State Regulation of Nuclear Facility Hazards: A Case of Federal Preemption

Joseph R. Voiland

Follow this and additional works at: http://lawecommons.luc.edu/luclj

Part of the Environmental Law Commons

Recommended Citation
Available at: http://lawecommons.luc.edu/luclj/vol8/iss3/7
State Regulation of Nuclear Facility Hazards: A Case of Federal Preemption

The current battle over nuclear power is being conducted in the grand tradition of a medieval holy war.¹

The United States needs to produce large quantities of economical energy while minimizing the pollution generated in energy production and use. Clean, economical energy will not only promote a high standard of living, but will also encourage optimum uses of resources and make possible the disposal of waste within acceptable aesthetic and environmental standards.

Nuclear energy is fast becoming a major source of electric power.² It offers one of the best means for meeting large-scale electric power needs in a safe, reliable, and economical manner with a minimal adverse impact on our environment. However, the use of nuclear power poses many uncertainties. Criticism has been directed toward the hazards of a nuclear power program: the possibility of a catastrophic reactor accident,³ the long-term hazards of storing wastes produced in the fission process,⁴ and the diversion of nuclear materi-

---

². The Energy Research and Development Administration reported on June 30, 1975 that in addition to the 53 licensed commercial reactors (accounting for 7.5 percent of all installed electric generating capacity in the United States), 188 nuclear reactors were being built or were planned. See ERDA, News Release No. 28 (July 25, 1975). It has been projected that by the year 2000 there will be 1,000 nuclear plants in operation, generating 60 percent of the electricity then in use. S. REP. No. 93-980, 93d Cong., 2d Sess. 19 (1974). However, in light of a recent spate of cancellations and postponements of utility orders for nuclear power plants, these figures may be somewhat inflated. See N.Y. Times, Sept. 9, 1975, at 53, col. 7.
³. If there should be a very rapid rise in the power generated, or a blockage of coolant from the core, the metals in the affected fuel elements might partially melt, and a rapid energy-releasing chemical reaction could occur. Opponents of nuclear power assert that a catastrophe would result and refer to a 1957 Atomic Energy Commission study (WASH-740). That study projected that the effect of a loss of coolant accident (LOCA) would release fission products from the core into the atmosphere, and result in severe casualties to the surrounding population. It should be noted that present day plants utilize a series of engineered safeguards, none of which were included in the WASH-740 hypothetical analysis. Proponents now claim that the effects of potential chemical reactions have been anticipated and the plants have been designed to absorb them with little or no release of radioactive material or other adverse effects to the public. See Oversight Hearings on Nuclear Energy—Overview of Major Issues, Congressional Hearings of Subcommittee on Energy and Environment, Committee on Interior and Insular Affairs, H. REP. No. 94-16, 94th Cong., 1st Sess. 240 (1975).
⁴. The nuclear waste disposal problem is one of disposing of the wastes by ensuring that they are isolated from human environment for the length of time it takes until they are at natural background (harmless) levels—600 years to several hundred thousand years. Opponents question whether the technology to safely store these wastes even exist, and whether it is right for our generation to leave a legacy of radioactive wastes as a hazard for future generations. Proponents argue that it can be safely stored in a variety of manners. They also
Editor's Note

The 1976-77 Editorial Board regretfully announces that Note, State Regulation of Nuclear Facility Hazards: A Case of Federal Preemption, appearing in Volume 8, Number 3, at page 594, was taken in substantial part without attribution from a report entitled Nuclear "Moratorium" Legislation in the States and The Supremacy Clause: A Case of Express Preemption, prepared by Professor Arthur W. Murphy, Columbia University School of Law, and Professor D. Bruce La Pierre, now of Washington University School of Law. This report was published and distributed by the Atomic Industrial Forum, Inc., in November, 1975. We respectfully apologize to the authors and refer interested readers to a later version of this report in COLUMBIA LAW REVIEW, Volume 76, Number 3, at page 392, published in April, 1976.

(please insert at page 594)
Although the risks associated with nuclear power plants are calculated to be very small, there has been an ongoing attempt to limit severely or actually prohibit the use of nuclear power as an energy source. During 1975 and 1976 over twenty state legislatures considered bills designed to restrict or prohibit altogether the construction and use of nuclear power plants to generate electric energy. Initiatives against nuclear power were also proposed in eight states, six of which placed the question of nuclear power plant development on the ballot in the 1976 elections.

This opposition to nuclear energy was not confined to the state legislatures. Proposals to curtail the development of nuclear power have been made in Congress and challenges to the nuclear power program have also been brought in the courts on environmental and safety grounds. But these state actions are unique in their premise that state governments and not the federal government should make the basic decisions about the development of nuclear power. Insofar as the regulation of nuclear energy has always been an exclusively federal concern, these state bills are at odds with the entire course of nuclear development in the United States.

This article will evaluate state bills purporting to prohibit, restrict, or regulate commercial power reactors, and will examine their
constitutional validity in light of congressional authority to regulate the field of nuclear energy.

**HISTORY OF THE REGULATION OF NUCLEAR POWER HAZARDS**

Atomic power grew out of the wartime development of the atom bomb. Initially, atomic energy was a highly secret activity controlled by the federal government. This control was reaffirmed by the Atomic Energy Act of 1946, which transferred full authority to regulate atomic research and energy development to a federal agency, the Atomic Energy Commission (AEC). The federal government retained ownership of all fissionable material and related facilities; private activity was restricted to contractual operations for the government.

The Atomic Energy Act of 1954 ended the government monopoly of atomic energy. Congress declared that the Act was intended to encourage widespread participation of private industry and to foster scientific and industrial progress in the development and use of atomic energy for peaceful purposes.

The 1954 Act established an elaborate licensing system administered by the AEC to control the possession of nuclear materials and the construction or operation of nuclear facilities. The Act contemplated the rapid development of commercial nuclear power reactors as a source of electric energy. Yet, it overlooked the question of who possessed the statutory authority to regulate the production and use of nuclear materials and facilities. An explicit role for the states was provided, but only relating to public utility regulation of elec-

---

15. The reports of the Joint Committee on Atomic Energy noted that the major reason for amending the 1946 Act to provide for the participation of private enterprise was to encourage the development of atomic power for the production of electricity. S. REP. No. 1699, 83d Cong., 2d Sess. 3 (1954); H.R. REP. No. 2181, 83d Cong., 2d Sess. 3 (1954).
17. The 1954 Act provided for the issuance of licenses for the various materials and facilities to persons defined to include states and their political subdivisions. It seems clear that a state or a municipality could participate in the development of atomic energy as a licensee of the Commission. 42 U.S.C. § 2014(a) (1970).
The stimulus that the 1954 Act gave to private industry inevitably aroused state interest both in encouraging the growth of this new technology and in exercising the state's traditional police power to protect the health and safety of the public from the hazards of radiation. Many states acted to establish advisory or study commissions on atomic energy matters and to provide for the registration and regulation of radiation sources. While most of this state activity did not directly conflict with the AEC's superintendence of the atomic energy field, there remained doubt as to the capability of the states to regulate atomic energy matters. Commentators called for congressional action to establish a carefully defined allocation of regulatory responsibility between the federal and state governments.

