

OPINION NO. 82-092**Syllabus:**

The Ohio Board of Building Standards is preempted by the authority of the Nuclear Regulatory Commission from promulgating and enforcing rules concerning the construction and inspection of nuclear power plants. The Ohio Board of Building Standards, however, may act to the extent that: an agreement has been entered into between the State of Ohio and the Nuclear Regulatory Commission authorizing the State to perform the Commission's inspections or other functions, pursuant to 42 U.S.C. §2021(i) or 42 U.S.C. §2201(f); the systems or components sought to be regulated are not boilers or unfired pressure vessels subject to inspection under the Nuclear Regulatory Commission and do not relate to the radiology safety of the plant, 42 U.S.C. §2021(k); or the American Society of Mechanical Engineers Code, or other professional codes, which have been incorporated by reference into the federal regulations, give specific responsibility to the state agency subject, however, to the primary enforcement authority and responsibility of the Nuclear Regulatory Commission.

To: Helen W. Evans, Director, Department of Industrial Relations, Columbus, Ohio
By: William J. Brown, Attorney General, November 15, 1982

I have before me your request for my opinion concerning the authority of the Department of Industrial Relations to regulate the construction and inspection of nuclear power plants. Your request concerns the state's possible jurisdiction over nuclear power plants pursuant to R.C. Chapters 4101 and 4104, and whether the state has been preempted by the authority of the Nuclear Regulatory Commission from regulating nuclear power systems under these provisions. Your specific questions are as follows:

1. In light of Section 4104.04(A)(1) of the Revised Code, what authority, if any, does the State of Ohio have to promulgate and enforce rules concerning the construction and inspection of nuclear power plants?

2. If you determine that the State of Ohio does have such authority, then where the Nuclear Regulatory Commission has regulations concerning specific components of a nuclear power system, does the Nuclear Regulatory Commission preempt any regulation by the State of Ohio?

3. In the event that Ohio has authority to promulgate and enforce rules concerning the construction of nuclear power systems, what recourse does Ohio have if the Nuclear Regulatory Commission grants a variance that does not meet the requirements of the rules of the Board of Building Standards adopted pursuant to Section 4104.02 of the Revised Code?

The question of whether the federal government has the exclusive authority under U.S. Const. art. VI, cl. 2 (the "Supremacy Clause") to regulate the construction and operation of nuclear power plants was answered in the affirmative in the case of Northern States Power Co. v. Minnesota, 447 F.2d 1143 (8th Cir. 1971), aff'd without opinion, 405 U.S. 1035 (1972). By carefully examining the purposes and legislative history of the Atomic Energy Act of 1954, 68 Stat. 919 (codified in scattered sections of 42 U.S.C.), as well as the Act's pervasive regulatory and licensure scheme, the court concluded that Congress has manifested an implied intent to vest the federal government with exclusive regulation and control over the radiological aspects of nuclear power plants, and to preclude concurrent state regulation in this area, even though the safety standards established under state law would be more stringent, if applied, than those imposed under federal law. This conclusion regarding federal preemption was reiterated in Train v. Colorado Public Interest Research Group Inc., 426 U.S. 1 (1976), and has been specifically addressed by the Ohio Supreme Court. In City of Cleveland v. PUC, 64 Ohio St. 2d 209, 215, 414 N.E.2d 718, 722 (1980), the court held "that the federal government has preempted state regulation of the operation of nuclear power plants with respect to radiological hazards and safety considerations," (with limited exceptions discussed below), and accordingly concluded that the Public Utilities Commission was preempted from ordering the shutdown of a nuclear generating plant for safety reasons. See Senior Citizens Coalition v. PUC, 69 Ohio St. 2d 625, 433 N.E.2d 583 (1982) (citing City of Cleveland v. PUC with approval in denying appellant's petition to intervene in a rate increase proceeding, since appellant was concerned solely with the dangers of nuclear power, a matter over which the PUC has no jurisdiction); Stebbins v. PUC, 62 Ohio St. 2d 431, 434, 406 N.E.2d 525, 528 n. 2 (1980).

