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Can Vermont Put the Nuclear Genie Back in the Bottle?: A Test of Congressional Preemptive Power

Hope Babcock[*]

Before the nuclear core meltdowns at the Fukushima Daiichi nuclear reactors in Japan restoked public anxiety about nuclear energy, Vermont's Senate used Vermont Act No. 160 to vote to block continued operation of the Vermont Yankee Nuclear Power Plant after the expiration of its forty-year operating license. This Article examines whether a state can legislatively override a permit issued by the Nuclear Regulatory Commission extending the license of a power plant. The author places this question within a broader federalism context—one where states assert their sovereign rights to regulate the environment in the shadow of federal mandates. She finds the absence of language mandating the use of nuclear power and of an express preemption provision in the Atomic Energy Act persuasive of a lack of preemption for a state's legislative override of this type of permit. Equally convincing is the Atomic Energy Act's reservation of state authority over the generation, sale, and transmission of energy produced by nuclear power plants, and the passage

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[*] Professor of Law at Georgetown University Law Center. Professor Babcock was a nuclear licensing lawyer in private practice from 1970–77. This paper was first presented at the Colloquium on Environmental Scholarship held on September 23, 2011, at Vermont Law School. I would like to especially thank Kumar Jayasuria, Associate Law Librarian of Patron Services at Georgetown's Edward Bennett William's library, for his invaluable research assistance and insightful comments; Jamie Pleune, Assistant Clinical Professor, University of Utah, S.J. Quinney College of Law, for her editorial suggestions; and Felicia Barnes, my research assistant, for her painstaking review of my work and correction of my errors. Professor Melissa Powers, of Lewis & Clark Law School, also provided informed and thoughtful observations of utility markets as part of the Vermont Colloquium, which immeasurably strengthened the article.

of environmental laws giving states regulatory authority over some aspects of nuclear power plant operation. Additionally, the author argues that policy arguments favoring preemption, such as the need for uniformity and coordination of shared resources, superior federal resources and technical knowledge, and prevention of spillover effects do not apply to this situation; while arguments against preemption, such as preserving states as robust centers of governance and regulatory experimentation and as checks on federal government excesses and errors, and avoiding regulatory gaps and regulatory capture, do apply here. Even collective action problems, which often favor preemption, are weak. The argument that Vermont's initiative may derail recent national efforts to "restart" the nuclear power industry as a way to reduce the nation's dependence on foreign oil and its global carbon footprint also fails as applied to Vermont's legislation. Thus, the author concludes that Vermont Act No. 160 should withstand a preemption challenge.

INTRODUCTION

> The [state] law will be followed in this matter regardless of the NRC's jurisdiction.[1]

> We nuclear people have made a Faustian Bargain with society. On the one hand we offer—in a catalytic nuclear burner—an inexhaustible source of energy. But the price we demand of society for this miracle energy source is both a vigilance and longevity of our social institutions that we are quite unaccustomed to. The society must then make the choice and this is a choice that we nuclear people cannot dictate. We can only participate in making it.[2]

Nuclear power currently provides approximately 20 percent of the electrical energy consumed by the United States.[3] Yet, largely because of the accident at Three Mile Island Unit 2 outside Harrisburg, Pennsylvania in 1978, no new reactors have been constructed since then. Indeed, many reactors on the drawing boards at that time were cancelled.[4] As a result, the nation's nuclear fleet is an aging one. Originally licensed for forty years, designers of these older reactors expected that they would have been replaced before the end of their operating lifetime by now with newer models.[5] However, none of these reactors have been replaced, which is why the Nuclear Regulatory Commission (NRC) is issuing licenses to extend their operating lifetime for twenty-year periods. This is what the NRC did in the case of the Vermont Yankee Nuclear Power Plant.[6]

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1. Elizabeth Miller, State Commissioner of Public Services, *as quoted in* Amanda Peterka, *NRC Puts Hold on Vermont Yankee License*, GREENWIRE (March 16, 2011), http://www.eenews.net/Greenwire/print/2011/03/16/7.