In 1959, Congress responded to the pressure for clarifying federal and state responsibilities by enacting section 274 of the Atomic Energy Act. The amendment rejects any assumption of regulation by the states by prohibiting state standards more restrictive than those promulgated by the AEC. The purpose of section 274, as declared by Congress, is:

1. to recognize the interest of the states in the peaceful uses of atomic energy;
2. to clarify the responsibilities of the states and the Commission with respect to the regulation of by-product, source, and special nuclear materials; and
3. to promote cooperation between the federal and state governments and to establish procedures whereby the states would assume specific AEC regulatory responsibilities.

---

   Nothing in this chapter shall be construed to affect the authority or regulations of any Federal, State, or local agency with respect to the generation, sale, or transmission of electric power.

19. The Senate and House reports of the Joint Committee on Atomic Energy noted this section "preserves the regulatory power of any appropriate agency with respect to the generation, sale, or transmission of electric power." S. Rep. No. 1699, 83d Cong., 2d Sess. 31 (1954); H.R. Rep. No. 2181, 83d Cong., 2d Sess. 31 (1954).


Section 274 establishes a narrow role for state regulation. The provision rests on the premise that prior to its enactment the AEC exercised complete control over the field of atomic energy. It provides for the exercise of some state regulatory authority in limited areas, but only pursuant to agreement with the Commission. Even when such an agreement exists, state regulation must conform to standards adopted by the Commission. The AEC retains the power to terminate or suspend the agreement. Thus, states that enter into agreements with the Commission are effectively agents of the Commission in exercising its regulatory authority.

However, the amendment precludes state regulation in certain areas where the Commission is required to retain authority and responsibility. In these situations the states are given a consulting role. Section 274 was intended by its drafters, the AEC, and the Joint Committee on Atomic Energy, to preclude concurrent state and federal regulation. In order to avoid dual regulation, the amendment provided that the AEC can withdraw from certain specific areas of responsibility where radiation hazards are relatively small and are within the regulatory capability of state government. But the AEC retains full responsibility where technical safety considerations are beyond the competence of the state government and where interstate, national, or international considerations are paramount.

23. This conclusion is thoroughly supported by the fact that § 274 repeatedly refers to the discontinuance or continuance of the Commission's authority and at no point recognizes the existence of any independent basis for state regulation of hazards for the protection of public health and safety. 42 U.S.C. § 2021(a)(4), (b), (c), (l) (1970).
24. Id. § 2021(b).
25. Id. § 2021(b), (g), (j).
26. Id. § 2021(c).
27. Id. § 2021(l).
28. Commissioner John S. Graham testified that the Commission had determined that it would be "undesirable to provide for the exercise of dual or concurrent jurisdiction." Hearings Before the Joint Committee on Atomic Energy on Federal-State Relationships in the Atomic Energy Field, 86th Cong., 1st Sess. 290 (1959). The Joint Committee stated that § 274 was not intended to leave any room for the exercise of dual or concurrent jurisdiction by States to control radiation hazards by regulating byproduct, source, or special nuclear materials. The intent is to have the material regulated and licensed either by the Commission, or by State and local government, but not by both. S. REP. No. 870, 86th Cong., 1st Sess. 9 (1959).
29. In the letter of transmittal accompanying the AEC's proposed bill of 1959, the Commission commented:

The objectives of this proposed bill . . . are to provide procedures and criteria whereby the Commission may turn over to individual States, as they become ready, certain defined areas of regulatory jurisdiction. Certain areas, as to which interstate, national, or international considerations may be paramount, would be excluded. In addition, certain areas would be excluded because the technical safety
In addition to the 1954 Act and the 1959 amendment, several other amendments also advert to state participation in the regulation of atomic energy. The Price-Anderson Act, the amendment of section 271 of the 1954 Act, and the Energy Reorganization Act of 1974 all confirm the exclusive federal control over the radiological aspects of nuclear power.

Under the current provisions of the Atomic Energy Act, the regulation of general radiation hazards is shared by the Nuclear Regulatory Commission (NRC), other federal agencies, and state governments. However, in contrast to the fragmentation of regulatory responsibility over general radiation hazards, the regulation of production and utilization facilities (in particular nuclear power reactors) is exclusively within the domain of the NRC. The NRC's broad regulatory and rulemaking authority allow it to fulfill its statutory obligation to protect public health and safety in the licensing of considerations are of such complexity that it is not likely that any State would be prepared to deal with them during the foreseeable future.

105 Cong. Rec. 8383 (1959). The mandates of the AEC have been transferred. See note 32 infra.


In order to protect the public and to encourage the development of the atomic energy industry... the United States may make funds available for a portion of the damages suffered by the public from nuclear incidents, and may limit the liability of those persons liable for such losses.


31. Act of August 24, 1965, Pub. L. No. 89-135, 79 Stat. 551, codified at 42 U.S.C. § 2018 (1970). The amendment overruled a decision of the United States Court of Appeals for the Ninth Circuit which required the AEC to observe local ordinances respecting power lines to the Stanford linear accelerator. Maun v. United States, 347 F.2d 970 (9th Cir. 1965). The amendment makes explicit Congress' intention that state and local regulation is only permitted in regard to the rates and services of electric power produced in nuclear facilities and that it does not extend to the protection of public health and safety from the special hazards associated with them.

32. 42 U.S.C.A. § 5801 et. seq. (Supp. 1976); see Note, The Energy Reorganization Act of 1974: More Power to the People?, 7 Loy. Chi. L.J. 410 (1976). This Act abolished the AEC and transferred its development and research functions to the Energy Research and Development Administration (ERDA), and its regulatory and licensing functions to the Nuclear Regulatory Commission (NRC). The Act is significant because it specifically charges the NRC with a number of regulatory responsibilities which are only implicit in the 1954 Act. As a whole, the 1974 Act retains the goal of the development of nuclear energy and expands the explicit regulatory functions of the NRC for the protection of the public health and safety.

