.¹²⁸ Here regulations different from those of the federal agencies would make life difficult for a user carrying on both intrastate and interstate business and this commercial interest justifies the requirement of compatibility.

Through this whole important section there is no direct attempt by the AEC to influence the regulation of radiation sources which have always been under state control, such as X-rays. If the amendment had authorized the AEC to set standards for the use of X-rays, the same reasons for compulsory standards as suggested previously would apply because radiation from an X-ray machine has the same effect as the gamma radiation of radioactive isotopes. The criteria require, however, that the states must consider the total occupational radiation exposure of individuals, including that from sources which are now regulated by the state.¹²⁹ This requirement, when coupled with the further requirement that the states must insist on the keeping of employee exposure records,¹³⁰ implies that the states must regulate X-rays

¹²⁶ Criterion 6, 26 Fed. Reg. 2537 (1961).

¹²⁷ *Ibid.*

¹²⁸ Criterion 10, 26 Fed. Reg. 2537 (1961).

¹²⁹ Criterion 4, 26 Fed. Reg. 2537 (1961).

¹³⁰ Criterion 11, 26 Fed. Reg. 2537 (1961).

at least to the extent necessary to determine the amount of occupational exposure to X-rays. This is a sensible provision, since the employee's body needs protection against all sources of radiation and any satisfactory control system must take into account all sources. The national interest in knowledge of all occupational exposure to radiation is protected by the keeping of records that are available to the federal government.

The AEC, however, has imposed additional record requirements. The state must require employers to make available to former employees a report of any radiation exposure.¹³¹ Further, at the request of an employee, the employer must inform an employee in writing when he has radiation exposure in excess of the prescribed limits and, if requested, must inform an employee of his annual radiation exposure.¹³² While keeping of records that would be available to the national government is of national interest, the availability of these records to employees is not. The primary interstate interest is the need for uniformity and accuracy of records when an employee works in different states. This could be satisfied without requiring reporting to workers. An argument could be made that forcing revelation of exposure levels to employees will act as an automatic safety-standard enforcement technique because workers and their unions will point out dangerous trends in particular situations. Nevertheless, it is not hard to guess that this requirement is motivated primarily by a desire of unions to facilitate the prosecution of workmen's compensation claims. There would seem to be no more reason for federal intrusion into the administration of state workmen's compensation laws for radiation injuries than for many other occupational hazards. Such federal intrusion generally may or may not be wise, but there is little justification for singling out radiation exposure cases for special treatment.

2. *Prior Evaluation of Uses of Radioactive Materials.* The criteria require that there be prior evaluation of radiation uses.¹³³ Although the term "prior evaluation" is used, it nonetheless is a licensing scheme.¹³⁴ The AEC has decided that the technology is not sufficiently standardized for regulations alone to provide complete health and safety protection and has determined that

¹³¹ Criterion 11 (d), 26 Fed. Reg. 2537 (1961).

¹³² Criteria 11 (d) and 11 (e), 26 Fed. Reg. 2537 (1961).

¹³³ Criterion 13, 26 Fed. Reg. 2537 (1961).

¹³⁴ *Ibid.*

a licensing scheme is necessary at this time. Furthermore, the AEC has set down standards for the states to use in the licensing process: the adequacy of the applicant's facilities and safety equipment,¹³⁵ his training and experience in the use of the materials for the purpose requested,¹³⁶ and his proposed administrative controls.¹³⁷

Whether or not licensing is necessary to secure compliance is basically a decision on what is the most feasible type of administration. The type of administration necessary to secure compliance is primarily of local concern, and the AEC, by not permitting the states to experiment with other methods of controlling radiation hazards, may well be preventing the development of more effective control mechanisms. However, the criteria recognize that as more is learned about the technology, licensing in many cases may not be necessary and the states are given the power to decide when this will be true.¹³⁸ This freedom to abandon licensing in some areas and substitute other regulatory mechanisms makes the requirement of licensing in the criteria more justifiable since the AEC is making only an initial determination.

The criteria also require that, for use of radiation on humans, the state license only those individuals who have some training in such uses of radioactive materials.¹³⁹ This provision will embroil the states in the controversy within the medical profession as to which medical groups should be permitted to use certain specialized tools. At the present time a state license to practice medicine legally permits the licensed physician to engage in all forms of medical practice. The profession is given the responsibility of setting up and enforcing by group pressure the selection of certain medical groups that may use various highly specialized techniques such as brain surgery, use of X-ray machines, etc. Although medical exposure has some national implications, on balance it would be sensible for the AEC not to force the states to interfere with the workings of their medical control system. Some such interference would be very helpful because many unqualified persons now use radiation as well as other specialized techniques in medicine, but this broad problem should be left for the

¹³⁵ Criterion 14, 26 Fed. Reg. 2538 (1961).

¹³⁶ *Ibid.*

¹³⁷ *Ibid.*

¹³⁸ Criterion 13, 26 Fed. Reg. 2537 (1961).

¹³⁹ Criterion 15, 26 Fed. Reg. 2538 (1961).

individual state to handle, unless the federal government wants to impose this type of regulation upon the medical profession generally.

