

PACIFIC GAS & ELECTRIC CO. ET AL. *v.* STATE
ENERGY RESOURCES CONSERVATION AND
DEVELOPMENT COMMISSION ET AL.

CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR
THE NINTH CIRCUIT

No. 81-1945. Argued January 17, 1983—Decided April 20, 1983

Section 25524.1(b) of the California Public Resources Code provides that before a nuclear powerplant may be built, the State Energy Resources Conservation and Development Commission must determine on a case-by-case basis that there will be "adequate capacity" for interim storage of the plant's spent fuel at the time the plant requires such storage. Section 25524.2 imposes a moratorium on the certification of new nuclear plants until the State Commission finds that there has been developed, and that the United States through its authorized agency has approved, a demonstrated technology or means for the permanent and terminal disposal of high-level nuclear wastes. Petitioner electric utilities filed an action in Federal District Court seeking a declaration that these provisions, *inter alia*, are invalid under the Supremacy Clause because they were pre-empted by the Atomic Energy Act of 1954. The District Court, after finding that the issues presented by the two provisions were ripe for adjudication, held that they were pre-empted by and in conflict with the Atomic Energy Act. The Court of Appeals agreed that the challenge to § 25524.2 was ripe for review, but found that the challenge to § 25524.1(b) was not because it could not be known whether the State Commission will ever find a nuclear plant's storage capacity to be inadequate. The court went on to hold that § 25524.2 was not designed to provide protection against radiation hazards but was adopted because uncertainties in the nuclear fuel cycle make nuclear power an uneconomical and uncertain source of energy, and therefore that the section was not pre-empted because §§ 271 and 274(k) of the Atomic Energy Act constituted authorization for States to regulate nuclear powerplants for purposes other than protection against radiation hazards. The court further held that § 25524.2 was not invalid as a barrier to fulfillment of the federal goal of encouraging the development of atomic energy.

Held:

1. The challenge to § 25524.2 is ripe for judicial review, but the questions concerning § 25524.1(b) are not. Pp. 200-203.

(a) The question of ripeness turns "on the fitness of the issues for judicial decision" and "the hardship to the parties of withholding court

consideration." *Abbott Laboratories v. Gardner*, 387 U. S. 136, 149. Both of these factors counsel in favor of finding the challenge to § 25524.2 ripe for adjudication. The question of pre-emption is predominantly legal and to require the industry to proceed without knowing whether the moratorium imposed by § 25524.2 is valid would impose a palpable and considerable hardship on the utilities, and may ultimately work harm on the citizens of California. Moreover, if § 25524.2 is void as hindering commercial development of atomic energy, delayed resolution would frustrate one of the key purposes of the Atomic Energy Act. Pp. 200-202.

(b) Under circumstances where it is uncertain whether the State Commission will ever find a nuclear plant's interim storage capacity to be inadequate, and where, because of this Court's holding, *infra*, that § 25524.2 is not pre-empted by federal law, it is unlikely that industry behavior would be uniquely affected by such uncertainty surrounding the interim storage provision, a court should not stretch to reach an early, and perhaps a premature, decision respecting § 25524.1(b). P. 203.

2. Section 25524.2 is not pre-empted by the Atomic Energy Act. Pp. 203-223.

(a) From the passage of the Atomic Energy Act in 1954, through several revisions, and to the present day, Congress has preserved the dual regulation of nuclear-powered electricity generation: the Federal Government maintains complete control of the safety and "nuclear" aspects of energy generation, whereas the States exercise their traditional authority over economic questions such as the need for additional generating capacity, the type of generating facilities to be licensed, land use, and ratemaking. This Court accepts California's avowed economic rather than safety purpose as the rationale for enacting § 25524.2, and accordingly the statute lies outside the federally occupied field of nuclear safety regulation. Pp. 205-216.

(b) Section 25524.2 does not conflict with federal regulation of nuclear waste disposal, with the decision of the Nuclear Regulatory Commission (NRC) that it is permissible to continue to license reactors, notwithstanding uncertainty surrounding the waste disposal problem, or with Congress' recent passage of the Nuclear Waste Policy Act of 1982 directed at that problem. Because the NRC's decision does not and could not compel a utility to develop a nuclear plant, compliance with both that decision and § 25524.2 is possible. Moreover, because the NRC's regulations are aimed at insuring that plants are safe, not necessarily that they are economical, § 25524.2 does not interfere with the objective of those regulations. And as there is no attempt on California's part to enter the field of developing and licensing nuclear waste disposal technology, a field occupied by the Federal Government, § 25524.2 is not pre-empted any more by the NRC's obligations in the waste disposal

field than by its licensing power over the plants themselves. Nor does it appear that Congress intended through the Nuclear Waste Policy Act of 1982 to make the decision for the States as to whether there is now sufficient federal commitment to fuel storage and waste disposal that licensing of nuclear reactors may resume. Moreover, that Act can be interpreted as being directed at solving the nuclear waste disposal problem for existing reactors without necessarily encouraging or requiring that future plant construction be undertaken. Pp. 217-220.

(c) Section 25524.2 does not frustrate the Atomic Energy Act's purpose to develop the commercial use of nuclear power. Promotion of nuclear power is not to be accomplished "at all costs." Moreover, Congress has given the States authority to determine, as a matter of economics, whether a nuclear plant vis-à-vis a fossil fuel plant should be built. California's decision to exercise that authority does not, in itself, constitute a basis for pre-emption. Pp. 220-223.

659 F. 2d 903, affirmed.

WHITE, J., delivered the opinion of the Court, in which BURGER, C. J., and BRENNAN, MARSHALL, POWELL, REHNQUIST, and O'CONNOR, JJ., joined. BLACKMUN, J., filed an opinion concurring in part and concurring in the judgment, in which STEVENS, J., joined, *post*, p. 223.

John R. McDonough argued the cause for petitioners. With him on the briefs was *Howard B. Soloway*.

Deputy Solicitor General Claiborne argued the cause for the United States as *amicus curiae* urging reversal. With him on the brief were *Solicitor General Lee*, *Assistant Attorney General McGrath*, *John H. Garvey*, *Leonard Schaitman*, and *Al J. Daniel, Jr.*

Laurence H. Tribe argued the cause for respondents. With him on the brief were *Roger Beers*, *William M. Chamberlain*, *Dian Grueneich*, and *Ralph Cavanagh*.*

*Briefs of *amici curiae* urging reversal were filed by *Leonard M. Trosten*, *Eugene R. Fidell*, and *Linda L. Hodge* for the Atomic Industrial Forum; by *John M. Cannon* and *Susan W. Wanat* for Hans A. Bethe et al.; by *Joseph B. Knotts, Jr.*, and *Robert L. Baum* for the Edison Electric Institute; by *Max Dean* for the Fusion Energy Foundation; by *David Crump* and *Wilkes Robinson* for the Legal Foundation of America; and by *Ronald A. Zumbrun*, *Robin L. Rivett*, *Raymond M. Momboisse*, and *Sam Kazman* for the Pacific Legal Foundation et al.

JUSTICE WHITE delivered the opinion of the Court.

The turning of swords into plowshares has symbolized the transformation of atomic power into a source of energy in

Briefs of *amici curiae* urging affirmance were filed for the State of Alaska et al. by *Robert Abrams*, Attorney General of New York, *Peter H. Schiff*, and *Ezra I. Bialik*, Assistant Attorney General; *Wilson L. Condon*, Attorney General of Alaska, and *Douglas K. Mertz*, Assistant Attorney General; *Robert K. Corbin*, Attorney General of Arizona, and *Anthony B. Ching*, Solicitor General; *John Steven Clark*, Attorney General of Arkansas; *Tany S. Hong*, Attorney General of Hawaii, and *Michael A. Lilly*, First Deputy Attorney General; *Robert T. Stephan*, Attorney General of Kansas, *Robert Vinson Eye*, Assistant Attorney General, and *Brian J. Moline*; *William J. Guste, Jr.*, Attorney General of Louisiana, and *Kendall L. Vick*, Assistant Attorney General; *Warren Spannaus*, Attorney General of Minnesota, and *Jocelyn F. Olson*, Special Assistant Attorney General; *Bill Allain*, Attorney General of Mississippi, and *Mack Cameron*, Special Assistant Attorney General; *Mike Greely*, Attorney General of Montana, and *Mike McGrath*, Assistant Attorney General; *Richard H. Bryan*, Attorney General of Nevada, and *Larry Struve*, Chief Deputy Attorney General; *William J. Brown*, Attorney General of Ohio, and *E. Dennis Muchnicki*, Assistant Attorney General; *Jan Eric Cartwright*, Attorney General of Oklahoma, and *Sara J. Drake*, Assistant Attorney General; *Daniel R. McLeod*, Attorney General of South Carolina, and *Richard P. Wilson*, Assistant Attorney General; *John J. Easton, Jr.*, Attorney General of Vermont, and *Merideth Wright*, Assistant Attorney General; *Chauncey H. Browning*, Attorney General of West Virginia, and *Robert R. Rodecker*; *Steven F. Freudenthal*, Attorney General of Wyoming, and *Walter Perry III*, Senior Assistant Attorney General; for the State of Connecticut by *Carl R. Ajello*, Attorney General, *Robert S. Golden, Jr.*, Assistant Attorney General, and *Neil T. Proto*, Special Assistant Attorney General; for the State of Maine by *James E. Tierney*, Attorney General, *Rufus E. Brown*, Deputy Attorney General, *H. Cabanne Howard*, Senior Assistant Attorney General, and *Gregory W. Sample*, Assistant Attorney General; for the Commonwealth of Massachusetts by *Francis X. Bellotti*, Attorney General, and *Stephen M. Leonard*, Assistant Attorney General; for the State of Illinois et al. by *Gregory H. Smith*, Attorney General of New Hampshire, *E. Tupper Kinder*, Assistant Attorney General, *Tyrone C. Fahner*, Attorney General of Illinois, and *John Van Vranken*, *Anne Rapkin*, and *Jeffrey C. Paulson*, Assistant Attorneys General; for the State of Oregon by *Dave Frohnmayer*, Attorney General, *Stanton F. Long*, Deputy Attorney General, *William F. Gary*, Solicitor General,

American society. To facilitate this development the Federal Government relaxed its monopoly over fissionable materials and nuclear technology, and in its place, erected a complex scheme to promote the civilian development of nuclear energy, while seeking to safeguard the public and the environment from the unpredictable risks of a new technology. Early on, it was decided that the States would continue their traditional role in the regulation of electricity production. The interrelationship of federal and state authority in the nuclear energy field has not been simple; the federal regulatory structure has been frequently amended to optimize the partnership.