33. Id.

34. The applicable regulations are those of the Department of Transportation, 49 C.F.R. §§ 170-178 (1973), the Coast Guard, 46 C.F.R. § 146 (1974), the Federal Aviation Administration, 14 C.F.R. § 103 (1975), and the Postal Service, 39 C.F.R. §§ 124, 125 (1975).

nuclear power reactors.\textsuperscript{36}

The only qualifications imposed upon the exclusive authority of the NRC to regulate the construction and operation of nuclear power plants have been the results of recent environmental legislation.\textsuperscript{37} Although the Environmental Protection Agency (EPA) has the authority to establish general environmental standards for radiation protection, both the EPA and NRC agree this authority is limited to the establishment of ambient standards. The EPA’s authority does not extend to the restriction of discharges from individual licensed facilities.\textsuperscript{38} As a result, in addition to the public health and safety questions considered under the Atomic Energy Act, the NRC now considers a multitude of environmental factors when it regulates the construction of nuclear power plants.\textsuperscript{39}

\textbf{STATE PROPOSALS TO ASSUME NUCLEAR REGULATORY RESPONSIBILITY}

Notwithstanding the pervasive scope of federal authority to regulate the construction and operation of nuclear power plants and the

\textsuperscript{36} The Commission is authorized to prescribe such regulations and orders as it may deem necessary . . . to govern any activity authorized pursuant to this chapter, including standards and restrictions governing the design, location, and operation of facilities used in the conduct of such activity, in order to protect health and to minimize danger to life or property. 42 U.S.C. § 2201(i)(3) (1970). The Supreme Court has held that this section gives the Commission the authority to set forth by regulation “what the public safety requires as a prerequisite to the issuance of any license or permit under the Act.” Power Reactor Development Co. v. International Union of Electrical, Radio and Machine Workers, 367 U.S. 396, 404 (1961).


\textsuperscript{38} Pursuant to an AEC-EPA Memorandum of Understanding, it was agreed that the EPA would have authority to set limits on radiation exposure or levels, or concentrations or quantities of radioactive materials, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material. 38 Fed. Reg. 24936 (1973). However, the agreement specifically excludes effluent limitations on source, by-product, and special nuclear materials as subject to regulation by the Commission. 38 Fed. Reg. at 2680.

\textsuperscript{39} Prior to the enactment of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 et seq. (1970), the AEC took the position that in considering applications for construction permits and operating licenses it had to consider only the effects of radiation on the environment and that it did not have to consider other environmental factors like thermal pollution. E.g., New Hampshire v. Atomic Energy Commission, 406 F.2d 170 (1st Cir), cert. denied, 395 U.S. 962 (1969). Under NEPA and pursuant to its interpretation by the court of appeals in Calvert Cliffs’ Coordinating Committee, Inc. v. United States Atomic Energy Commission, 449 F.2d 1109 (D.C. Cir. 1971), the NRC has promulgated regulations which require evaluation of the environmental effects of nuclear power plants at both the construction permit and operating license stage. 10 C.F.R. § 51 (1975).
NRC's official position that the regulation of radiation hazards is its exclusive province, some states have attempted to impose their own regulations on nuclear power plant safety. These attempts manifest concern over the environmental impact of nuclear power plants and dissatisfaction with exclusive federal regulation. State governments have proposed bills and referenda attempting to give themselves authority over the development and use of nuclear reactors. For analysis, these bills can be categorized according to three principal purposes:

(1) comprehensive regulation ranging from the legislative approval of the construction of any power reactor to the imposition

---

41. In Northern California Association v. Public Utility Commission, 61 Cal. 2d 126, 390 P.2d 200, 37 Cal. Rptr. 432 (1964), the California Supreme Court held that the federal government had not preempted the question of the safety of the location of atomic reactors and that the public utility commission could consider safety questions other than radiation hazards raised by a proposal to locate a nuclear power plant in an earthquake fault zone. The court made a very careful attempt to give broad scope to the concept of a "nonradiation" hazard. In a subsequent application, the California Public Utility Commission read this decision to give it some power at least to take note of radiation hazards. See In re Southern California Edison Co., 54 P.U.R.3d 378, 385-386 (1966).

In New Jersey, the Board of Public Utility Commissioners has noted that the federal government has preempted the regulation of nuclear reactors. However, it ruled that radiation hazards could be considered in an application to construct and operate a nuclear power plant because where the parties were in substantial agreement as to the safeguards necessary to secure adequate protection against radiation hazards, it was unnecessary to define the limits of federal preemption. In the Matter of Jersey Central Power and Light Co., 61 P.U.R.3d 395, 405 (1966).

42. The bills are on file with the NRC Office of International and State Programs, Bethesda, Maryland. This Office has published since early 1975 an occasional newsletter entitled Information Report on State Legislation in which state bills and legislative action related to nuclear energy are carefully summarized.

"Safe power" initiatives designed to place some measure of state control over nuclear power were decisively defeated in all six of the states where they were on the ballot in the November 2, 1976 election. The states where the initiatives failed were Arizona (486,485 to 206,938), Colorado (713,312 to 292,876), Montana (146,973 to 106,121), Ohio (2,397,780 to 1,130,818), Oregon (563,995 to 410,720), and Washington (555,600 to 268,400). It is now estimated that about one-fifth of the nation's voters have had the opportunity to vote on nuclear power. The results have demonstrated that when the public is exposed to all sides of the nuclear energy debate, their choice has been unanimously in favor of nuclear energy. See All Nuclear Initiatives Fail; Costs Proposal Wins, NUCLEAR NEWS, Dec., 1976, at 30-31.

43. Oregon is the only state that has adopted a statute that explicitly provides for comprehensive regulation of nuclear power plants. OR. REV. STAT. ch. 469, § 469.010 et. seq. (1975). The 1975 Oregon Act gives extensive authority to regulate the construction and operation of nuclear power reactors, other nuclear installations such as fuel fabrication and reprocessing plants and radioactive waste disposal facilities, and the transportation of radioactive materials to these facilities. Notwithstanding a provision in the Act for consideration of NRC rules and regulations OR. REV. STAT. ch. 469, § 469.510(3) (1975), the Act clearly contemplates the adoption of more stringent safety standards than those imposed by the NRC. OR. REV. STAT. ch. 469, § 469.500 (1975).
of specific restrictions on the location of nuclear facilities;
(2) moratoriums\textsuperscript{44} on the construction of nuclear power plants for
a specified or unspecified period of time;
(3) complete prohibition\textsuperscript{45} of the construction and operation of
power plants and the "derating" of existing operating plants.

It is clear from the legislative findings and the objectives of the
state measures that radiological safety is the focus of state interest.\textsuperscript{46}
These bills would give the state legislatures authority to condition
nuclear power plant operation upon compliance with various safety
standards. However, because the bills provide little guidance as to
ultimate standards, the broad legislative discretion poses a strong
disincentive to any utility company to construct a nuclear power
plant.