Although it is well-established as a general proposition that the states are preempted from regulating nuclear generating systems, there are several limited areas in which the states may act. In this regard, certain provisions of the Atomic Energy Act bear close examination. 42 U.S.C. §2021(a) and (b) provide for "turnover" agreements whereby the Nuclear Regulatory Commission ("NRC") may enter into an agreement with any state to provide for the discontinuance of the

¹Ohio does have a series of statutes set forth in R.C. Chapter 4163, dealing exclusively with Atomic Energy. R.C. 4163.02 prohibits any person from operating a nuclear power plant without a license or permit required by the Atomic Energy Act. R.C. 4163.03 requires certain state departments, including the Department of Industrial Relations, to study the area of nuclear power and recommend appropriate legislation and regulations. The head of each department may cooperate with the federal government in administering this section. R.C. 4163.07 deals with the shipment of nuclear materials into or through the state.

NRC's regulatory authority with respect to byproduct materials,² source materials,³ and/or special nuclear materials⁴ in quantities insufficient to form a critical mass. Under such an agreement the state assumes authority for regulating these materials. However, 42 U.S.C. §2021(c) reads in pertinent part: "No agreement entered into pursuant to subsection (b) of this section shall provide for discontinuance of any authority and the Commission shall retain authority and responsibility with respect to regulation of -- (1) the construction and operation of any production or utilization facility." Division (c) of §2021 thus affirms the NRC's exclusive control over the actual construction and operation of nuclear power plants, even though a state may have assumed authority over byproduct, source, or special nuclear materials.

42 U.S.C. §2018 specifically notes that the Atomic Energy Act leaves undisturbed the authority of "any Federal, State, or local agency with respect to the generation, sale, or transmission of electric power produced through the use of nuclear facilities licensed by the Commission" although no such agency may regulate or otherwise interfere with the activities of the NRC. See Senior Citizens Coalition v. PUC, Stebbins v. PUC, Office of Consumers' Counsel v. PUC, 58 Ohio St. 2d 449, 391 N.E.2d 311 (1979), and Coalition For Safe Electric Power v. PUC, 49 Ohio St. 2d 207, 361 N.E.2d 425 (1977) for examples of the PUC's regulation of electric power produced through the use of nuclear generating plants.

Division (k) of §2021 reads: "Nothing in this section shall be construed to affect the authority of any State or local agency to regulate activities for purposes other than protection against radiation hazards." Thus, a state or other unit of local government may regulate those aspects of nuclear generating systems which relate to nonradiological hazards, such as site selection, zoning, working conditions of plant employees, as well as building and equipment codes on nonradiation machinery. See Marshall v. Consumers Power Co., 65 Mich. App. 237, 237 N.W.2d 266 (1975). 42 U.S.C. §2021 (g) authorizes and directs the NRC to "cooperate with the States in the formulation of standards for protection against hazards of radiation to assure that State and Commission programs for protection against hazards of radiation will be coordinated and compatible."

Also of significance to your question is 42 U.S.C. §2021(i), which reads in pertinent part:

The Commission in carrying out its licensing and regulatory responsibilities under this chapter is authorized to enter into agreements with any State, or group of States, to perform inspections or other functions on a cooperative basis as the Commission deems appropriate. The Commission is also authorized to provide training, with or without charge, to employees of, and such other assistance to,

²"Byproduct material" is "(1) any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material, and (2) the tailings of wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content." 42 U.S.C. §2014(e).

³"Source material" is "(1) uranium, thorium, or any other material which is determined by the Commission pursuant to the provisions of section 2091 of this title to be source material; or (2) ores containing one or more of the foregoing materials, in such concentration as the Commission may by regulation determine from time to time." 42 U.S.C. §2014(z).

⁴"Special nuclear material" is "(1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 2071 of this title, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material." 42 U.S.C. §2014(aa).

any State or political subdivision thereof or group of States as the Commission deems appropriate.