This case emerges from the intersection of the Federal Government's efforts to ensure that nuclear power is safe with the exercise of the historic state authority over the generation and sale of electricity. At issue is whether provisions in the 1976 amendments to California's Warren-Alquist Act, Cal. Pub. Res. Code Ann. §§25524.1(b) and 25524.2 (West 1977), which condition the construction of nuclear plants on findings by the State Energy Resources Conservation and Development Commission that adequate storage facilities and means of disposal are available for nuclear waste,

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Joseph D. Alviani filed a brief for the New England Legal Foundation as *amicus curiae*.

are pre-empted by the Atomic Energy Act of 1954, 68 Stat. 919, as amended, 42 U. S. C. § 2011 *et seq.*

I

A nuclear reactor must be periodically refueled and the "spent fuel" removed. This spent fuel is intensely radioactive and must be carefully stored. The general practice is to store the fuel in a water-filled pool at the reactor site. For many years, it was assumed that this fuel would be reprocessed; accordingly, the storage pools were designed as short-term holding facilities with limited storage capacities. As expectations for reprocessing remained unfulfilled, the spent fuel accumulated in the storage pools, creating the risk that nuclear reactors would have to be shut down. This could occur if there were insufficient room in the pool to store spent fuel and also if there were not enough space to hold the entire fuel core when certain inspections or emergencies required unloading of the reactor. In recent years, the problem has taken on special urgency. Some 8,000 metric tons of spent nuclear fuel have already accumulated, and it is projected that by the year 2000 there will be some 72,000 metric tons of spent fuel.¹ Government studies indicate that a number of reactors could be forced to shut down in the near future due to the inability to store spent fuel.²

¹See U. S. Congress, Office of Technology Assessment, Managing Commercial High-Level Radioactive Waste 9 (Apr. 1982) (hereafter OTA Study).

²"For the past several years the Department of Energy or one of its predecessors has been warning the Congress almost annually of the imminent closure of a number of nuclear power reactors as a result of the lack of available capacity to store the spent nuclear fuel No reactor has yet shut down for these reasons, largely because utilities have expanded their storage capacity." H. R. Rep. No. 97-785, pt. 1, p. 47 (1982); the Office of Technology Assessment's analysis found that "reactors are running out of storage space, and some may have to shut down by the mid-1990's unless more storage space is made available on a timely basis." OTA Study, at 27. See also Affidavit of Terry R. Lash (staff scientist for Natural Re-

There is a second dimension to the problem. Even with water pools adequate to store safely all the spent fuel produced during the working lifetime of the reactor, permanent disposal is needed because the wastes will remain radioactive for thousands of years.³ A number of long-term nuclear waste management strategies have been extensively examined. These range from sinking the wastes in stable deep seabeds, to placing the wastes beneath ice sheets in Greenland and Antarctica, to ejecting the wastes into space by rocket. The greatest attention has been focused on disposing of the wastes in subsurface geologic repositories such as salt deposits.⁴ Problems of how and where to store nuclear wastes has engendered considerable scientific, political, and public debate. There are both safety and economic aspects to the nuclear waste issue: first, if not properly stored, nuclear wastes might leak and endanger both the environment and human health;⁵ second, the lack of a long-term disposal option increases the risk that the insufficiency of interim storage space for spent fuel will lead to reactor shutdowns,

sources Defense Council) ¶ 10, App. 419; Affidavit of Dale G. Bridenbaugh (nuclear engineer) ¶¶ 28-30, App. 478-480.

³ See H. R. Rep. No. 97-785, *supra*, at 46. "Waste disposal, at the present stage of technological development, refers to the storage of the very long lived and highly radioactive waste products until they detoxify sufficiently that they no longer present an environmental hazard. There are presently no physical or chemical steps which render this waste less toxic, other than simply the passage of time." *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U. S. 519, 528, n. 6 (1978).

⁴ See generally Nuclear Fuel Cycle Committee, California Energy Commission, Status of Nuclear Fuel Reprocessing, Spent Fuel Storage and High-Level Waste Disposal, Draft Report (1978) (App. 173-373); Report to the President by the Interagency Review Group on Nuclear Waste Management 37, 47, 61 (1979).

⁵ Committee on Nuclear and Alternative Energy Systems, National Research Council, National Academy of Sciences, Energy in Transition 1985-2010, pp. 314-316 (1979). See also Yellin, High Technology and the Courts, 94 Harv. L. Rev. 489, 534 (1981).

rendering nuclear energy an unpredictable and uneconomical adventure.⁶

The California laws at issue here are responses to these concerns. In 1974, California adopted the Warren-Alquist State Energy Resources Conservation and Development Act, Cal. Pub. Res. Code Ann. §25000–25986 (West 1977 and Supp. 1983). The Act requires that a utility seeking to build in California any electric power generating plant, including a nuclear powerplant, must apply for certification to the State Energy Resources Conservation and Development Commission (Energy Commission).⁷ The Warren-Alquist Act was amended in 1976 to provide additional state regulation of new nuclear powerplant construction.

Two sections of these amendments are before us. Section 25524.1(b) provides that before additional nuclear plants may be built, the Energy Commission must determine on a case-by-case basis that there will be “adequate capacity” for storage of a plant’s spent fuel rods “at the time such nuclear facility requires such . . . storage.” The law also requires that each utility provide continuous, on-site, “full core reserve storage capacity” in order to permit storage of the entire re-

⁶The uncertainty is reflected in the fact that since 1979 the Nuclear Regulatory Commission has been engaged in a proceeding to reassess the evidentiary basis for its position that safety considerations will not be compromised by continuing federal licensing while a waste disposal method is being developed. 44 Fed. Reg. 61373 (1979); see *Minnesota v. NRC*, 195 U. S. App. D. C. 234, 241, 602 F. 2d 412, 419 (1979). Moreover, the ultimate solution to the waste disposal problem may entail significant expenditures, affecting the economic attractiveness of the nuclear option.

⁷The applicant must first file a notice of intention to file an application for certification, after which the Commission conducts a review process for not more than 12 months. If the notice of intention is approved, the applicant must then file an application for certification, after which the Commission conducts a further review process not to exceed 18 months. Unless certification is granted, the proposed plant cannot be constructed; if certification is granted the Commission is authorized to make certain specifications for construction of the plant and is directed to monitor the construction process.

actor core if it must be removed to permit repairs of the reactor. In short, § 25524.1(b) addresses the interim storage of spent fuel.

Section 25524.2 deals with the long-term solution to nuclear wastes. This section imposes a moratorium on the certification of new nuclear plants until the Energy Commission "finds that there has been developed and that the United States through its authorized agency has approved and there exists a demonstrated technology or means for the disposal of high-level nuclear waste." "Disposal" is defined as a "method for the permanent and terminal disposition of high-level nuclear waste" §§ 25524.2(a), (c). Such a finding must be reported to the state legislature, which may nullify it.⁸

In 1978, petitioners Pacific Gas & Electric Co. and Southern California Edison Co. filed this action in the United States District Court, requesting a declaration that numerous provisions of the Warren-Alquist Act, including the two sections challenged here, are invalid under the Supremacy Clause because they are pre-empted by the Atomic Energy Act. The District Court held that petitioners had standing to challenge §§ 25524.1(b) and 25524.2,⁹ that the issues presented by these two statutes are ripe for adjudication, and that the two provisions are void because they are pre-empted by and in conflict with the Atomic Energy Act. 489 F. Supp. 699 (ED Cal. 1980).

⁸ After transmission of a Commission finding to the legislature, the certification of nuclear powerplants continues to be prohibited until 100 legislative days have elapsed without disaffirmance of the findings by either house of the legislature, or, if the findings have been disaffirmed but are then re-adhered to by the Energy Commission, if the legislature fails to void the renewed findings by statute within 100 legislative days after their retransmittal by the Commission.