The proposed state bills threaten to interfere directly with the
development of nuclear energy and to conflict with the NRC's li-
censing and regulation functions. The complete prohibition initia-
tives go the furthest in this respect because they would halt all
nuclear fission plant construction and would require the eventual
decommissioning of existing plants. Bills incorporating
moratoriums would also terminate the construction of nuclear
power plants, and the comprehensive regulation provisions have the
potential to achieve the same result.

44. The effect of a moratorium would be the prohibition of any further construction of
nuclear plants for a fixed number of years or until certain safety precautions have been met.
The intent of such bills and referenda is to permit an intensive examination of the risks of
nuclear power. If at the completion of the moratorium it is determined that nuclear power is
an acceptable energy source meeting certain basic criteria, then construction would be al-
lowed to continue. These proposed moratoriums permit the continued operation of existing
nuclear power plants, recognizing the financial burden that would occur if they were com-
pletely shut down. Examples of these types of bills are: Washington House Bill No. 1154 (44th
Legislature, 1st Extraordinary Sess. 1975); Montana House Bill No. 433 (44th Legislature,
1st Regular Sess. 1975); Illinois House Bill No. 3426 (79th General Assembly, 1975-1976
Regular Sess.).

45. In the State of California, an initiative measure—The Nuclear Safeguards Initia-
tive—was voted on in the June 1976 elections. It would have required the progressive reduc-
tion ("derating") of the operating power level of existing nuclear power plants to zero, and
would have prohibited the construction of such facilities until certain safety and liability
conditions were met. The initiative was rejected overwhelmingly by the California voters.
However, several bills similar to the California initiative measure have been introduced. See
California Assembly Bill No. 1579 (1975-1976 Regular Sess.); Massachusetts Senate Bill No.
456 (78th General Assembly, 1st Regular Sess. 1975).

46. Although the bills vary in detail, the common theme is a provision that the morato-
rium or prohibition take place unless one or more of the following conditions are met: (1)
nuclear power plants are demonstrated to be safe; (2) adequate provisions for disposal of
radioactive wastes; (3) security protection for plants and adequate safeguards against diver-
sion of nuclear materials are devised; and (4) waiver of the limits of liability imposed by the
Price-Anderson Act.
Federal Preemption of State Regulation of Nuclear Power Plants

The state proposals to prohibit, delay, or regulate the development and use of nuclear plants raise fundamental issues involving the allocation of government power in the federal system. The Constitution confers specific, enumerated powers upon the federal government, leaving broad, residual powers to the states. Where the exercise of governmental powers by the federal government and a state conflict, the initial inquiry is to determine whether the national government has acted within the scope of its authority. If it has, a reference to the doctrine of federal preemption will normally resolve the conflict. To determine the preemptive scope of federal authority to regulate the field of nuclear energy, two issues must be addressed: (1) whether Congress has constitutional authority to regulate the field of nuclear energy, and (2) whether Congress has attempted to displace state activity in this area through preemptive legislation.

Congressional Power to Regulate Nuclear Power Plants

When Congress enacted the Atomic Energy Act of 1954, it based its regulatory authority on its war powers, its power to regulate interstate and foreign commerce, its power to make "all needful Rules and Regulations respecting the Territory or other property belonging to the United States," and the need to protect the public health and safety. Although the validity of some of these bases for federal regulation is doubtful, there is little doubt that Congress' constitutional power to regulate interstate commerce certainly affords a legitimate ground for the regulation of the design, construction, and operation of nuclear power reactors. Congress determined

---

47. U.S. Const. amend. X.
48. See notes 59-70 infra and accompanying text.
50. Id. at cl. 3.
51. Id. at art. IV, § 3, cl. 2.
52. In the Reports which accompanied the 1954 Act, the Joint Committee noted that: [The legal basis of the proposed legislation is the constitutional powers of the United States including, among others, to provide for the common defense; to raise and support armies; to provide and maintain a navy; to make all needful rules and regulations respecting the territory or other property belonging to the United States; and to regulate commerce with foreign nations and among the several States.
53. Congressional war powers and the power to provide for the general welfare also provide some constitutional support for federal regulation of nuclear power plants. In the case of Congress' war powers, it has been maintained that since the radiation exposure of the general
that the processing and utilization of source, by-product, and special nuclear material affects interstate commerce and must be regulated in the national interest. In addition, the Act provides Congress that the “necessity for protection against possible interstate damage occurring from the operation of facilities for the production or utilization of source or special nuclear material places the operation of those facilities in interstate commerce for the purposes of this chapter.”

Taken with Congress' intention to spur the development of atomic energy as a source of electric power, these congressional findings are an explicit statement of the direct relation of nuclear power plants to interstate commerce. Insofar as almost all nuclear power stations produce electricity for a multistate power grid, there is a rational basis for concluding that federal regulation of nuclear power plants is within the scope of the commerce power. However,
the extent to which the exercise of this power supersedes state regulation must still be considered.

**Preemption Doctrine**

The doctrine of federal preemption rests on the supremacy clause of the Federal Constitution, which provides that the Constitution and the laws of the United States shall be the supreme law of the land. In its now classic formulation, the rule of decision established by this doctrine is that where a state law stands as "an obstacle to the accomplishment and execution of the full purposes and objectives of an act of Congress" the federal statute prevails and the state law is invalid. This simple principle of federal supremacy masks the complexity inherent in the determination that the state law constitutes an obstacle to the accomplishment of federal objectives.

1. **Implied Preemption**

Application of the doctrine of federal preemption most often evolves from the failure of Congress to demarcate statutory limits. To reconcile the operation of state and federal statutes in the absence of explicit congressional guidance, the Supreme Court has formulated a doctrine of "implied preemption." The inference of

59. U.S. Const. art. VI, cl. 2. A determination that a statute is void for obstructing a federal statute and is thus preempted rests on this clause. Swift & Co. v. Wickham, 382 U.S. 111, 120, 125 (1965).


61. The fact that the Court has been forced to define the scope of preemption in the absence of explicit congressional guidance was carefully noted by Justice Harlan in the context of an extensive review of the Court's preemption decisions under the National Labor Relations Act, 29 U.S.C. § 151 et seq. (1970):

The principle of pre-emption that informs our general national labor law was born of the Court's efforts, without the aid of explicit congressional guidance, to delimit state and federal judicial authority over labor disputes in order to preclude, so far as reasonably possible, conflict between the exertion of judicial and administrative power in the attainment of the multifaceted policies underlying the federal scheme. Amalgamated Ass'n of Street, Electric Railway & Motor Coach Employees v. Lockridge, 403 U.S. 274, 286 (1971).