3. *Administration.* This section¹⁴⁰ presents another serious inroad into matters which are essentially local. The state must give assurances to the AEC that there will be a fair and impartial administration of regulation. These include a provision for public participation, where appropriate, in such procedures as formulating rules of general applicability, approving applications for licenses or authorizations to possess and use radioactive materials, and taking disciplinary actions against licensees. Fair procedure is a local matter of intense concern to the parties affected but of little importance to national interests except as good state government is good for the national welfare. Due process should be the limiting federal control.

The problems inherent in the overlapping jurisdiction of state agencies are recognized in the criteria¹⁴¹ but no particular solution is specified. The AEC does want assurances against duplicate regulation and licensing by state and local authorities and indicates that it may be desirable that there be a single or central regulatory authority. Under existing state administrative regulatory organization, control of atomic energy might be shared by several agencies such as the health department, labor or industrial department, highway or police commission, utility commission, water pollution commission, fish and game commission, etc.¹⁴² Because of the loss of power that these agencies would suffer if a single regulatory agency to handle radiation regulation were created, these agencies tend to oppose the establishment of a single regulatory agency. The AEC sensibly has not required the states to provide a centralized agency. There is a good basis, however, for its statement that this form of administration is desirable. The specialized training required to handle and evaluate radiation problems, coupled with the scarcity of people trained in atomic energy, argues strongly for a centralized agency. However, political considerations involved in interagency power struggles are a bar to this solution in many states.

The AEC along with the Council of State Governments has published a recommended statute which provides for three forms

¹⁴⁰ Criterion 23, 26 Fed. Reg. 2538 (1961).

¹⁴¹ Criterion 24, 26 Fed. Reg. 2538 (1961).

¹⁴² ATOMS AND THE LAW 880-951.

of administration.¹⁴³ One of the alternatives is the centralized agency scheme.¹⁴⁴ Another sets up the office of coordinator whose job is to coordinate the regulations of the various state agencies that would have regulatory power under existing state administrative organization.¹⁴⁵ Under this plan, the governor is empowered to veto any regulations that are incompatible with those of the other regulating agencies. This form of regulatory coordination provides an adequate method for the elimination of overlapping regulations promulgated by various state agencies. The prevention of overlapping regulations, which would present a substantial hindrance to the users of radioactivity, is the only national interest which the AEC would protect by dictating the form of state administration, and therefore, any administrative scheme that provides a method for handling jurisdictional conflicts should be satisfactory to the AEC. The inclusion of the coordinator plan in the AEC's suggested state legislation indicates that the AEC has correctly decided to insist only on the prevention of overlapping regulations. The last alternative,¹⁴⁶ and next to the separate agency the most desirable, involves placing the rule-making authority in a board within the public health service, a department whose existing functions are closest to those required for proper radiation protection. The actual enforcement, however, would be carried out by the existing state agencies. From a political standpoint this alternative is feasible because of the strong political position within state governments of many departments of health.

4. *Coverage, Amendment, Reciprocity.* This section specifies that control of any one of the three categories of materials (source, special nuclear, by-product) may be turned over to the states, but the state must assume control of *all* of a category or categories.¹⁴⁷ This is an unsound provision. A situation could arise where the AEC would decide that a state was not fully qualified to regulate all uses or material of a particular category, but that easier and less dangerous materials or uses were within a state's capacity. In this situation, if a state is making an earnest

¹⁴³ Council of State Governments, Comm. of State Officials on Suggested State Legislation, Development and Regulation of Sources of Ionizing Radiation, State Radiation Control Act 20 (1961). See also suggested model state statute in *ATOMS AND THE LAW* 1089-1110.

¹⁴⁴ *Id.* at 24-25.

¹⁴⁵ *Id.* at 22-24.

¹⁴⁶ *Id.* at 25-26.

¹⁴⁷ Criterion 27, 26 Fed. Reg. 2539 (1961).

effort to prepare itself for regulatory responsibilities, but is not able to take over full control, the state should be permitted to control as much of the category as it is able to handle. The AEC's requirement is probably a response to the fear that a state will desire to regulate only the more glamorous materials and leave to the AEC the more pedestrian tasks. If this is the source of the provision, the problem could be handled more directly by requiring a showing of good faith on the part of a state which desires to regulate only a portion of a category. A good faith requirement would free the AEC to turn over control of a portion of a category where legitimate reasons exist for the state's inability or reluctance to regulate the whole area.

This section also suggests that arrangements for reciprocal recognition of state and federal licenses should be made.¹⁴⁸ This provision should have been mandatory. There is substantial commercial convenience in having licenses which are granted in one state recognized as valid in other states. Since the AEC has set the standards of both the regulatory and licensing programs of the states, a state cannot realistically complain that if it is forced to recognize automatically an out-of-state license it may be permitting the out-of-state licensee to engage in activities which would be forbidden to its own citizens. Therefore, since there would be a considerable lessening of commercial inconvenience through the use of reciprocal recognition of licenses, without at the same time interfering with the internal policies of the states, the AEC should have required reciprocity and should not sign agreements unless some reciprocity provision is included. This may upset the practice in some cases of using safety-justified licensing as a hidden economic discrimination against out-of-state interests.