⁹ The District Court found that §§ 25524.1 and 25524.2, coupled with the Energy Commission's failure to make the required findings, made further investment by petitioners in nuclear plants "an unreasonable risk." The court also found that if those sections and other provisions were held invalid, petitioners would reactivate plans for further nuclear plant development. 489 F. Supp., at 700-701.

The Court of Appeals for the Ninth Circuit affirmed the District Court's ruling that the petitioners have standing to challenge the California statutes, and also agreed that the challenge to § 25524.2 is ripe for review. It concluded, however, that the challenge to § 25524.1(b) was not ripe "[b]ecause we cannot know whether the Energy Commission will ever find a nuclear plant's storage capacity to be inadequate" 659 F. 2d 903, 918 (1981).¹⁰ On the merits, the court held that the nuclear moratorium provisions of § 25524.2 were not pre-empted because §§ 271 and 274(k) of the Atomic Energy Act, 42 U. S. C. §§ 2018 and 2021(k), constitute a congressional authorization for States to regulate nuclear powerplants "for purposes other than protection against radiation hazards."¹¹ The court held that § 25524.2 was not designed to provide protection against radiation hazards, but

¹⁰ The court also held unripe challenges to various certification provisions, Cal. Pub. Res. Code Ann. §§ 25500, 25502, 25504, 25511, 25512, 25514, 25516, 25517, 25519, 25520, 25523, 25532 (West 1977 and Supp. 1983), requirements that utilities acquire surrounding development rights, § 25528 (West Supp. 1983), and the reprocessing provisions of § 25524.1(a). The requirement that a utility propose at least three alternative sites, § 25503, was held ripe for review and not pre-empted by the Atomic Energy Act for reasons similar to those applied to § 25524.2. 659 F. 2d, at 915-918.

¹¹ Section 271, 68 Stat. 960, as amended and as set forth in 42 U. S. C. § 2018, provides:

"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 produced through the use of nuclear facilities licensed by the Commission: *Provided*, That this section shall not be deemed to confer upon any Federal, State or local agency any authority to regulate, control, or restrict any activities of the Commission."

Section 274(k), 73 Stat. 691, 42 U. S. C. § 2021(k), provides:

"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."

The role of these provisions in the federal regulatory structure is discussed *infra*, at 208-211.

was adopted because "uncertainties in the nuclear fuel cycle make nuclear power an uneconomical and uncertain source of energy." 659 F. 2d, at 925. Nor was the provision invalid as a barrier to fulfillment of the federal goal of encouraging the development of atomic energy. The granting of state authority in §§ 271 and 274(k), combined with recent federal enactments, demonstrated that Congress did not intend that nuclear power be developed "at all costs," but only that it proceed consistent with other priorities and subject to controls traditionally exercised by the States and expressly preserved by the federal statute.¹²

We granted certiorari limited to the questions of whether §§ 25524.1(b) and 25524.2 are ripe for judicial review, and whether they are pre-empted by the Atomic Energy Act. 457 U. S. 1132 (1982).

II

We agree that the challenge to § 25524.2 is ripe for judicial review, but that the questions concerning § 25524.1(b) are not. The basic rationale of the ripeness doctrine "is to prevent the courts, through avoidance of premature adjudication, from entangling themselves in abstract disagreements over administrative policies, and also to protect the agencies from judicial interference until an administrative decision has been formalized and its effects felt in a concrete way by the challenging parties." *Abbott Laboratories v. Gardner*, 387

¹²In the same appeal, the Ninth Circuit consolidated and decided a related challenge to § 25524.2 brought by a nuclear engineer hired to work on a proposed nuclear plant who subsequently lost his job when the project was abandoned. The District Court had held that the engineer had standing to challenge the waste disposal law and that the law was pre-empted by the Atomic Energy Act. *Pacific Legal Foundation v. State Energy Resources Comm'n*, 472 F. Supp. 191 (SD Cal. 1979). The Court of Appeals disagreed with the District Court's standing analysis and reversed. 659 F. 2d, at 911-914. We denied certiorari. 457 U. S. 1133 (1982).

U. S. 136, 148-149 (1967). In *Abbott Laboratories*, which remains our leading discussion of the doctrine, we indicated that the question of ripeness turns on "the fitness of the issues for judicial decision" and "the hardship to the parties of withholding court consideration." *Id.*, at 149.

Both of these factors counsel in favor of finding the challenge to the waste disposal regulations in §25524.2 ripe for adjudication. The question of pre-emption is predominantly legal, and although it would be useful to have the benefit of California's interpretation of what constitutes a demonstrated technology or means for the disposal of high-level nuclear waste, resolution of the pre-emption issue need not await that development. Moreover, postponement of decision would likely work substantial hardship on the utilities. As the Court of Appeals cogently reasoned, for the utilities to proceed in hopes that, when the time for certification came, either the required findings would be made or the law would be struck down, requires the expenditures of millions of dollars over a number of years, without any certainty of recovery if certification were denied.¹³ The construction of new nuclear facilities requires considerable advance planning—on the order of 12 to 14 years.¹⁴ Thus, as in the *Rail Reorganization Act Cases*, 419 U. S. 102, 144 (1974), "decisions to be made now or in the short future may be affected" by whether we act. "One does not have to await the consummation of threatened injury to obtain preventive relief. If the injury is certainly impending that is enough." *Id.*, at 143, quoting *Pennsylvania v. West Virginia*, 262 U. S. 553, 593 (1923). To require the industry to proceed without knowing whether the moratorium is valid would impose a pal-

¹³ Pacific Gas & Electric, for example, had spent at least \$10 million before even filing a notice of intention to file an application for certification. Opinion at 489 F. Supp. 699 (ED Cal. 1980) (Finding of Fact No. 15, App. to Pet. for Cert. 72).

¹⁴ Finding of Fact No. 13, *id.*, at 71.

pable and considerable hardship on the utilities, and may ultimately work harm on the citizens of California. Moreover, if petitioners are correct that §25524.2 is void because it hinders the commercial development of atomic energy, "delayed resolution would frustrate one of the key purposes of the [Atomic Energy] Act." *Duke Power Co. v. Carolina Environmental Study Group, Inc.*, 438 U. S. 59, 82 (1978). For these reasons, the issue of whether §25524.2 is preempted by federal law should be decided now.¹⁵

¹⁵ Respondents also contend that the waste disposal provision question is not ripe for review because even if the law is invalid, petitioners' injury—being prevented as a practical matter from building new nuclear powerplants—will not be fully redressed inasmuch as other sections of the Warren-Alquist Act, not before the Court, also prevent such construction. Respondents also suggest that this lack of redressability rises to the level of an Art. III concern. Both arguments are predicated entirely upon a statement in petitioners' reply brief in support of the petition for certiorari that "unless and until the California certification system statutes are reviewed and at least largely invalidated, petitioners will not again undertake to build nuclear power plants in California." Reply Brief for Petitioners 6. Respondents attempt to draw entirely too much from this statement. The California certification provisions do not impose a moratorium on new construction; in the main, they require that information be gathered on a variety of issues and be considered by the Energy Commission. Cal. Pub. Res. Code Ann. §§ 25500, 25502, 25504, 25511, 25512, 25514, 25516, 25517, 25519, 25520, 25523, 25532 (West 1977 and Supp. 1983). It is unreasonable to presume that these informational requirements will exert the same chilling effect on new construction as would a moratorium. The Ninth Circuit concurs:

"[A] delay in adjudication will not cause any undue hardship for the parties. The certification scheme, in general, does not have an 'immediate and substantial impact' on the utilities. *Gardner v. Toilet Goods Association*, 387 U. S. 167, 171 . . . (1967); neither [Pacific Gas & Electric] nor [Southern California Edison] has a notice of intention or application for certification pending, and the threat that procedural burdens might someday be imposed or that certification might someday be denied for failure to meet Energy Commission standards is remote at best." 659 F. 2d, at 916 (footnote omitted).

Respondents' "fears" that petitioners will not seek to pursue the nuclear option, notwithstanding a favorable decision in this litigation, appear greatly exaggerated.

Questions concerning the constitutionality of the interim storage provision, §25524.1(b), however, are not ripe for review. While the waste disposal statute operates on a state-wide basis, the Energy Commission is directed to make determinations under §25524.1(b) on a case-by-case basis. As the Court of Appeals explained, because "we cannot know whether the Energy Commission will ever find a nuclear plant's storage capacity to be inadequate," judicial consideration of this provision should await further developments.¹⁶ Furthermore, because we hold today that §25524.2 is not pre-empted by federal law, there is little likelihood that industry behavior would be uniquely affected by whatever uncertainty surrounds the interim storage provisions. In these circumstances, a court should not stretch to reach an early, and perhaps premature, decision respecting §25524.1(b).