62. Although the term "implied preemption" is an addition to the constitutional lexicon, it is useful because it highlights the Court's role in formulating the doctrine of preemption. The Court itself has recognized that in the absence of an express congressional declaration, its task is to infer preemption. See, e.g., Huron Portland Cement Co. v. Detroit, 362 U.S. 440, 443 (1960); Bethlehem Steel Co. v. New York State Labor Relations Board, 330 U.S. 767, 772 (1947).
preemption can be drawn either from the existence of a conflict between federal and state statutes or from congressional occupation so complete in a particular field that it leaves no room for state regulation. Although the general criteria of the doctrine are easily stated, the application to particular cases has been inconsistent.\(^3\) The Court has fluctuated with regard to the degree of conflict necessary to support a finding of preemption\(^4\) and has relied on various presumptions to sustain an inference that Congress intended to occupy a field to the exclusion of state authority.\(^5\) Several other factors make preemptive determinations complicated and indefinite. The court must construe both the state statute and the federal statute to determine precisely how they interrelate. For example, the statute may directly conflict, tangentially interfere, or even complement one another.\(^6\) Moreover, the Court has compounded the difficulty of deriving any fixed standard of preemption by its imprecise and inconsistent use of a broad range of descriptive terms.\(^7\) Finally, the Court has significantly changed its general views of the appropriate bounds of federal and state authority, while it has purported to apply consistent "tests" of preemption.\(^8\)

---


65. Examples of these presumptive indices include: the pervasiveness of the federal scheme of regulation; the dominance of the national interest in a particular field of regulation; and the possibility that the state law might produce a result inconsistent with the federal statute. See Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624 (1973); Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947); Hines v. Davidowitz, 312 U.S. 52 (1941).


67. The classic compilation of the various "tests" of preemption was made by the Hines Court:

This Court, in considering the validity of state laws in the light of treaties or federal laws touching the same subject, has made use of the following expressions: conflicting; contrary to; occupying the field; repugnance; difference; irreconcilability; inconsistency; violation; curtailment; and interference.


68. See Note, The Preemption Doctrine: Shifting Perspectives on Federalism and the Burger Court, 75 COLUM. L. REV. 623 (1975). The author argues that a state-directed view of preemption guided the Court in the 1930's and that a view of preemption favoring federal interests dominated the 1950's and 1960's. He also suggests that a number of recent decisions by the Burger Court presage a return to a view of preemption which favors state interests by admitting a wider degree of conflict and by discounting some of the presumptive indices of congressional intent to exclude state regulation. These decisions recognize that the Court has held significantly different views on the essential nature of our federal system and has defined the appropriate bounds of state and federal authority in accordance with those views. Thus, the Court's shifting perspective on the essential nature of the federal system has distorted any "neutral" application of preemption standards.
factors have contributed to the vagueness of the rules for federal supersession of state regulation. Fortunately, this confusion is limited to instances in which the Court, lacking congressional guidance, must infer preemption from the existence of conflict or from presumptive indices of congressional intent.

2. Express Preemption

In contrast to implied preemption, the scope of express preemption is more readily determined because Congress has specified the precise extent to which state laws are superseded in order to achieve the valid ends sought by the national legislature. Once Congress has established the preemptive scope of a statute enacted within its constitutional power, the Court relinquishes its role as the arbiter of the federal system and defers to the congressional allocation of governmental power. However, an express preemption provision does not foreclose all inquiry by a court into the scope of preemption intended by Congress. Even when a statute contains an express preemption provision, the court must still determine whether Congress intended it to reach a particular state law. The judiciary must accept this role, because even when Congress does consider the relationship of a federal statute to state laws it cannot consider all possible state laws. That is, an express preemption provision cannot establish a general preemption of all state laws. The court must consider the legislative history of the statute and the congressional purpose in enacting it in order to determine the preemptive scope of the provision.

Although an express preemption provision does not automatically supersede all state laws, a congressional declaration of the preemptive effect of a federal statute does establish a more certain rule of preemption than is available under the doctrine of implied preemption. When there is no congressional declaration, the court is free to consider the degree of conflict and various presumptive factors of intent to occupy the field—all in an effort to determine whether Congress intended to preempt the field. An express preemption provision forecloses this inquiry and limits the Court's role to an evalu-

69. The Court's deference to congressional determinations of the scope of preemption is also suggested by its careful search of legislative history. See, e.g., Brotherhood of Locomotive Engineers v. Chicago, Rock Island & P.R.R., 382 U.S. 423 (1966). On the allocation of responsibility between the Court and Congress in establishing federal preemption policy, see generally Hirsch, supra note 63, at 533-52. Congress always has the last word about preemption.

70. For a discussion of the Court's role in shaping preemption policy, see Hirsch, supra note 63, at 542-49.
ation of the federal statute's legislative history and congressional purpose. Unlike implied preemption, express preemption provides a higher degree of certainty in deciding whether Congress intended to superecede a particular type of state law or regulation. Express preemption also substantially limits the Court's role in determining the allocation of government power in our federal system.

**Preemption of State Regulation**

Past efforts by states to regulate nuclear power plants provide a means to project the outcome of proposed bills and initiatives. In the leading case, *Northern States Power Co. v. Minnesota*, the question was whether the State of Minnesota could impose requirements more stringent than those of the AEC on the level of radioactive gaseous and liquid discharges from a nuclear power plant licensed by the AEC and operating in compliance with its federal radiation requirements. The district court invalidated the Minnesota statute holding that section 274 of the Atomic Energy Act expressly preempted state regulation of radioactive effluents. The United States Court of Appeals for the Eighth Circuit agreed that the federal government had the exclusive authority to regulate the construction and operation of nuclear power plants. That authority included the regulation of radioactive effluents. However, unlike the district court, the court of appeals did not find express preemption. The court concluded that no provision in the Atomic Energy Act expressly declared that the federal government has the exclusive authority to regulate radiation emissions. Rather, the court explored section 274 and its legislative history and found "an inescapable implication that the federal government possessed exclusive authority absent the agreements authorized by the 1959 amendment." The court buttressed this conclusion with references to the AEC's construction of the statute and to the pervasiveness of the federal regulatory scheme, and reasoned that the nature of the subject matter justified uniform regulation.

The court of appeal's reliance in *Northern States Power Co.* on implied congressional intent prompted most courts and commenta-

---

72. 320 F. Supp. at 177.
73. 447 F.2d at 1154.
74. Id.
75. Id. at 1147.
76. Id. at 1150.
77. Id. at 1152-53.
tors to consider the question of preemption in the field of nuclear energy in terms of implied preemption. Nevertheless, the district court's finding of express preemption would appear to be the more logical conclusion.