E. *Judicial Review of AEC Decision Adverse to State*

If a state government feels aggrieved by the refusal of the AEC to find that the state radiation regulatory program justifies a "turn-over" agreement, may the state appeal to the courts for an order directing the AEC to execute one?

Although, in general, administrative action or inaction is reviewable when Congress is silent about appeal to the judiciary,¹⁴⁹ some question exists about the appropriateness of such review in

¹⁴⁸ *Ibid.*

¹⁴⁹ 4 DAVIS, ADMINISTRATIVE LAW § 28.05 (1958).

the AEC-state agreement situation. The amendment of 1959 makes no mention of judicial review and certainly the agreement-making process was not considered by Congress when enacting the general review provisions of the 1954 act. These review provisions are directed primarily to the licensing of users of radiation sources, and owners and operators of certain nuclear facilities.¹⁵⁰ In addition, it can be argued that because these agreements are the result of negotiations between two sovereigns, political accommodation rather than judicial review is the appropriate remedy. On the other hand, because the federal government has preempted the regulatory power, the negotiations are not between two sovereign equals. When a state approaches the AEC for a return of regulatory power it is more like an individual asking the federal agency for the grant of a license or privilege. Undoubtedly, federal officials could be arbitrary, or possibly even act without statutory justification, in refusing to make an agreement with the requesting state—just as when a private petitioner requests some federal license. Although such clearly arbitrary action is unlikely, without a judicial remedy an individual state would be almost helpless. The Supreme Court might decide, therefore, that Congress did not intend to put the states in such a plight, but rather intended the agreement process to be appealable and included no such provision in the 1959 amendment only because it assumed the general review provisions would govern. In any event, judicial review should be provided for the unlikely case, and Congress should make this clear by a specific amendment.

Assuming judicial review to be available without amendment, only the traditional judicial remedies would be applicable. Typically, mandamus is used when a government official refuses to take proper action, but this remedy has some historical distinctions which limit its applicability even though the right to judicial action otherwise would exist.¹⁵¹ Here again Congress should make specific provision for an appropriate review remedy.

Even if judicial review is possible, the courts would be very unlikely to reverse an AEC determination adverse to a state. The determination of whether or not the state has a satisfactory program is a matter of judgment based on an evaluation of each request and the courts undoubtedly will be very reluctant to second-guess the AEC unless the agency makes a series of decisions which

¹⁵⁰ Atomic Energy Act of 1954 § 189, 68 Stat. 955, 42 U.S.C. § 2239 (1958).

¹⁵¹ 3 DAVIS, *op. cit. supra* note 149, §§ 23.09-23.13.

make the courts lose confidence in its expertise and fairness. When a state is the requesting party this reluctance may be even greater than normal.

CONCLUSION

There can be little doubt that Congress has the constitutional power (with limited exceptions) to pre-empt state regulation of the health and safety aspects of nuclear materials; and Congress has clearly expressed its intent to do so as to most of the field. Therefore, if the states want to exercise lawful control over these matters, they must execute turn-over agreements with the AEC.

The federal-state relinquishment technique, based on local administration of national standards, has two principal advantages. First, it assures that the establishment of general radiation protection standards will be made at a level where highly technical and sometimes competing factors of national interest can best be balanced. Second, leaving enforcement to the states allows each state to adapt regulatory control to local conditions, with the added opportunity for experimentation in the most effective regulatory methods.

An analysis of the federal plan to turn over certain regulatory functions to the state governments indicates that, while fundamentally sound, some key problems remain unresolved and that certain provisions are of questionable merit. The authors have attempted to make constructive suggestions to remedy some of these difficulties. For Congress the major suggestions are that it (a) clarify certain statutory ambiguities concerning supersedure of state power; (b) condition federal grants-in-aid for construction of state facilities on the acceptance of federal radiation standards; and (c) grant express authority to the AEC to rescind a state's authority to regulate when the state's radiation standards are no longer compatible with those of the AEC.

The AEC is urged to (a) relax the rules that require a state to establish a licensing system, and that make a state take control of all-or-none of a category of nuclear material; (b) refrain from interfering in such internal state matters as employer-employee relations in workmen's compensation matters, the type of state administrative procedure which will insure a fair hearing, and the licensing of medical personnel to use certain radiation materials; and (c) make mandatory its provisions concerning reciprocal recognition of state licenses by other states, and for uniformity of symbols, terminology and definitions.

Nevertheless, these proposed changes, although important, do not detract from the general excellence of the turn-over plan. Overall, it is an imaginative and useful way of accommodating the interests of the state and federal governments, the nuclear industry, and the general public. As similar problems of federal-state relations arise in connection with other technological developments, the basic approach which has been worked out for regulating radiation hazards should be of general applicability. Such problems as water pollution, air contamination, and the allocation and use of natural resources are becoming increasingly important to the whole nation and their control might well be worked out along the lines used for atomic energy. Indeed, if the AEC-state agreement plan succeeds in providing an adequate adjustment of basic inter-governmental conflicts, it will point the way for a significant advance in pragmatic American federalism.