2. Eric Charles Woychik, *California's Nuclear Disposal Law Confronts the Nuclear Waste Management Dilemma: State Power to Regulate Reactors*, 14 ENVTL. L. 359 (1984) (quoting Alvin Weinberg, *Social Institutions and Nuclear Energy*, 177 SCI. 27 (1972)).

3. *See* Amy J. Wildermuth, *Is Environmental Law a Barrier to Emerging Alternative Energy Sources?*, 46 IDAHO L. REV. 509, 528 (2010) (listing nuclear energy as 20 percent of U.S. total net electricity generation).

4. Nathan Hultman, Jonathan G. Koomey & Daniel M. Kammen, Viewpoint, *What History Can Teach Us about the Future Costs of U.S. Nuclear Power*, 41 ENVTL. SCI. & TECH. 2088–89 (2007) (In 2005, "[o]ne hundred and four nuclear reactors provided 19.3% of U.S. electricity generation, but no new reactors have been approved for construction by the U.S. Nuclear Regulatory Commission (NRC) since 1978."); *see also* Hope M. Babcock, *A Risky Business–Generation of Nuclear Power and Deepwater Drilling for Offshore Oil and Gas*, 37 COLUM. J. ENVTL. L. 63 (2012) (discussing cancelling nuclear power plants after the core meltdown at Three Mile Island).

5. *As Reactors Age, Standards Relax–Report*, GREENWIRE (June 20, 2011) [hereinafter *As Reactors Age, Standards Relax*], http://www.eenews.net/Greenwire/print/2011/06/20/7.

6. The NRC has issued sixty-six licenses granting operating reactors twenty-year extensions of their original licenses, and sixteen more extensions are pending at the NRC. Jeff Donn, *Tritium Leaks Found at Many Nuke Sites*, ASSOCIATED PRESS (June 21, 2011), http://www.ap.org/company/awards/part-ii-aging-nukes; *see also* Timothy Hurst, *Will Fukushima Pull a Vermont Nuclear Plant Off*

The recent concern about climate change and energy independence has rekindled an interest in rebooting the commercial nuclear industry.[7] The nuclear industry is developing a new generation of reactors and streamlined licensing procedures in response to that interest.[8] Yet public concerns remain about reactor safety, spent nuclear fuel storage, and nuclear proliferation, as well as the high costs of the nuclear plants.[9] These factors prompt some states to question the advisability of extending the operating lifetime of their older plants.[10]

This Article examines whether states, like Vermont,[11] can block the NRC's extension of the operating lifetime of nuclear reactors. Answering this question requires an examination of federalism and preemption concerns, which have become increasingly muddled. Evolving understandings about the safety risks of these reactors and attendant economic costs to states of their operation, as well as available energy alternatives, have made the answer less clear, and the peripatetic boundary between state and federal power over environmental matters has encouraged states to flex their regulatory muscles

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the Rails?, REUTERS (Mar. 31, 2011), http:www.reuters.com/assets/print?aid=US156615525820110331 ("The NRC gas never turned down a plant relicensing . . . granting 61 straight extensions to the nation's aging fleet.").

7. Hultman et al., *supra* note 4, at 2089 ("Rising and volatile petroleum prices, geo-political conflicts in fossil-fuel-rich regions, increasing energy demand from emerging economies, and climate change have all contributed to a resurgence of interest in nuclear power because of its potential to address energy security without emitting CO_2 or regional pollutants."); *id.* at 2092 ("The case for nuclear power resurgence rests not on expectations for dramatic growth in electricity demand but rather on concerns about energy security and climate change.").

8. Babcock, *supra* note 4, at 143 nn. 404, 405 (discussing the next generation of nuclear power plants and proposals to streamline the reactor licensing process).

9. Hultman et al., *supra* note 4, at 2089 ("[E]ven in a carbon-constrained world, nuclear power may be more expensive than some decentralized energy-efficient and distributed-generation technologies.").