Section 274 of the Atomic Energy Act constitutes an express congressional declaration that radiation hazards arising from by-product, source, and special nuclear materials are within the exclusive jurisdiction of the NRC except to the extent that the Commission's authority may be relinquished to a state. This section also provides that the construction and operation of nuclear power plants is the exclusive responsibility of the NRC. Accordingly, section 274 has a broad preemptive scope over the regulation of nuclear power reactors.

In most cases where Congress enacts an express preemption provision, there exists doubt as to its precise scope because Congress is entering a field of preexisting state regulation. In such instances, it is reasonable to assume that the intended preemptive effect of the statute only reaches state laws similar to those which Congress determined are superseded by the federal statute. A court may later extend the preemptive reach of the federal statute to new state laws where preemption is judged to be consistent with the legislative history and purpose of the federal statute; or it may give a narrow reading to the preemptive scope of the statute. In any event, the


80. Id. § 2021(c).

81. An example of the an extension of the preemptive reach of a federal statute to new state laws occurred in Chemical Specialties Manufacturers Ass'n, Inc. v. Clark, 482 F.2d 325 (5th Cir. 1973). In this case, involving local regulation of synthetic detergents subject to federal regulation under the Federal Hazardous Substances Act, 15 U.S.C. § 1261 (1970), the court noted that where Congress attaches an express preemption clause to regulatory legislation thereby prohibiting any further action of a supplemental nature by the states, "preemption applies even though there is no direct conflict between the federal law and the state/local ordinance." 482 F.2d at 327.

82. An example of a narrow reading of the preemptive scope of a federal statute occurred in Chrysler Corporation v. Tofany, 419 F.2d 499 (2d Cir. 1969). Two states had prohibited the sale of automobiles equipped with auxiliary headlights, and the court had to determine whether the state regulations were barred by an express preemption provision of the federal statute which required that new automobiles be equipped with certain items of lighting equipment which met certain performance standards. The court noted that congressional
court has broad powers to define the scope of preemption when a federal enactment overlays existing state legislation.

In contrast, where there is no preexisting state regulation, and Congress envisions exclusive regulatory authority in a particular field, judicial review is limited. The Atomic Energy Act was conceived in the absence of preexisting state regulation. Congress also intended to provide exclusive federal regulation over the construction and operation of nuclear power plants for purposes of controlling radiation hazards. Where Congress makes federal preemption so explicit, a court should not engage in statutory construction to redefine the preemptive scope of the federal law.

The Joint Committee on Atomic Energy hearings on subsection (k) of section 274 support the proposition that Congress intended exclusive federal control of radiation hazards attributable to nuclear power plants. In August of 1959, during the consideration of amendments to the original AEC bill, divergent interpretations emerged regarding the effect of the proposals on federal preemption of state atomic energy regulatory statutes. Because the debate was inconclusive, the AEC subsequently sent a letter to the Joint Committee in which it expressed its position. The Commission stated that it read section 274 to preempt state governments from the regulation of radiation hazards from source, by-product, and special nuclear materials, and that only an agreement between a state and the AEC could remove this preemption. The Joint Committee’s approval of purpose governed the question of preemptive effect and found that the purpose of promoting highway safety overrode the goal of uniformity. Accordingly, since the basis of the state regulations was the danger the auxiliary headlights posed to other drivers, and the federal regulations were restricted to the effect of additional lamps on the required lighting equipment, the court held that the state regulations were not preempted and in fact contributed to the congressional purpose of promoting safety. In effect, the court limited the scope of express preemption to the terms of the statute. 419 F.2d at 508-12.

83. See text accompanying notes 69-70 supra.
84. Id.
86. Letter from A.R. Luedecke (General Manager, AEC) to Chairman Anderson of the Joint Committee on Atomic Energy (August 26, 1959) in Hearings Before the Joint Committee on Atomic Energy on Federal-State Relationships in the Atomic Energy Field, 86th Cong., 1st Sess. 307 (1959) [hereinafter cited as 1959 Hearings].
87. The letter states:

[W]e did not intend to leave any room for the exercise of concurrent jurisdiction by the States to control radiation hazards from those materials. Our sole purpose was to leave room for the courts to determine the applicability of particular State laws and regulations dealing with matters on the fringe of the preempted area in the light of all the provisions and purposes of the Atomic Energy Act, rather than in the light of a single sentence.

For example, in the absence of the sentence, the courts might have greater latitude in sustaining certain types of zoning requirements which have purposes other
the AEC's interpretation of section 274 rebuts any inference that Congress did not intend to preempt the regulation of radiation hazards.

Neither the district court nor the court of appeals in Northern States Power Co. alluded to this strong evidence. Only the dissenting judge in the court of appeals referred to this indication of congressional intent. He argued that there was not "unmistakable intent to preempt," relying heavily on the testimony during the 1959 hearings of an AEC official who was equivocal on the extent of federal preemption of the regulation of nuclear reactors. This position is untenable, however, in view of the subsequent position taken by the AEC before the Joint Committee.

State bills affecting the development of nuclear power plants must be evaluated in the context of this broad congressional declaration. The typical state bill proposes to prohibit or delay the construction of nuclear power plants in the interest of radiological safety. The state would impose as prerequisites to the construction or operation of these plants various conditions, including implementation of state-approved safety systems, provision for adequate disposal of radioactive wastes, and full compensation to accident vic-

---

1979 Hearings, supra note 86, at 307. In response to the suggestion that § 274 should be reworded to state that the Commission shall have sole authority with respect to the reserved areas instead of stating that "no agreement shall provide for the discontinuance of authority by the commission" as to these areas, Lowenstein replied that:

We thought that this act without saying in so many words did make clear that there is preemption here, but we have tried to avoid defining the precise extent of that preemption, feeling that it is better to leave these kinds of detailed questions perhaps up to the courts later to be resolved.

Id. at 308.

90. See notes 86-87 supra.
Insofar as these conditions all relate to radiation hazards of nuclear facilities, section 274 of the 1954 Act would preempt any statute containing them. A state safety measure imposing a prohibition or moratorium on the construction of nuclear plants because of radiological hazards would also contravene the congressional policy enunciated in section 274. This section of the Atomic Energy Act demonstrates that Congress intended the regulation of radiation hazards to remain in the exclusive domain of the federal government. Thus, any regulatory action by the state in this field is superseded.\(^2\)

Apparently, the applicability of the doctrine of expressed preemption is not evident to some courts and commentators. However, the conclusion that state bills are preempted under the doctrine of implied preemption is inescapable. These state proposals are in irreconcilable conflict with the federal policy in several respects. First, it is settled that where a state law conflicts with an act of Congress it is invalid under the supremacy clause.\(^3\) Second, in view of the congressional intent to occupy the field of nuclear power plant regulation—an intent evinced by legislative history, the national interest in this area, and the pervasive scheme of federal regulation—state regulation is preempted even when the degree of conflict falls short of direct interference.\(^4\) Thus, even under the rule of im-

---

91. See notes 3-5 supra.

92. The NRC has not taken a position on whether the state bills proposing a prohibition or a moratorium on the construction of nuclear power plants are preempted. The agency has contented itself with a vague reference to the Northern States Power case. See 121 CONG. REC. E3074-75 (daily ed. June 11, 1975); 121 CONG. REC. E3114-16 (daily ed. June 12, 1975).