III

It is well established that within constitutional limits Congress may pre-empt state authority by so stating in express terms. *Jones v. Rath Packing Co.*, 430 U. S. 519, 525 (1977). Absent explicit pre-emptive language, Congress' in-

¹⁶ The Court of Appeals noted that the draft report by the State Energy Commission's Nuclear Fuel Cycle Committee, which recommended requiring all nuclear plants to provide a specified amount of storage space, see Nuclear Fuel Cycle Committee, *supra* n. 4, at 113, does not necessarily render the provision ripe. The Committee report is only an indication of the views of two of five members of the Energy Commission in 1978. Not only may views change in the future, but the report itself cautions that it does not represent final agency action. Indeed, the full Commission's decision on January 25, 1978, did not adopt this report or the Committee's recommendations regarding on-site storage. Finally, the recently enacted Nuclear Waste Policy Act of 1982, Pub. L. 97-425, 96 Stat. 2201, 42 U. S. C. § 10101 *et seq.* (1982 ed.), authorizes the NRC to license technology for the on-site storage of spent fuel, § 133, and directs the Secretary of Energy to provide up to 1,900 metric tons of capacity for the storage of spent fuel, § 135; these provisions might influence the State Commission's ultimate findings.

tent to supersede state law altogether may be found from a “‘scheme of federal regulation . . . so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it,’ because ‘the Act of Congress may touch a field in which the federal interest is so dominant that the federal system will be assumed to preclude enforcement of state laws on the same subject,’ or because ‘the object sought to be obtained by the federal law and the character of obligations imposed by it may reveal the same purpose.’” *Fidelity Federal Savings & Loan Assn. v. De la Cuesta*, 458 U. S. 141, 153 (1982), quoting *Rice v. Santa Fe Elevator Corp.*, 331 U. S. 218, 230 (1947). Even where Congress has not entirely displaced state regulation in a specific area, state law is pre-empted to the extent that it actually conflicts with federal law. Such a conflict arises when “compliance with both federal and state regulations is a physical impossibility,” *Florida Lime & Avocado Growers, Inc. v. Paul*, 373 U. S. 132, 142–143 (1963), or where state law “stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.” *Hines v. Davidowitz*, 312 U. S. 52, 67 (1941).

Petitioners, the United States, and supporting *amici*, present three major lines of argument as to why § 25524.2 is pre-empted. First, they submit that the statute—because it regulates construction of nuclear plants and because it is allegedly predicated on safety concerns—ignores the division between federal and state authority created by the Atomic Energy Act, and falls within the field that the Federal Government has preserved for its own exclusive control. Second, the statute, and the judgments that underlie it, conflict with decisions concerning the nuclear waste disposal issue made by Congress and the Nuclear Regulatory Commission. Third, the California statute frustrates the federal goal of developing nuclear technology as a source of energy. We consider each of these contentions in turn.

A

Even a brief perusal of the Atomic Energy Act reveals that, despite its comprehensiveness, it does not at any point expressly require the States to construct or authorize nuclear powerplants or prohibit the States from deciding, as an absolute or conditional matter, not to permit the construction of any further reactors. Instead, petitioners argue that the Act is intended to preserve the Federal Government as the sole regulator of all matters nuclear, and that § 25524.2 falls within the scope of this impliedly pre-empted field. But as we view the issue, Congress, in passing the 1954 Act and in subsequently amending it, intended that the Federal Government should regulate the radiological safety aspects involved in the construction and operation of a nuclear plant, but that the States retain their traditional responsibility in the field of regulating electrical utilities for determining questions of need, reliability, cost, and other related state concerns.

Need for new power facilities, their economic feasibility, and rates and services, are areas that have been characteristically governed by the States. Justice Brandeis once observed that the "franchise to operate a public utility . . . is a special privilege which . . . may be granted or withheld at the pleasure of the State." *Frost v. Corporation Comm'n*, 278 U. S. 515, 534 (1929) (dissenting opinion). "The nature of government regulation of private utilities is such that a utility may frequently be required by the state regulatory scheme to obtain approval for practices a business regulated in less detail would be free to institute without any approval from a regulatory body." *Jackson v. Metropolitan Edison Co.*, 419 U. S. 345, 357 (1974). See *Central Hudson Gas & Electric Corp. v. Public Service Comm'n of New York*, 447 U. S. 557, 569 (1980) ("The State's concern that rates be fair and efficient represents a clear and substantial governmental interest"). With the exception of the broad authority of the

Federal Power Commission, now the Federal Energy Regulatory Commission, over the need for and pricing of electrical power transmitted in interstate commerce, see Federal Power Act, 16 U. S. C. § 824 (1976 ed. and Supp. V), these economic aspects of electrical generation have been regulated for many years and in great detail by the States.¹⁷ As we noted in *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U. S. 519, 550 (1978): "There is little doubt that under the Atomic Energy Act of 1954, state public utility commissions or similar bodies are empowered to make the initial decision regarding the need for power." Thus, "Congress legislated here in a field which the States have traditionally occupied. . . . So we start with the assumption that the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress." *Rice v. Santa Fe Elevator Corp.*, *supra*, at 230.

The Atomic Energy Act must be read, however, against another background. Enrico Fermi demonstrated the first nuclear reactor in 1942, and Congress authorized civilian application of atomic power in 1946, Atomic Energy Act of 1946, see Act of Aug. 1, 1946, 60 Stat. 755, at which time the Atomic Energy Commission (AEC) was created. Until 1954, however, the use, control, and ownership of nuclear technology remained a federal monopoly. The Atomic Energy Act of 1954, Act of Aug. 30, 1954, 68 Stat. 919, as

¹⁷ As early as 1920, many States had adopted legislation empowering utility commissions to regulate electric utilities. See Jones, *Origins of the Certificate of Public Convenience and Necessity: Developments in the States, 1870-1920*, 79 Colum. L. Rev. 426, 454-455 (1979). Today, every State has a regulatory body with authority for assuring adequate electric service at reasonable rates. House Committee on Interstate and Foreign Commerce, *The Electric Utility Sector: Concepts, Practices, and Problems*, 95th Cong., 1st Sess., 12 (Comm. Print 1977). For a description of the regulatory framework in effect in the States, see American Bar Association, Special Committee on Energy Law, *The Need for Power and the Choice of Technologies: State Decisions on Electric Power Facilities* (1981).

amended, 42 U. S. C. § 2011 *et seq.* (1976 ed. and Supp. V), grew out of Congress' determination that the national interest would be best served if the Government encouraged the private sector to become involved in the development of atomic energy for peaceful purposes under a program of federal regulation and licensing. See H. R. Rep. No. 2181, 83d Cong., 2d Sess., 1-11 (1954). The Act implemented this policy decision by providing for licensing of private construction, ownership, and operation of commercial nuclear power reactors. *Duke Power Co. v. Carolina Environmental Study Group, Inc.*, 438 U. S., at 63. The AEC, however, was given exclusive jurisdiction to license the transfer, delivery, receipt, acquisition, possession, and use of nuclear materials. 42 U. S. C. §§ 2014(e), (z), (aa), 2061-2064, 2071-2078, 2091-2099, 2111-2114 (1976 ed. and Supp. V). Upon these subjects, no role was left for the States.

The Commission, however, was not given authority over the generation of electricity itself, or over the economic question whether a particular plant should be built. We observed in *Vermont Yankee, supra*, at 550, that "[t]he Commission's prime area of concern in the licensing context, . . . is national security, public health, and safety." See also *Power Reactor Development Co. v. Electrical Workers*, 367 U. S. 396, 415 (1961) (utility's investment not to be considered by Commission in its licensing decisions). The Nuclear Regulatory Commission (NRC), which now exercises the AEC's regulatory authority, does not purport to exercise its authority based on economic considerations, 10 CFR § 8.4 (1982), and has recently repealed its regulations concerning the financial qualifications and capabilities of a utility proposing to construct and operate a nuclear powerplant. 47 Fed. Reg. 13751 (1982). In its notice of rule repeal, the NRC stated that utility financial qualifications are only of concern to the NRC if related to the public health and safety.¹⁸ It is

¹⁸ See also NRC Atomic Safety and Licensing Appeal Board, *Consolidated Edison Co. of N. Y., Inc.*, 7 N. R. C. 31, 34 (1978): "States . . . re-

almost inconceivable that Congress would have left a regulatory vacuum; the only reasonable inference is that Congress intended the States to continue to make these judgments. Any doubt that ratemaking and plant-need questions were to remain in state hands was removed by § 271, 42 U. S. C. § 2018, which provided:

“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 produced through the use of nuclear facilities licensed by the Commission”

The legislative Reports accompanying this provision do little more than restate the statutory language, S. Rep. No. 1699, 83d Cong., 2d Sess., 31 (1954); H. R. Rep. No. 2181, *supra*, at 31, but statements on the floor of Congress confirm that while the safety of nuclear technology was the exclusive business of the Federal Government, state power over the production of electricity was not otherwise displaced.¹⁹

The 1959 amendments reinforced this fundamental division of authority. In 1959, Congress amended the Atomic Energy Act in order to “clarify the respective responsibilities

tain the right, even in the face of the issuance of an NRC construction permit, to preclude construction on such bases as a lack of need for additional generating capacity or the environmental unacceptability of the proposed facility or site.”

¹⁹ 100 Cong. Rec. 12015, 12197–12202 (1954) (remarks of Sen. Hickenlooper); *id.*, at 10559 (statements of AEC Chairman Strauss). Particularly instructive is an exchange on the House floor between Representatives Yates and Cole. Representative Yates inquired if the bill imposed the duty upon the Commission “to determine whether the public convenience and necessity require certain commercial institutions to be licensed to construct reactors for the production of power for civilian purposes?” Representative Cole responded that there was no such imposition to grant licenses based upon public convenience and necessity. “That,” he said, “is regulated by existing Federal and State authorities. We do not touch that in any respect.” *Id.*, at 11689.