10. Similar situations have arisen in other areas involving nuclear power plants and radioactive materials. *See, e.g.*, Brendan T. Guastella, *Lights Out for LILCO: A Look at New Yorks' Takeover Plan*, 53 BROOK. L. REV. 723, 744 (1987) ("Unless the NRC changes the regulations [allowing utilities to carry out emergency response functions], the Supreme Court will be forced to determine whether a state may effectively prohibit a utility from obtaining an operating license for a nuclear power plant by withholding services, ordinarily provided by the state, when the services are necessary for fulfillment of RERP [radiological emergency response plan] requirements."); Karen Goxem, *Emergency Offsite Planning for Nuclear Power Plants: Federal Versus State and Local Control*, 37 AM. U. L. REV. 417, 434 (1988); Barbara H. Schuknecht, Thomas D. Overcast & Dwight D. Dively, *Federal Preemption of State and Local Radioactive Materials Transportation Regulations*, 4 TEMP. ENVTL. L. & TECH. J. 3, 16 (1985) ("[T]he federal government has the legal authority to preempt virtually all state and local laws regulating transportation of radioactive materials [under the Atomic Energy Act of 1954, the Energy Reorganization Act of 1974, [and] the Hazardous Materials Transportation Act, 49 U.S.C. § 1804 (1982)] . . . . [State and local] laws already disrupt radioactive materials transportation to some extent, and carriers and shippers fear that further proliferation of such laws may make such shipments virtually impossible. On the other hand, states, localities, and facilities can offer substantial reasons for some of their requirements, usually related to improved safety or information to facilitate planning. From a policy perspective, these reasons suggest that considerable thought should be given to any effort to preempt all state and local requirements affecting shipments of radioactive material.").

11. *See* 2006 Vt. Acts & Resolves 160.

over nuclear plants. Since the U.S. Supreme Court carved out an area of state regulation from the previously exclusive regulatory domain of the federal government in *Pacific Gas & Electric v. State Energy Resources Conservation & Development Commission*[12] twenty-five years ago, states have been pushing to expand their authority over nuclear power plants.

This Article first examines the state of nuclear power today, the industry's accident record, and the current condition of its aging commercial generating plants. Part I also briefly identifies factors that make it more attractive for the nuclear industry to extend the operating lifetime of its plants instead of bringing new, arguably safer reactors online. Part II takes a closer look at Vermont Yankee, its operating history and accident record, and Vermont Act 160. Then, the author examines preemption doctrine against a backdrop of federalism theory in Part III, focusing on the judicial presumption against preemption of state law and the difficulty, as well as importance, of determining congressional intent. Part IV identifies policy reasons for and against preemption of state laws in general, returning to some of the federalism concerns raised in Part III. Pragmatic qualms, such as collective action problems, are also discussed in this Part. Part V applies principles and teachings from previous discussion of preemption law and policy to Vermont Act 160. This Part concludes that neither express nor implied preemption apply to Vermont Act 160 because of the absence of an express preemption provision or any mandate directing the development of commercial nuclear power in the Atomic Energy Act (AEA),[13] and the reservations of state power in the AEA and in other environmental statutes. The Article also finds that Vermont's law does not create collective action problems, removing the only policy rationale that might warrant its preemption.

Based on this analysis, the author concludes that while states like Vermont can close down the nuclear industry within their borders because of state regulatory authority over environmental matters in general and over nuclear plants in particular, most have little incentive to do so. Not finding Vermont's law preempted also promotes federalism as it preserves states as a brake on powerful, yet sometimes captured, federal agencies and assures that there are more than one set of eyes watching an inherently risky activity.[14]

I. THE NUCLEAR INDUSTRY TODAY

There are several factors that make an investment in nuclear power risky for the utility industry. Increased operating and regulatory costs have put

12. Pac. Gas & Elec. Co. v. Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190 (1983) (allowing California to block the construction of new nuclear plants because of ongoing concerns about disposal of their waste).