93. In addition to the direct conflict posed by the prohibition and moratorium bills as a whole, it should also be noted that each of the conditions considered individually is invalid if it conflicts with the federal statute. For example, a requirement of full compensation for damages resulting from a nuclear power plant accident is in flat contradiction to the limitation on liability imposed by the Price-Anderson Act. See note 30 supra. Similarly, to the extent that state regulation of nuclear power plant safety systems, disposal of reactor waste, transportation of nuclear materials to and from plants, and security systems to guard against sabotage conflict directly with the federal requirements, they are preempted.

94. The state bills which would impose a prohibition or a moratorium on the construction of nuclear power plants would fall under the rationale of First Iowa Hydro-Electric Coop. v. FPC, 328 U.S. 152 (1946). In this decision, the Court held that the purpose of the Federal Power Act was to promote the development of power resources and that the detailed federal plan of regulation left no room or need for conflicting state controls. The proposed state bills seriously disrupt the national plan and policy of Congress for the development of nuclear energy to produce electric power for interstate commerce. It is not a sufficient answer to assert that a state is free to prohibit the construction of nuclear power plants and to use other methods of power generation so long as it provides for its own energy needs in a manner that does not discriminate against other states. For, as the First Iowa Court noted, where Congress has adopted a national plan to promote interstate commerce, decisions cannot be left to one state but must be made by the federal government where the decision can be made on behalf of the people of all the states. 328 U.S. at 182. If one state can withdraw from the national
plied preemption, state regulation of the type contemplated in prohibition and moratorium bills is superseded.

PERMISSIBLE AREAS OF STATE REGULATION

Although states may be federally excluded from regulating safety aspects of nuclear power, they nonetheless have a valid interest in nuclear energy development and hold an important role in its regulation. There are two alternate means by which a state can effectively regulate the construction and operation of nuclear power plants: (1) by regulation for purposes other than protection against radiation hazards, and (2) by obtaining or coercing concessions from the utility proposing the construction of such a plant.

Regulation for Purposes Other than Protection Against Radiation Hazards

Congress has declared that state and local agencies can regulate AEC-licensed activities for “purposes other than protection against radiation hazards.” Because state proposals have rested on concern over radiological safety of nuclear plants, they provide little guidance for determining the scope of permissible state regulation for other purposes.

Nevertheless, one can discern some of these valid “other” purposes. Zoning ordinances designed to exclude power plants from areas not designed for industrial use would seem to meet the test.

plan to promote the development of nuclear energy, other states are free to follow suit; therefore, in order to avoid total defeat of the valid congressional plan to promote commerce, decisions about the construction and operation of nuclear power plants cannot be left to individual states.


Subsection (k) provides that nothing in the new section 274 shall be construed to affect the authority of any State or local agency to regulate activities for purposes other than protection against radiation hazards. This subsection is intended to make it clear that the bill does not impair the State authority to regulate activities of AEC licensees for the manifold health, safety, and economic purposes other than radiation protection. As indicated elsewhere, the Commission has exclusive authority to regulate for protection against radiation hazards until such time as the State enters into an agreement with the Commission to assume such responsibility.

S. REP. No. 870, 86th Cong., 1st Sess. 12 (1959). This position is consistent with the AEC’s intention under § 274(k) to preserve state laws and regulations “on the fringe of the preempted area” which might have an incidental effect on Commission-licensed activities. See note 76 supra.

96. See notes 3-5 supra and accompanying text.

97. The AEC took the position in its testimony on § 274(k) that zoning regulations which have purposes other than control of radiation hazards were not preempted. See note 87 supra. For a view that the states can regulate the location of nuclear power reactors on the ground of radiation safety, completely at odds with the analysis in this article, see Lemov, State and Local Control Over the Location of Nuclear Reactors Under the Atomic Energy Act of 1954, 39 N.Y.U. L. Rev. 1008 (1964).
Also, building codes deal with purposes unrelated to protection against radiation hazards. For example, a code might specify standards for the construction of elevators or require a certain number of sanitary facilities for plant employees.98

However, some state regulations imposed for purposes other than protection against radiation hazards might well go beyond the range of valid “other” purposes.99 Congress intended to preserve state laws and regulations on the fringe of the preempted area, but some local regulations might have more than an incidental effect on AEC-licensed activities. For instance, the regulations of the NRC state that nuclear power plants must be situated in an “exclusion area” away from population centers and under the licensee’s exclusive control. A local government might exclude a nuclear plant from an industrial zone where conventional power plants are permitted, supporting this restriction with the rationale that nuclear reactors require larger sites. The governmental body’s actual concerns might be public anxiety over radiation hazards, as well as the higher assessed value of the land and the greater number of jobs that would accompany a more intense industrial development of the area.100 It might be difficult under these circumstances to determine whether the exclusion rested upon a permissible “other purpose.” Also, this species of local regulation might raise a sufficient degree of conflict with the federal statute that it would be invalidated under the doctrine of implied preemption.101

98. An example of such specifications affecting the construction and operation of nuclear power plants occurred in Hanford, Washington, during the construction of an experimental breeder reactor. The building plans did not include plans for a women’s lavatory which resulted in several weeks delay in construction of the facility. See also E. STASON, S. ESTEP, W. PIERCE, ATOMS AND THE LAW 1055-57 (1959).

99. A number of proposed bills include requirements for annual public review and disclosure of the evacuation plans of a nuclear power plant. The purpose may be to arouse public concern rather than to provide the public with information about orderly evacuation procedures.

100. The regulations of the NRC require that nuclear power plants be sited in an “exclusion area” where the licensee has exclusive control and that the facility not be located near population centers. 10 C.F.R. § 100 (1975).