. . . of the States and the Commission with respect to the regulation of byproduct, source, and special nuclear materials." 42 U. S. C. § 2021(a)(1). See S. Rep. No. 870, 86th Cong., 1st Sess., 8, 10-12 (1959). The authority of the States over the planning for new powerplants and ratemaking were not at issue. Indeed, the point of the 1959 Amendments was to heighten the States' role. Section 274(b), 42 U. S. C. § 2021(b), authorized the NRC, by agreements with state governors to discontinue its regulatory authority over certain nuclear materials under limited conditions.²⁰ State programs permitted under the amendment were required to be "coordinated and compatible" with that of the NRC. § 2021(g); S. Rep. No. 870, *supra*, at 11. The subject matters of those agreements were also limited by § 274(c), 42 U. S. C. § 2021(c), which states:

"[T]he Commission shall retain authority and responsibility with respect to regulation of—

"(1) the construction and operation of any production or utilization facility;

"(4) the disposal of such . . . byproduct, source, or special nuclear material as the Commission determines . . . should, because of the hazards or potential hazards thereof, not be so disposed of without a license from the Commission."

Although the authority reserved by § 274(c) was exclusively for the Commission to exercise, see S. Rep. No. 870, *supra*, at 8, 9; H. R. Rep. No. 1125, 86th Cong., 1st Sess., 8, 9 (1959), Congress made clear that the section was not intended to cut back on pre-existing state authority outside the

²⁰ Authority could be shifted to the States for control over byproduct and source material, and over special nuclear material "in quantities not sufficient to form a critical mass." California has signed a § 274 agreement. Cal. Health & Safety Code Ann. §§ 25875-25876 (West 1967).

NRC's jurisdiction.²¹ Section 274(k), 42 U. S. C. § 2021(k), states:

"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."

Section 274(k), by itself, limits only the pre-emptive effect of "this section," that is, § 274, and does not represent an affirmative grant of power to the States. But Congress, by permitting regulation "for purposes other than protection against radiation hazards" underscored the distinction drawn in 1954 between the spheres of activity left respectively to the Federal Government and the States.

This regulatory structure has remained unchanged, for our purposes, until 1965, when the following proviso was added to § 271:

"Provided, that this section shall not be deemed to confer upon any Federal, State or local agency any authority to regulate, control, or restrict any activities of the Commission."

The accompanying Report by the Joint Committee on Atomic Energy makes clear that the amendment was not intended to detract from state authority over energy facilities.²² In-

²¹ In addition to § 274(k), § 274(l), 42 U. S. C. § 2021(l), created an advisory role for the States respecting activities exclusively within the NRC's jurisdiction, and § 274(g), 21 U. S. C. § 2021(g), directs the Commission to cooperate with the States even in the formulation of standards for regulation against radiation hazards.

²² "Because of these unique provisions in the act pertaining to AEC's licensing and regulation of persons operating reactors which could be used to produce electricity, there was some feeling of uneasiness among the drafters of the legislation over the effect of the new law upon other agencies—Federal, State, and local—having jurisdiction over the generation, sale, and transmission of electric power. It was recognized by the drafters that the authority of these other agencies with respect to the generation, sale, and transmission of electric power produced through the use of nuclear facilities was not affected by this new law; and that the AEC's regulatory

stead, the proviso was added to overrule a Court of Appeals opinion which interpreted § 271 to allow a municipality to prohibit transmission lines necessary for the AEC's own activities. *Maun v. United States*, 347 F. 2d 970 (CA9 1965). There is no indication that Congress intended any broader limitation of state regulatory power over utility companies. Indeed, Reports and debates accompanying the 1965 amendment indicate that § 271's purpose "was to make it absolutely clear that the Atomic Energy Act's special provisions on licensing of reactors did not disturb the status quo with respect to the then existing authority of Federal, State, and local bodies to regulate generation, sale, or transmission of electric power." 111 Cong. Rec. 19822 (1965) (statement of Sen. Hickenlooper).²³

This account indicates that from the passage of the Atomic Energy Act in 1954, through several revisions, and to the present day, Congress has preserved the dual regulation of

control was limited to considerations involving the common defense and security and the protection of the health and safety of the public with respect to the special hazards associated with the operation of nuclear facilities. Nevertheless, section 271 was added to make it explicit that licensees of the AEC who produced power though the use of nuclear facilities would otherwise remain subject to the authority of all appropriate Federal, State, and local authorities with respect to the generation, sale, or transmission of electric power." H. R. Rep. No. 567, 89th Cong., 1st Sess., 4 (1965).

"The amendment of this section effected by this bill is intended as a clarification of the meaning of section 271 as originally enacted." *Id.*, at 10.

²³ While expressions of a subsequent Congress generally are not thought particularly useful in ascertaining the intent of an earlier Congress, Senator Hickenlooper, the sponsor of the 1965 amendment, was an important figure in the drafting of the 1954 Act. Senator Pastore, also involved in the writing of the 1954 Act, elaborated:

"We were conscious that it was not desired that the AEC should engage in the business of regulating electricity as such. . . . We were trying to keep the AEC out of the business of regulating electricity. That is what gave birth to section 271. We provided that nothing in the act would affect the local supervising authority's right to control the manufacture of electricity generated by nuclear facilities." 111 Cong. Rec. 19832 (1965).

nuclear-powered electricity generation: the Federal Government maintains complete control of the safety and "nuclear" aspects of energy generation; the States exercise their traditional authority over the need for additional generating capacity, the type of generating facilities to be licensed, land use, ratemaking, and the like.²⁴

The above is not particularly controversial. But deciding how § 25524.2 is to be construed and classified is a more difficult proposition. At the outset, we emphasize that the statute does not seek to regulate the construction or operation of a nuclear powerplant. It would clearly be impermissible for California to attempt to do so, for such regulation, even if enacted out of nonsafety concerns, would nevertheless directly conflict with the NRC's exclusive authority over plant construction and operation. Respondents appear to concede as much. Respondents do broadly argue, however, that although safety regulation of nuclear plants by States is forbidden, a State may completely prohibit new construction until its safety concerns are satisfied by the Federal Government. We reject this line of reasoning. State safety regulation is not pre-empted only when it conflicts with federal law. Rather, the Federal Government has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the States.²⁵ When the Federal Govern-

²⁴ Our summary affirmance in *Northern States Power Co. v. Minnesota*, 447 F. 2d 1143 (CA8 1971), summarily aff'd, 405 U. S. 1035 (1972), is fully consistent with this reading of the division of regulatory authority. Minnesota's effort to regulate radioactive waste discharges from nuclear plants fell squarely within the field of safety regulation reserved for federal regulation. The invalidation of this regulation in *Northern States* requires no retraction of the state authority preserved in §§ 271 and 274 of the Act. And, as with all summary affirmances, our action "is not to be read as an adoption of the reasoning supporting the judgment under review." *Zobel v. Williams*, 457 U. S. 55, 64, n. 13 (1982); *Mandel v. Bradley*, 432 U. S. 173, 176 (1977) (*per curiam*).

²⁵ In addition to the opportunity to enter into agreements with the NRC under § 274(c), Congress has specifically authorized the States to regulate

ment completely occupies a given field or an identifiable portion of it, as it has done here, the test of pre-emption is whether "the matter on which the State asserts the right to act is in any way regulated by the Federal Act." *Rice v. Santa Fe Elevator Corp.*, 331 U. S., at 236. A state moratorium on nuclear construction grounded in safety concerns falls squarely within the prohibited field. Moreover, a state judgment that nuclear power is not safe enough to be further developed would conflict directly with the countervailing judgment of the NRC, see, *infra*, at 218-219, that nuclear construction may proceed notwithstanding extant uncertainties as to waste disposal. A state prohibition on nuclear construction for safety reasons would also be in the teeth of the Atomic Energy Act's objective to insure that nuclear technology be safe enough for widespread development and use—and would be pre-empted for that reason. *Infra*, at 221-222.

That being the case, it is necessary to determine whether there is a nonsafety rationale for §25524.2. California has maintained, and the Court of Appeals agreed, that §25524.2 was aimed at economic problems, not radiation hazards. The California Assembly Committee on Resources, Land Use, and Energy, which proposed a package of bills including §25524.2, reported that the waste disposal problem was "largely economic or the result of poor planning, *not* safety related." *Reassessment of Nuclear Energy in California: A Policy Analysis of Proposition 15 and its Alternatives*, p. 18 (1976) (Reassessment Report) (emphasis in original). The Committee explained that the lack of a federally approved method of waste disposal created a "clog" in the nuclear fuel cycle. Storage space was limited while more nuclear wastes were continuously produced. Without a permanent means of disposal, the nuclear waste problem could become critical,

radioactive air pollutants from nuclear plants, Clean Air Act Amendments of 1977, § 122, 42 U. S. C. § 7422 (1976 ed., Supp. V), and to impose certain siting and land-use requirements for nuclear plants, NRC Authorization Act for Fiscal Year 1980, Pub. L. 96-295, 94 Stat. 780.

leading to unpredictably high costs to contain the problem or, worse, shutdowns in reactors. "Waste disposal *safety*," the Reassessment Report notes, "is not directly addressed by the bills, which ask only that a method [of waste disposal] be chosen and accepted by the federal government." *Id.*, at 156 (emphasis in original).