13. Atomic Energy Act of 1954, Pub. L. No. 83–703, 68 Stat. 919 (codified at 42 U.S.C. §§ 2011–2284 (1982)).

14. Babcock, *supra* note 4, at 82–84 (discussing potential risks of operating nuclear power plants).

financial strains on utilities which own nuclear power plants and dissuaded many from constructing new plants. Because of these costs, power companies have turned to extending the operating lifetime of their existing plants.

A. Nuclear Power Is a Risky Business Investment

Today there are 104 nuclear power plants operating in the United States, but no new reactors have been ordered since 1978, the date of the accident at Three Mile Island.[15] The commercial nuclear industry has essentially been "moribund" since that accident.[16] Three Mile Island created a tidal wave of opposition to nuclear power, which led to the cancellation of plants that had been ordered and the shutdown of a plant that had entered the low power-testing phase.[17] The accident also ushered in an era of heightened regulatory review and new requirements.[18] Plants had to move offline to meet the new requirements, reducing their overall production rate and increasing cost per megawatt hour of electricity, which drove new capital away from the industry.[19] Thus, post-Three Mile Island, selecting the nuclear option became financially risky—a far cry from the industry's initial promise of cheap electricity that had prompted a binge of nuclear power plant construction.[20]

Investing in nuclear power remains financially uncertain for electric power

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15. *See id.* at 89–90 (discussing what happened to the nuclear industry after Three Mile Island).

16. *See* Joseph P. Tomain, *Nuclear Futures*, 15 DUKE ENVTL. L. & POL'Y F. 221, 225 (2005) ("Thus it is more than fair to say that the nuclear industry in this country has been moribund for 30 years after what promised to be a nearly inexhaustible and cheap source of energy."); *see also* Neal H. Lewis, *Interpreting the Oracle: Licensing Modifications, Economics, Safety, Politics, and the Future of Nuclear Power in the United States*, 16 ALB. L.J. 27, 28 (2006) ("In the twenty years prior to 1990, one hundred licenses were issued to operate nuclear reactors. A license for a new nuclear facility in the United States has not been issued since the Watts Bar 1 facility was permitted in 1996. Over one hundred permits that were issued for construction of nuclear facilities were withdrawn during the 70's and 80's.").

17. Goxem discusses the saga of shutting down Long Island Lighting Company's Shoreham nuclear plant, which still awaits decommissioning. *See generally* Goxem, *supra* note 10; Petra Shattuck, Note, *Federalism and Offsite Emergency Planning for Nuclear Reactors: The Shoreham Impasse*, 66 B.U. L. REV. 229, 257 (1986).

18. Babcock, *supra* note 4, at 129–35 (discussing post-Three Mile Island accident regulatory changes).

19. *See* David F. Cavers, *State Responsibility in the Regulation of Atomic Reactors*, 50 KY. L.J. 33, 33 (1961) ("Progress toward [economic return on investment] could be set back by regulatory authorization in either of two ways; by the careless or inexpert scrutiny of reactor designs and operating procedures, followed by a reactor 'incident' . . . or by the imposition of unnecessary and costly precautionary requirements rendering economic power an impossibility. The federal government can properly claim special standing to protect against both of these risks."). Ironically, these new regulations have increased public apprehension about nuclear power. *See* Laurence H. Tribe, *California Declines the Nuclear Gamble: Is Such a State Choice Preempted?*, 7 ECOLOGY L.Q. 679, 708 n.139 (1979) ("The public's misgivings about nuclear energy grow in proportion to the precautions which must be taken to guard against any mishaps of a flawed technology.").