101. See ATOMS AND THE LAW, supra note 98, at 1065.

102. Even if a state regulation is for a purpose other than protection against radiation hazards, it may still be invalid under the supremacy clause if it conflicts with the federal statute. See note 60 supra. In a recent decision affirming the position that “the federal government preempts state action concerning radiological but not non-radiological matters,” the Michigan Court of Appeals suggested that a state court could require a nuclear power plant to establish measures, within current technology, to abate a non-radiological nuisance. However, the court added the important qualification that [if] such measures made the construction of a nuclear plant impossible, they could not be required. In such a case, the federal interest would prevent state action from absolutely prohibiting the construction of nuclear power plants within its bounds.
The permissible scope of these non-radiological state regulations become important when analyzing the regulation of public utilities which use reactor-generated electrical power. State public utility regulation was expressly contemplated by the Atomic Energy Act of 1954.\textsuperscript{103} Congress intended that the states should retain the authority to regulate the rates and services of electric power produced in nuclear power plants.\textsuperscript{104} When Congress amended section 271 of the act in 1965, it did so precisely to insure that state regulation would be confined to rates and services.\textsuperscript{105} There is, however, no clear line between state regulation of rates and services and the regulation of radiation safety. The rates charged for electric power and the level of service for nuclear power plants are affected by the safety standards imposed on these facilities. If the NRC closes a nuclear power plant or reduces its power output to correct a safety problem, the level of service and rates charged to consumers will be affected.\textsuperscript{106}

The interrelationship of the safety of nuclear power plants with the rates and services of electric power does not mean that a state is free to use its public utility commission as a vehicle to effect a prohibition or moratorium on the construction of nuclear power plants. The fact that a public utility commission has jurisdiction over other rates and services cannot be used to justify a flat prohibition of nuclear power plants on safety grounds. Where a public utility commission purports to impose restrictions on the basis of the rates and services of these facilities, questions of preemption become complicated. For example, a public utility commission might forbid

---

\begin{itemize}
  \item See note 15 supra.
  \item See note 28 supra.
  \item In 1973 the Public Service Commission of Wisconsin granted two public utilities authority to impose a temporary surcharge while a nuclear power plant suffering from fuel densification problems was ordered to operate at less than full power by the AEC. In his concurring opinion to this decision, then Commissioner Cudahy noted the very close interplay of economic concerns and safety. He pointed out that the AEC's order reducing the power level of the nuclear reactor as a matter of safety forced the PSCW to allocate the higher costs of electric utility service:
    
    We note the inherent, but perhaps inescapable, difficulties of committing to one agency (highly qualified in the premises) the exclusive jurisdiction over questions of health and safety and predominate authority over questions of environmental impact while committing to another agency of another government (ourselves) jurisdiction over the economics of these plants.
\end{itemize}
construction on the ground that the safety problems of nuclear power plants lead to frequent, expensive shut-downs and in turn provide a costly, inefficient level of service. Even if nuclear power reactors and conventional power plants are determined to have comparable records of service, a state agency might still decide to prohibit the construction of an additional nuclear facility on the ground of diversification—that there should be an equal development of a variety of power sources within the state.

There is no simple answer to the question of whether such state public utility regulation would be preemption. The command of section 274 of the 1954 Act—that the NRC have exclusive control over the construction and operation of nuclear power plants—cannot be reconciled in all cases with the authority of state and local governments to regulate the rates and services of electric power. Ultimately, the validity of state public utility regulation will depend upon whether its actual purpose is one other than a concern about radiation hazards and upon the degree to which the state restriction conflicts with the national plan for the development of nuclear energy.

Concessions by the Utilities

Since a company that proposes to operate a nuclear power plant desires a good business environment and is exposed to many regulations unrelated to radiation protection, there are many points at which a state can apply pressure to regulate nuclear power plants. As a result, companies are willing to "acquiesce" to more stringent standards than those imposed by the federal government.

The State of Vermont successfully imposed regulations on a nuclear power plant in this manner. During the pendency of the Northern States Power Co. litigation, the Vermont Yankee Nuclear Power Corporation signed an agreement with Vermont and several conservation groups in which it agreed

(1) to submit voluntarily to regulation by the State Public Service, Water Resources, and Health Boards,
(2) to abide by rules and regulations concerning radioactive emissions notwithstanding federal preemption, and

(3) to use its best efforts to secure AEC approval of the installation of any device that would restrict emissions.\textsuperscript{108}

Why Vermont Yankee signed this agreement is not readily apparent. However, its contemporaneous efforts to secure the approval of the Vermont Public Service Board for a bond issue suggest that Vermont Yankee took this action to facilitate approval of the bond issue.\textsuperscript{109} There may well be other instances in which a state has successfully imposed restrictions on the construction and operation of nuclear power plants.\textsuperscript{110} Vermont's success presents an alternative to the state bills proposing similar regulations on nuclear power plants that would be preempted under existing federal legislation.

\textbf{CONCLUSION}

This article has not addressed the wisdom of state regulation of nuclear energy or the effectiveness of the federal atomic energy program. Its concern has been with the validity under the federal system of the various bills introduced in state legislatures to declare a moratorium on the construction and operation of nuclear power reactors within their states. Generally, the legislation seems invalid as an intrusion into an area specifically preempted by the federal government.

The supporters of these state proposals perceive dangers in the generation of nuclear power and therefore have sought to frustrate the development of nuclear plants. Having failed at the federal level to retard nuclear proliferation, they have attempted to do so at the state level. They have publicized their apprehension of the hazards of nuclear power: the possibility of a catastrophic reactor accident, the long-term hazards of storing wastes produced in the fission process, and the possibility of diversion of nuclear materials by terrorist groups. Yet, all of these matters are within an area of control expressly reserved to the federal government by the Atomic Energy Act and subject to extensive regulation by the NRC.

In many instances, these proposed regulations would accomplish de facto prohibition of the construction and operation of nuclear

\textsuperscript{108} A copy of this agreement is on file with the Office of International and State Programs of the Nuclear Regulatory Commission, Bethesda, Maryland.


\textsuperscript{110} U.S.A.E.C. 1974 Ann. Rep. 192 (1975). It has been reported that at least thirteen of the nonagreement states (see note 35 supra) regulate materials licensed by the Commission. These states lack the authority under section 274 to regulate by-product, source, and special nuclear materials, but apparently, neither the NRC nor any individual subject to the regulations of a non-agreement state has been provoked to challenge these assertions of authority.
power plants. Although the bills are phrased in terms of "conditions" to be met before further construction may ensue, compliance would be practically impossible. Moreover, apart from their prohibitive effect, these measures would put the states into an area in which they have less experience and expertise than the federal government. Considering the preexisting federal regulation of the field, state regulation would be duplicative and would probably conflict with the federal program. Regardless, the state bills are preempted by the Atomic Energy Act.

However, the states do possess a legitimate interest in the development and regulation of nuclear energy. They will undoubtedly have an opportunity to influence nuclear power development either through informal pressure or through their state rights to regulate areas other than reactor safety. One hopes that these forms of influence will be cooperative and supportive of national objectives. If the states attempt to thwart federal policy, Congress would likely extend its preemptive reach and impose federal regulation on all aspects of the nuclear power field.

JOSEPH R. VOILAND