The Court of Appeals adopted this reading of § 25524.2. Relying on the Reassessment Report, the court concluded:

"[S]ection 25524.2 is directed towards purposes other than protection against radiation hazards. While Proposition 15 would have required California to judge the safety of a proposed method of waste disposal, section 25524.2 leaves that judgment to the federal government. California is concerned not with the adequacy of the method, but rather with its existence." 659 F. 2d, at 925.

Our general practice is to place considerable confidence in the interpretations of state law reached by the federal courts of appeals. Cf. *Mills v. Rogers*, 457 U. S. 291, 306 (1982); *Bishop v. Wood*, 426 U. S. 341, 346 (1976). Petitioners and *amici* nevertheless attempt to upset this interpretation in a number of ways. First, they maintain that § 25524.2 evinces no concern with the economics of nuclear power. The statute states that the "development" and "existence" of a permanent disposal technology approved by federal authorities will lift the moratorium; the statute does not provide for considering the economic costs of the technology selected. This view of the statute is overly myopic. Once a technology is selected and demonstrated, the utilities and the California Public Utilities Commission would be able to estimate costs; such cost estimates cannot be made until the Federal Government has settled upon the method of long-term waste disposal. Moreover, once a satisfactory disposal technology is found and demonstrated, fears of having to close down operating reactors should largely evaporate.

Second, it is suggested that California, if concerned with economics, would have banned California utilities from building plants outside the State. This objection carries little force. There is no indication that California utilities are contemplating such construction; the state legislature is not obligated to address purely hypothetical facets of a problem.

Third, petitioners note that there already is a body, the California Public Utilities Commission, which is authorized to determine on economic grounds whether a nuclear powerplant should be constructed.²⁶ While California is certainly free to make these decisions on a case-by-case basis, a State is not foreclosed from reaching the same decision through a legislative judgment, applicable to all cases. The economic uncertainties engendered by the nuclear waste disposal problems are not factors that vary from facility to facility; the issue readily lends itself to more generalized decisionmaking and California cannot be faulted for pursuing that course.

Fourth, petitioners note that Proposition 15, the initiative out of which §25524.2 arose, and companion provisions in California's so-called nuclear laws, are more clearly written with safety purposes in mind.²⁷ It is suggested that §25524.2 shares a common heritage with these laws and should be presumed to have been enacted for the same pur-

²⁶ Cal. Pub. Util. Code Ann. § 1001 (West 1975 and Supp. 1983).

²⁷ The 1976 amendments to the Warren-Alquist Act were passed as an alternative to Proposition 15, an initiative submitted to California's voters in June 1976. (By their terms, these provisions would not have become operative if Proposition 15 had been adopted. Cal. Pub. Res. Code Ann. § 25524.2, Historical Note (West 1977). The proposition was rejected.) Like § 25524.2, Proposition 15, among other things, barred the construction of new nuclear powerplants unless a permanent method of waste disposal was developed, though Proposition 15 gave as the reason for its concern the threat of harm to "the land or the people of . . . California." Similarly, Cal. Pub. Res. Code Ann. § 25524.3(b) (West Supp. 1982) requires the State Energy Commission to undertake a study of underground placement and berm containment of nuclear reactors, to determine whether such construction techniques are necessary for "enhancing the public health and safety"

poses. The short answer here is that these other state laws are not before the Court, and indeed, Proposition 15 was not passed; these provisions and their pedigree do not taint other parts of the Warren-Alquist Act.

Although these specific indicia of California's intent in enacting § 25524.2 are subject to varying interpretation, there are two further reasons why we should not become embroiled in attempting to ascertain California's true motive. First, inquiry into legislative motive is often an unsatisfactory venture. *United States v. O'Brien*, 391 U. S. 367, 383 (1968). What motivates one legislator to vote for a statute is not necessarily what motivates scores of others to enact it. Second, it would be particularly pointless for us to engage in such inquiry here when it is clear that the States have been allowed to retain authority over the need for electrical generating facilities easily sufficient to permit a State so inclined to halt the construction of new nuclear plants by refusing on economic grounds to issue certificates of public convenience in individual proceedings. In these circumstances, it should be up to Congress to determine whether a State has misused the authority left in its hands.

Therefore, we accept California's avowed economic purpose as the rationale for enacting § 25524.2. Accordingly, the statute lies outside the occupied field of nuclear safety regulation.²⁸

²⁸ Petitioners correctly cite *Perez v. Campbell*, 402 U. S. 637, 651 (1971), for the proposition that state law may not frustrate the operation of federal law simply because the state legislature in passing its law had some purpose in mind other than one of frustration. In *Perez*, however, unlike this case, there was an actual conflict between state and federal law. *Perez* involved an Arizona law that required uninsured motorists who had not satisfied judgments against them or had failed to pay settlements after accidents to prove their financial responsibility before the State would license them to drive again. The Arizona law, contrary to the Federal Bankruptcy Act, specified that this obligation would not be discharged in bankruptcy. We held the state law pre-empted, despite the fact that its purpose was to deter irresponsible driving rather than to aid in the collection

B

Petitioners' second major argument concerns federal regulation aimed at the nuclear waste disposal problem itself. It is contended that § 25524.2 conflicts with federal regulation of nuclear waste disposal, with the NRC's decision that it is permissible to continue to license reactors, notwithstanding uncertainty surrounding the waste disposal problem, and with Congress' recent passage of legislation directed at that problem.

Pursuant to its authority under the Act, 42 U. S. C. §§ 2071-2075, 2111-2114 (1976 ed. and Supp. V), the AEC, and later the NRC, promulgated extensive and detailed regulations concerning the operation of nuclear facilities and the handling of nuclear materials. The following provisions are relevant to the spent fuel and waste disposal issues in this case. To receive an NRC operating license, one must submit a safety analysis report, which includes a "radioactive waste handling syste[m]." 10 CFR § 50.34(b)(2)(i), (ii) (1982). See also 10 CFR § 150.15(a)(1)(i) (1982). The regulations specify general design criteria and control requirements for fuel storage and handling and radioactive waste to be stored at the reactor site. 10 CFR pt. 50, App. A, Criteria 60-64, p. 412 (1982). In addition, the NRC has promulgated detailed regulations governing storage and disposal away from the reactor. 10 CFR pt. 72 (1982). NRC has also promulgated procedural requirements covering license applications for disposal of high-level radioactive waste in geologic repositories. 10 CFR pt. 60 (1982).

Congress gave the Department of Energy the responsibility for "the establishment of temporary and permanent facilities for storage, management, and ultimate disposal of nuclear wastes." 42 U. S. C. § 7133(a)(8)(C) (1976 ed.,

of debts. Only if there were an actual conflict between § 25524.2 and the Atomic Energy Act, such that adherence to both were impossible or the operation of state law frustrated accomplishment of the federal objective, would *Perez* be apposite.

Supp. V). No such permanent disposal facilities have yet been licensed, and the NRC and the Department of Energy continue to authorize the storage of spent fuel at reactor sites in pools of water. In 1977, the NRC was asked by the Natural Resources Defense Council to halt reactor licensing until it had determined that there was a method of permanent disposal for high-level waste. The NRC concluded that, given the progress toward the development of disposal facilities and the availability of interim storage, it could continue to license new reactors. *Natural Resources Defense Council, Inc. v. NRC*, 582 F. 2d 166, 168-169 (CA2 1978).

The NRC's imprimatur, however, indicates only that it is safe to proceed with such plants, not that it is economically wise to do so.²⁹ Because the NRC order does not and could

²⁹ The Natural Resources Defense Council's petition with the NRC claimed that the Atomic Energy Act required the agency to consider the safety aspects of off-site waste disposal in determining whether to license reactors. The NRC denied the petition, stating that it had to examine only on-site safety risks in its licensing decisions. 42 Fed. Reg. 34391 (1977). The NRC was *not* asked to consider whether nuclear reactors were sufficiently reliable investments in light of the unresolved waste disposal question, and the NRC did not address this issue. Nor was the issue raised in the review of the NRC's decision in *Natural Resources Defense Council, Inc. v. NRC*, 582 F. 2d 166 (CA2 1978). As the Court of Appeals stated, "the issue . . . is whether NRC, prior to granting nuclear power reactor operating licenses, is required by the public health and safety requirement of the [Atomic Energy Act] to make a determination . . . that high-level radioactive wastes can be permanently disposed of safely." *Id.*, at 170 (emphasis deleted).

Similarly, the NRC's proceeding addressing the extent to which assessments of waste disposal technology should be factored into NRC reactor licensing does not address the economic ramifications of the issue. This matter has been the subject of prolonged litigation, and is presently pending before the Court. See *Natural Resources Defense Council, Inc. v. NRC*, 178 U. S. App. D. C. 336, 547 F. 2d 633 (1976), *rev'd sub nom. Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U. S. 519 (1978), on remand, 222 U. S. App. D. C. 9, 685 F. 2d 459 (1982), cert. granted *sub nom. Baltimore Gas & Electric Co. v. Natural Resources Defense Council, Inc.*, 459 U. S. 1034 (1982).

not compel a utility to develop a nuclear plant, compliance with both it and § 25524.2 is possible. Moreover, because the NRC's regulations are aimed at insuring that plants are safe, not necessarily that they are economical, § 25524.2 does not interfere with the objective of the federal regulation.