42 U.S.C. §2201(f) more generally authorizes the NRC to use the services or personnel of any state or local government, with the state or local government's consent, "to perform such functions on [the NRC's] behalf as may appear desirable." Thus, although the states are preempted from acting in an area, such as the inspection of nuclear plants, they may enter into agreements with the NRC whereby a state may act to perform the NRC's responsibilities. Such agreements may only be executed, however, as the Commission deems appropriate.

The states are also given a role with regard to nuclear plants pursuant to the federal regulations under which the NRC administers its responsibilities. See 10 C.F.R. Chapter I. Under these regulations the NRC has adopted construction codes and standards for the systems and components of boiling and pressurized water-cooled nuclear power reactors. 10 C.F.R. §50.55a incorporates by reference safety standards for various systems and components promulgated by the American Society of Mechanical Engineers (ASME), the American Standard Code for Pressure Piping, the U.S.A. Standard Code for Pressure Piping, and the Institute of Electrical and Electronic Engineers Standard. If the states are given responsibilities, such as the duty of inspecting components, under those portions of the professional codes incorporated into the federal regulations, the states would be empowered to act in accordance with the terms of those portions incorporated, subject, however, to the primary enforcement power and responsibility of the NRC.⁵

I turn now to an examination of R.C. Chapters 4101 and 4104 and their applicability to the construction and inspection of certain components of nuclear power plants.

R.C. 4101.083(A) requires the Board of Building Standards to:

Formulate rules governing the design, construction, and installation of power, refrigerating, hydraulic, heating, and liquefied petroleum gas piping systems. Such rules shall prescribe uniform minimum standards necessary for the protection of the public health and safety, and shall include rules establishing the safe working pressure to be carried by any such systems; a program for the certification of the welding procedures proposed to be used on any such system by the owner or operator of any welding business and for triennial performance testing of welders who work on any such system; and for the conservation of energy. Such rules shall be based upon and follow generally accepted engineering standards, formulae, and practices established and pertaining to such piping construction, installation, and testing and the board may, for this purpose, adopt existing published standards as well as amendments thereto subsequently published by the same authority.

⁵I note that 10 C.F.R. §50.55a(a)(2) allows an applicant for, or holder of, a construction permit to avoid the requirements set out in paragraphs (c) through (i) of §50.55a if the applicant or permit holder demonstrates to the Commission, that, *inter alia*, "[p]roposed alternatives to the described requirements or portions thereof will provide an acceptable level of quality and safety." 10 C.F.R. §50.55a(2)(ii). Thus, if a construction permit applicant or holder were to demonstrate to the NRC that a state's safety standards and codes provided an acceptable level of quality and safety, and the NRC authorized the use of such standards, then the state's requirements, rather than the ASME requirements, would be applicable to that nuclear power plant. However, enforcement responsibility would remain with the NRC unless otherwise specifically authorized by the NRC. If state law were to be amended subsequent to the NRC's approval, those state standards considered and approved by the NRC would nevertheless still be applicable to the permit applicant or holder. In order to have the amended standards applied, the applicant or permit holder would have to reapply to the NRC for approval.

The Board must also prescribe tests to determine the quality of materials used in the construction of piping systems, R.C. 4101.083(B), and perform other functions with regard to the inspection of such systems. R.C. 4101.083. Piping systems must be inspected in accordance with the Board's rules. R.C. 4101.084. Inspections must be made by general, special, or local inspectors examined and certified by the Board. R.C. 4101.084. See R.C. 4101.08; R.C. 4101.081; R.C. 4101.082; R.C. 4101.083(D).

R.C. Chapter 4104 concerns the inspection and safety of boilers and unfired pressure vessels. Again, the Board of Building Standards has the responsibility for formulating rules and standards for the construction, installation, inspection, repair, and operation of boilers and unfired pressure vessels. R.C. 4104.02. Inspectors are examined and certified by the chief of the division of boiler inspection, who administers R.C. Chapter 4104. See R.C. 4104.05; R.C. 4104.06; R.C. 4104.07; R.C. 4104.08. Unfired pressure vessels and boilers must be thoroughly inspected by duly certified general or special inspectors. See R.C. 4104.10; R.C. 4104.11.