20. Tomain, *supra* note 16, at 227 (quoting Atomic Energy Commission Chairman Lewis Strauss as saying privatized nuclear power would be "too cheap to meter"); *see also* Guastella, *supra* note 10, at 765–66 (quoting James Cook, *Nuclear Follies*, FORBES, Feb. 11, 1985, at cover, 82 ("The failure of the U.S. nuclear power program ranks as the largest managerial disaster in business history.")).

companies for many reasons.[21] Construction of nuclear plants is a lengthy process and energy demand is volatile.[22] The cost-effectiveness of a plant depends on its reliable operation for an extended period in order for plant owners to recoup their investment in the plant, its fuel, and its operation.[23] When a plant is offline for refueling or repairs, including safety upgrades, the power company must purchase expensive substitute energy.[24] Companies with nuclear plants in electric markets that have not been deregulated have seen their rate base increase substantially once a plant becomes operational,[25] and many of these same companies have seen their bond ratings reduced, further eroding their financial strength.[26] Concerns about disposal of radioactive wastes, another incident like Three Mile Island, and terrorist threats have all fueled public opposition, attenuated the licensing process, and helped make nuclear energy more costly than electricity from coal or gas fired power plants. As plants age, worn out components require repair[27] and new standards require additional safety equipment, resulting in expenses that consumers of electricity will incur through increased rates—another source of public anger and opposition.[28]

Although the reliability of nuclear power plants has improved substantially over the past decades,[29] their operating costs have continued to

21. *See* William S. Jordan III, *A Plea for Reason and Responsibility in Nuclear Energy Policy*, 56 U. CIN. L. REV. 971, 983 (1988) (reviewing JOSEPH P. TOMAIN, NUCLEAR POWER TRANSFORMATION (1987)) ("[N]uclear power was nurtured in an artificial market . . . traditional ratemaking tends to encourage nuclear power, and . . . increased competition has been a major change in the market in recent years."); *see also* Thomas Kaplan & Danny Hakim, *Indian Pt. May Enlist Giuliani as Defender*, N.Y. TIMES, Aug. 4, 2011, at A20 (saying the company was "startled" by Governor Cuomo's blunt determination to shut down the Indian Point reactors).

22. *See* Woychik, *supra* note 2, at 400 ("Since nuclear plants require long lead times and continued growth of electricity demand is, at best, uncertain, proposed reactors may be unnecessary by the time they are completed."); *see also id.* at 402 ("While nuclear plant construction costs have increased rapidly, the demand for electricity and the need for new nuclear plants has declined.").

23. *See id.* at 400–01. Indeed, when a plant is prematurely shuttered, there are many besides ratepayers who must bear the costs. Shattuck, *supra* note 17, at 268 n.216 (Former utility executive John S. Dyson said "[t]he possible victims include the taxpayers, the ratepayers, the stockholders, the bondholders, which may include some pension funds, and the banks, which could create some very serious problems for the banking system in New York.").

24. *See* Woychik, *supra* note 2, at 400 n.259.

25. *See id.* A utility's rate base consists of its capital expenditures. Melissa Powers, *The Cost of Coal: Climate Change and the End of Coal as a Source of "Cheap" Electricity*, 12 U. PENN. J. BUS. L. 407, 413–14 (2010). In exchange for an exclusive "franchise" to provide electricity within a defined geographic area, a utility must agree to subject their "cost-of-service" ratemaking to public utility commission review. *Id.* at 412. Utilities are allowed to earn "just and reasonable" revenues for provision of those services. *Id.* at 412–13.

26. *See id.*

27. *See* David Lochbaum, *U.S. Nuclear Plants in the 21st Century: The Risk of a Lifetime*, UNION OF CONCERNED SCIENTISTS 19–20 (2004), http://www.ucsusa.org/assets/documents/nuclear_power/nuclear04fnl.pdf.

28. *See* Woychik, *supra* note 2, at 401; *see also* Powers, *supra* note 25, at 413 (discussing how utilities can recover their operating expenses from ratepayers).