Nor has California sought through § 25524.2 to impose its own standards on nuclear waste disposal. The statute accepts that it is the federal responsibility to develop and license such technology. As there is no attempt on California's part to enter this field, one which is occupied by the Federal Government, we do not find § 25524.2 pre-empted any more by the NRC's obligations in the waste disposal field than by its licensing power over the plants themselves.

After this case was decided by the Court of Appeals, a new piece was added to the regulatory puzzle. In its closing week, the 97th Congress passed the Nuclear Waste Policy Act of 1982, Pub. L. 97-425, 96 Stat. 2201, a complex bill providing for a multifaceted attack on the problem. *Inter alia*, the bill authorizes repositories for disposal of high-level radioactive waste and spent nuclear fuel, provides for licensing and expansion of interim storage, authorizes research and development, and provides a scheme for financing. While the passage of this new legislation may convince state authorities that there is now a sufficient federal commitment to fuel storage and waste disposal that licensing of nuclear reactors may resume, and, indeed, this seems to be one of the purposes of the Act,³⁰ it does not appear that Congress in-

³⁰ The Act itself, § 111(b), 42 U. S. C. § 10131(b) (1982 ed.), enumerates the following purposes:

"(1) to establish a schedule for the siting, construction, and operation of repositories that will provide a reasonable assurance that the public and the environment will be adequately protected from the hazards posed by high-level radioactive waste and . . . spent nuclear fuel . . . ;

"(2) to establish the Federal responsibility, and a definite Federal policy, for the disposal of such waste and spent fuel." 96 Stat. 2207.

See also H. R. Rep. No. 97-785, pt. 2, pp. 59-60 (1982) (purpose of Act to provide "reasonable assurance that safe waste disposal methods will be

tended to make that decision for the States through this legislation. Senator McClure attempted to do precisely that with an amendment to the Senate bill providing that the Act satisfied any legal requirements for the existence of an approved technology and facilities for disposal of spent fuel and high-level nuclear waste. The amendment was adopted by the Senate without debate. 128 Cong. Rec. S4310 (Apr. 29, 1982). During subsequent House hearings, it was strongly urged that this language be omitted so as not to affect this case. See Nuclear Waste Disposal Policy, Hearings before the Subcommittee on Energy Conservation and Power of the House Committee on Energy and Commerce, 97th Cong., 2d Sess., 356, 406, 553-554 (1982). The bill which emerged from the House Committee did omit the Senate language, and its manager, Representative Ottinger, stated to the House that the language was deleted "to insure that there be no preemption." 128 Cong. Rec. H8797 (Dec. 2, 1982). The bill ultimately signed into law followed the House language. While we are correctly reluctant to draw inferences from the failure of Congress to act, it would, in this case, appear improper for us to give a reading to the Act that Congress considered and rejected. Moreover, it is certainly possible to interpret the Act as directed at solving the nuclear waste disposal problem for existing reactors without necessarily encouraging or requiring that future plant construction be undertaken.

C

Finally, it is strongly contended that §25524.2 frustrates the Atomic Energy Act's purpose to develop the commercial use of nuclear power. It is well established that state law is pre-empted if it "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Con-

available when needed"); 128 Cong. Rec. H8162 (Sept. 30, 1982) (remarks of Rep. Udall); *id.*, at H8166 (Sept. 30, 1982) (remarks of Rep. Winn) (the Act "demonstrates to the public and industry that the Federal Government is fulfilling its responsibility to dispose of high-level waste").

gress." *Hines v. Davidowitz*, 312 U. S., at 67; *Florida Lime & Avocado Growers, Inc. v. Paul*, 373 U. S., at 142-143; *Fidelity Federal Savings & Loan Assn. v. De la Cuesta*, 458 U. S., at 153.

There is little doubt that a primary purpose of the Atomic Energy Act was, and continues to be, the promotion of nuclear power. The Act itself states that it is a program "to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public." 42 U. S. C. § 2013(d). The House and Senate Reports confirmed that it was "a major policy goal of the United States" that the involvement of private industry would "speed the further development of the peaceful uses of atomic energy." H. R. Rep. No. 883, 89th Cong., 1st Sess., 4 (1965); H. R. Rep. No. 2181, 83d Cong., 2d Sess., 9 (1954); S. Rep. No. 1699, 83d Cong., 2d Sess., 9 (1954). The same purpose is manifest in the passage of the Price-Anderson Act, 42 U. S. C. § 2210, which limits private liability from a nuclear accident. The Act was passed "[i]n order to protect the public and to encourage the development of the atomic energy industry" 42 U. S. C. § 2012(i). *Duke Power Co. v. Carolina Environmental Study Group, Inc.*, 438 U. S., at 63-67.

The Court of Appeals' suggestion that legislation since 1974 has indicated a "change in congressional outlook" is unconvincing. The court observed that Congress reorganized the Atomic Energy Commission in 1974 by dividing the promotional and safety responsibilities of the AEC, giving the former to the Energy Research and Development Administration (ERDA)³¹ and the latter to the NRC. Energy Reorganization Act of 1974, 88 Stat. 1233, 42 U. S. C. § 5801 *et seq.* The evident desire of Congress to prevent safety from being

³¹ In 1977, ERDA's functions were transferred to the Department of Energy. 91 Stat. 577, 42 U. S. C. § 7151(a) (1976 ed., Supp. V).

compromised by promotional concerns does not translate into an abandonment of the objective of promoting nuclear power. The legislation was carefully drafted, in fact, to avoid any antinuclear sentiment.³² The continuing commitment to nuclear power is reflected in the extension of the Price-Anderson Act's coverage until 1987, Pub. L. 94-197, §2-14, 89 Stat. 1111-1115, as well as in Congress' express preclusion of reliance on natural gas and petroleum as primary energy sources in new powerplants, Powerplant and Industrial Fuel Use Act of 1978, 92 Stat. 3291, 42 U. S. C. §§ 8301(b)(3), 8311, 8312(a) (1976 ed., Supp. V). It is true, of course, that Congress has sought to simultaneously promote the development of alternative energy sources, but we do not view these steps as an indication that Congress has retreated from its oft-expressed commitment to further development of nuclear power for electricity generation.

The Court of Appeals is right, however, that the promotion of nuclear power is not to be accomplished "at all costs." The elaborate licensing and safety provisions and the continued preservation of state regulation in traditional areas belie that. Moreover, Congress has allowed the States to determine—as a matter of economics—whether a nuclear plant vis-à-vis a fossil fuel plant should be built. The decision of California to exercise that authority does not, in itself, constitute a basis for pre-emption.³³ Therefore, while the argu-

³² The Senate bill had included language prohibiting the ERDA from "giving unwarranted priority to any single energy source" out of concern that the ERDA "may give an unwarranted priority to development of nuclear power to the detriment of competing energy technologies." S. Rep. No. 93-980, p. 27 (1974). The House bill expressed no concern about giving "unwarranted priority" to nuclear power. H. R. Rep. No. 93-707 (1973). The bill reported by the Conference Committee, and subsequently enacted, did not contain the Senate's prohibitory language, but instead stated that all technologies were to be promoted. H. R. Conf. Rep. No. 93-1445, p. 25 (1974).

³³ We recently rejected a similar claim that congressional policy to favor the use of coal as a fuel source pre-empted state legislation that may have

ment of petitioners and the United States has considerable force, the legal reality remains that Congress has left sufficient authority in the States to allow the development of nuclear power to be slowed or even stopped for economic reasons. Given this statutory scheme, it is for Congress to rethink the division of regulatory authority in light of its possible exercise by the States to undercut a federal objective. The courts should not assume the role which our system assigns to Congress.³⁴

IV

The judgment of the Court of Appeals is

Affirmed.

JUSTICE BLACKMUN, with whom JUSTICE STEVENS joins, concurring in part and concurring in the judgment.

I join the Court's opinion, except to the extent it suggests that a State may not prohibit the construction of nuclear powerplants if the State is motivated by concerns about the safety of such plants. Since the Court finds that California was not so motivated, this suggestion is unnecessary to the

an adverse effect on the use of coal. *Commonwealth Edison Co. v. Montana*, 453 U. S. 609, 633 (1981).

³⁴ Our resolution of this case is not controlled by *First Iowa Hydro-Electric Cooperative v. FPC*, 328 U. S. 152 (1946). In *First Iowa*, this Court held that compliance with requirements for a state permit under Iowa law was not necessary in order to secure a federal license for a hydroelectric project. Allowing the States to veto federal decisions could "destroy the effectiveness of the Federal Act. It would subordinate to the control of the State the 'comprehensive' planning which the Act provides shall depend upon the judgment of [the Federal Government]." *Id.*, at 164. In the same manner, requiring compliance with state requirements would have reduced the project to a size that the Federal Power Commission had determined was inadequate, and compliance with state engineering requirements could handicap the financial success of the project. The Atomic Energy Act does not give the NRC comprehensive planning responsibility. Moreover, § 25524.2 does not interfere with the type of plant that could be constructed. State regulations which affected the construction and operation of federally approved nuclear powerplants would pose a different case.

Court's holding. More important, I believe the Court's dictum is wrong in several respects.