Your question concerns whether the inspection and other safety requirements found in R.C. Chapters 4101 and 4104 may be applied to piping systems and boilers in nuclear generating systems. "Boiler" is defined in R.C. 4104.01(C) as "a closed vessel in which water is heated, steam is generated, steam is superheated, or any combination thereof, under pressure or vacuum for use externally to itself by the direct application of heat from the combustion of fuels, or from electricity or nuclear energy." (Emphasis added.) Furthermore, the Board of Building Standards has promulgated rules adopting the standards of the American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Section III, entitled "Nuclear Power Plant Components" for application to piping systems, [1981-82 Monthly Record] Ohio Admin. Code 4101:8-3-01 at 572-73, as well as the ASME's Boiler and Pressure Vessel Code, Section III, entitled "Nuclear Power Plant Components," Section XI, "Rules for Inservice Inspection of Nuclear Coolant Systems, Case Interpretations," and the National Board Inspection Code's standards for "Inservice Inspection of Nuclear Power Plant Components," Chapter VI, all with application to boilers.⁶ [1980-81 Monthly Record] Ohio Admin. Code 4101:4-5-01 at 221. As mentioned above, certain of these standards have also been adopted by the NRC.

However, in light of the federal preemption principle discussed above, boiler and pressure piping systems found in nuclear power plants are not, as a general matter, subject to the provisions of R.C. Chapters 4101 and 4104. Indeed, R.C. 4104.04(A) explicitly states that, "[s]ections 4104.01 to 4104.20, and section 4104.99 of the Revised Code do not apply to the following boilers and unfired pressure vessels: (1) Boilers and unfired pressure vessels under federal control or subject to inspection under federal laws." Clearly, boilers and unfired pressure vessels which are components of a nuclear power plant fall within the terms of R.C. 4104.04(A), and thus are not subject to R.C. Chapter 4104.

There are, however, possible situations where R.C. Chapters 4101 and 4104 and corresponding rules may be applicable, at least in part. If an agreement has been entered into between Ohio and the NRC for Ohio to perform the Commission's inspections, or other functions, pursuant to 42 U.S.C. §2021(i) or 42 U.S.C. §2201(f), then those provisions of R.C. Chapters 4101 and 4104 incorporated into the agreement would be applicable. State law would also be applicable to those systems or components which do not relate to the radiological safety of the plant. 42 U.S.C. §2021(k). If a particular construction permit holder or applicant has received authorization from the NRC to use state standards, they would be applicable to that nuclear power plant. 10 C.F.R. §50.55a(a)(2). In effect, state

⁶ Although both the NRC and the Board of Building Standards have incorporated sections III and XI of the ASME's Boiler and Pressure Vessel Code into their rules, the applicable editions or addenda will not necessarily be the same. The National Board Inspection Code has not been adopted by the NRC. See 10 C.F.R. §50.55a.

standards would be implemented, where identical standards, such as the ASME Code, have been incorporated by reference into portions of federal regulations. However, the enforcement responsibility would remain with the NRC unless otherwise specifically authorized by the NRC.

In conclusion, it is my opinion, and you are advised, that the Ohio Board of Building Standards is preempted by the authority of the Nuclear Regulatory Commission from promulgating and enforcing rules concerning the construction and inspection of nuclear power plants. The Ohio Board of Building Standards, however, may act to the extent that: an agreement has been entered into between the State of Ohio and the Nuclear Regulatory Commission authorizing the State to perform the Commission's inspections or other functions, pursuant to 42 U.S.C. §2021(i) or 42 U.S.C. §2201(f); the systems or components sought to be regulated are not boilers or unfired pressure vessels subject to inspection under the NRC authority, and do not relate to the radiological safety of the plant, 42 U.S.C. §2021(k); or the American Society of Mechanical Engineers Code, or other professional codes which have been incorporated by reference into the federal regulations, give specific responsibility to the state agency subject, however, to the primary enforcement authority and responsibility of the NRC.