The Court takes the position that a State's safety-motivated decision to prohibit construction of nuclear powerplants would be pre-empted for three distinct reasons. First, the Court states that "the Federal Government has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the States." *Ante*, at 212. Second, the Court indicates that "a state judgment that nuclear power is not safe enough to be further developed would conflict squarely with the countervailing judgment of the NRC . . . that nuclear construction may proceed notwithstanding extant uncertainties as to waste disposal." *Ante*, at 213. Third, the Court believes that a prohibition on construction of new nuclear plants would "be in the teeth of the Atomic Energy Act's objective to insure that nuclear technology be safe enough for widespread development and use." *Ibid*. For reasons summarized below, I cannot agree that a State's nuclear moratorium, even if motivated by safety concerns, would be pre-empted on any of these grounds.

I

First, Congress has occupied not the broad field of "nuclear safety concerns," but only the narrower area of how a nuclear plant should be constructed and operated to protect against radiation hazards.¹ States traditionally have possessed the authority to choose which technologies to rely on in meeting their energy needs. Nothing in the Atomic Energy Act limits this authority, or intimates that a State, in exercising this authority, may not consider the features that distinguish nuclear plants from other power sources. On the contrary, § 271 of the Act, 68 Stat. 960, as amended, 42 U. S. C. § 2018, indicates that States may continue, with respect to nuclear

¹ The Court recognizes the limited nature of the federal role, *ante*, at 205, but then describes that role in more expansive terms, *ante*, at 212-213.

power, to exercise their traditional police power over the manner in which they meet their energy needs. There is, in short, no evidence that Congress had a "clear and manifest purpose," *Rice v. Santa Fe Elevator Corp.*, 331 U. S. 218, 230 (1947), to force States to be blind to whatever special dangers are posed by nuclear plants.

Federal pre-emption of the States' authority to decide against nuclear power would create a regulatory vacuum. See Wiggins, *Federalism Balancing and the Burger Court: California's Nuclear Law as a Preemption Case Study*, 13 U. C. D. L. Rev. 3, 64 (1979). In making its traditional policy choices about what kinds of power are best suited to its needs, a State would be forced to ignore the undeniable fact that nuclear power entails certain risks. While the NRC does evaluate the dangers of generating nuclear power, it does not balance those dangers against the risks, costs, and benefits of other choices available to the State or consider the State's standards of public convenience and necessity. As Professor Wiggins noted:

"If a state utility regulatory agency like California's Energy Commission is prevented from making a general evaluation of feasibility, on broad grounds of social, economic and ideological policy, then the decision *whether* to build a nuclear facility in a state will ultimately be made only by the public utility seeking its construction. . . . It would be ironic if public energy utilities, granted a jurisdictional monopoly in large part because of their heavy regulation by the state, were freed from regulatory oversight of the one decision which promises to affect the greatest number of persons over the greatest possible time." *Ibid.* (emphasis in original).

In short, there is an important distinction between the threshold determination whether to permit the construction of new nuclear plants and, if the decision is to permit construction, the subsequent determinations of how to construct

and operate those plants. The threshold decision belongs to the State; the latter decisions are for the NRC. See Note, May A State Say "No" to Nuclear Power? *Pacific Legal Foundation Gives a Disappointing Answer*, 10 *Envir. L.* 189, 199 (1979) (criticizing District Court decision in the present case).

II

The Court's second basis for suggesting that States may not prohibit the construction of nuclear plants on safety grounds is that such a prohibition would conflict with the NRC's judgment that construction of nuclear plants may safely proceed. A flat ban for safety reasons, however, would not make "compliance with both federal and state regulations . . . a physical impossibility." *Florida Lime & Avocado Growers, Inc. v. Paul*, 373 U. S. 132, 142-143 (1963). The NRC has expressed its judgment that it is safe to proceed with construction and operation of nuclear plants, but neither the NRC nor Congress has mandated that States do so.² See *ante*, at 205.

III

A state regulation also conflicts with federal law if it "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." *Hines v. Davidowitz*, 312 U. S. 52, 67 (1941). The Court suggests that a safety-motivated state ban on nuclear plants would be pre-empted under this standard as well. See *ante*, at 213, 221-222.³ But Congress has merely encouraged the develop-

² A conflict would exist, of course, if the NRC determined that construction of nuclear plants could not proceed and a State nevertheless chose to go ahead with construction. Cf. *Florida Lime & Avocado Growers, Inc. v. Paul*, 373 U. S., at 143.

³ The Court states that such a ban would be "in the teeth of the Atomic Energy Act's objective to insure that nuclear technology be safe enough for widespread development and use." *Ante*, at 213. A State's decision not to permit construction of nuclear plants, however, affects only indirectly the Atomic Energy Act's goal of ensuring that nuclear power be safe enough

ment of nuclear technology so as to make another source of energy available to the States; Congress has not forced the States to accept this particular source. See Note, 10 Envir. L., at 199 ("Congress has not evidenced a dictatorial intent for every state to build nuclear powerplants"). A ban on nuclear plant construction for safety reasons thus does not conflict with Congress' objectives or purposes.

The Atomic Energy Act was intended to promote the technological development of nuclear power, at a time when there was no private nuclear power industry. The Act addressed "the practical question of bringing such an industry into being,"⁴ in order to make available an additional energy source. The Court makes much of the general statements of purpose in the Act and the legislative history, see *ante*, at 221, but those statements simply reflect Congress' desire to create a private nuclear power industry. Congress did not compel States to give preference to the eventual product of that industry or to ignore the peculiar problems associated with that product. See Wiggins, 13 U. C. D. L. Rev., at 78.

More recent legislation makes it very clear that there is no federal policy preventing a State from choosing to rely on technologies it considers safer than nuclear power. The Energy Reorganization Act of 1974, 88 Stat. 1233, 42 U. S. C.

for widespread development. A safety-motivated ban might highlight a State's perception that the federal safety goal had not been accomplished, but the ban itself would not interfere with efforts to achieve that goal.

The Court apparently believes the Atomic Energy Act's actual purpose was to maximize the use of nuclear power to satisfy the Nation's needs. A moratorium on construction of nuclear plants would prevent the accomplishment of this goal, but, as demonstrated *infra*, the Court is incorrect in attributing this goal to Congress. Moreover, the degree to which a nuclear moratorium hampers achievement of the goal does not depend on the motives of its framers.

⁴Address by Congressman Cole, Chairman of Joint Committee on Atomic Energy, delivered at International Congress on Nuclear Engineering (June 24, 1954), quoted in 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, 1018 (1964).

§ 5801 *et seq.* (1976 ed. and Supp. V), separated promotional and regulatory functions in the area of nuclear power. The Act established the NRC to perform the regulatory and licensing functions of the Atomic Energy Commission, § 5841, and the Energy Research and Development Administration (ERDA) to “develop, and increase the efficiency and reliability of use of, all energy sources.” § 5801(a).⁵ The legislative history of the Act expresses concern about a pronuclear bias in the regulatory agency and demonstrates a desire to have the Federal Government “place greater relative emphasis on nonnuclear energy.” S. Rep. No. 93-980, p. 14 (1974).⁶

This legislative purpose is consistent with the fact that States retain many means of prohibiting the construction of nuclear plants within their borders. States may refuse to issue certificates of public convenience and necessity for individual nuclear powerplants. They may establish siting and land use requirements for nuclear plants that are more stringent than those of the NRC. Cf. NRC Authorization Act for Fiscal 1980, Pub. L. 96-295, § 108(f), 94 Stat. 783. Under the Clean Air Act Amendments of 1977, States may regulate radioactive air emissions from nuclear plants and may impose more stringent emission standards than those promulgated by the NRC. 42 U. S. C. §§ 7416, 7422 (1976 ed., Supp. V). This authority may be used to prevent the construction of nuclear plants altogether. *Consolidated Edison Co. of New York, Inc. (Indian Point Station, Unit No. 2)*, ALAB-453, 7 N. R. C. 31, 34, and n. 13 (1978).

⁵ In 1977, ERDA's functions were transferred to the Department of Energy. 91 Stat. 577, 42 U. S. C. § 7151(a) (1976 ed., Supp. V).

⁶ In subsequent legislation Congress has continued to promote many sources of energy, without giving preference to nuclear power. See, e. g., Powerplant and Industrial Fuel Use Act of 1978, 92 Stat. 3291, 42 U. S. C. § 8301 *et seq.* (1976 ed., Supp. V) (encouraging greater use of coal and other alternative fuels in lieu of natural gas and petroleum); Public Utility Regulatory Policies Act of 1978, § 210, 92 Stat. 3144, 16 U. S. C. § 824a-3 (1976 ed., Supp. V) (encouraging development of cogeneration and small power production facilities).

In sum, Congress has not required States to "go nuclear," in whole or in part. The Atomic Energy Act's twin goals were to promote the development of a technology and to ensure the safety of that technology. Although that Act reserves to the NRC decisions about how to build and operate nuclear plants, the Court reads too much into the Act in suggesting that it also limits the States' traditional power to decide what types of electric power to utilize. Congress simply has made the nuclear option available, and a State may decline that option for any reason. Rather than rest on the elusive test of legislative motive, therefore, I would conclude that the decision whether to build nuclear plants remains with the States. In my view, a ban on construction of nuclear powerplants would be valid even if its authors were motivated by fear of a core meltdown or other nuclear catastrophe.