29. There was a precipitous drop in overall nuclear plant capacity after Three Mile Island. *See* Hultman et al., *supra* note 4, at 2091 ("After the accident at TMI in 1979, the industry was subjected to

escalate.[30] The increased cost in part reflects the more rigorous regulatory environment following the Three Mile Island accident and rising public opposition to nuclear power.[31] Because the cost of building and operating nuclear power plants does not vary significantly among reactors, any increase in capital cost has a direct impact on the delivered cost of the electricity generated by these plants.[32] Where the electric utility market is deregulated, it is particularly sensitive to high capital costs.[33] Consequently, utilities are turning away from nuclear power in favor of less financially risky sources of electricity, like coal, natural gas, and wind, any one of which can usually be built more quickly than a nuclear power plant.[34]

While the next generation of nuclear reactors and continued public subsidization of the risk of an accident through the Price-Anderson Act[35] will reduce the costs of constructing and operating a nuclear power plant,[36] the continued possibility of financial surprises increases the potential for unanticipated costs for utilities that select the nuclear option.[37] High unit costs and the length of time it takes to get NRC approval of a reactor design both slow down technological learning and impede information transfers in the nuclear industry. When these factors are added to "the highly contextualized nature" of site-specific nuclear plants, they present "a nontrivial risk of cost

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intense regulatory scrutiny and evaluation. As a result, the overall fleet capacity factor—the net generation for all reactors in the set divided by the maximum possible generation of all reactors in the set—dropped precipitously and reached its nadir in 1982 at 52.9%. During the period 2000–2004, the 69 reactors operation by 1982 had improved their overall capacity factor to 87.4%. This increase, attributable to improvements in utilization rates and decreases in service down time, is equivalent to an additional 16.3 GW of generation just from those reactors existing in 1982—equivalent to the addition of ~15 new nuclear reactors."). *But see* Babcock, *supra* note 4, at 82 n.98 (arguing that the increase in plant utilization rates was a result of the NRC's maintenance rule that allowed some maintenance activities to be performed while the plant was still operating, which decreased the time the plant was out of service for refueling).

30. Hultman et al., *supra* note 4, at 2091.

31. *Id.*

32. *Id.*

33. A deregulated market is a competitive market and, hence, market participants are particularly price sensitive to any increase in costs that might make their electricity less competitive.

34. Hultman et al., *supra* note 4, at 2089.

35. Price-Anderson Act of 1957, Pub. L. No. 85–256, 71 Stat. 576 (codified as amended in 42 U.S.C. § 2210 (2000)). The Price-Anderson Act limited the liability of utilities and manufacturers of nuclear reactors in the event of a nuclear accident.

36. *See* Hultman et al., *supra* note 4, at 2091 ("Factors expected to lead to such cost improvements include better technology, streamlined regulation, operational incentives, design standardization, the intensive use of information technology for design, supply chain and construction management, and concern over climate change."). Jordan discusses the subject of public subsidization of the commercial nuclear fuel cycle. *See* Jordan, *supra* note 21, at 974. Chandler discusses the next generation of commercial nuclear reactors and the licensing changes made to facilitate their use. *See generally* Christopher C. Chandler, *Recent Developments in Licensing and Regulation at the Nuclear Regulatory Commission*, 58 ADMIN. L. REV. 485 (2006); Lewis, *supra* note 16 (describing the changes made to the NRC's licensing regulations to accommodate the next generation of nuclear reactors and make the licensing process more efficient and less costly and time consuming).

37. Hultman et al., *supra* note 4, at 2091.

surprises" for utilities.[38]

Additionally, nuclear energy's position as an alternative source of energy is far from secure as its significant environmental benefits are balanced by significant environmental costs.[39] On one hand, nuclear power offers the potential to reduce the country's reliance on fossil fuels and its carbon footprint; on the other, the waste disposal problem and "the hefty financial burdens associated with nuclear power plants" remain the biggest barriers to its reinvigoration.[40] The benefits of reducing the country's reliance on fossil fuels and decreasing its carbon footprint may not be obvious enough to overcome the costs of constructing and operating a nuclear power plant and disposing of its waste fuel, and to warrant states taking on the financial risks of underwriting nuclear power.

Not only are there financial risks for power companies who select nuclear power, but also there are other factors contributing to the industry's lack of growth and causing it to extend the operating lifetime of existing plants rather than construct new ones. Thus, although there are twenty-two applications for licenses to build thirty-three new reactors pending before the NRC, "regulatory constraints, a potentially rate-limiting supply chain for reactor parts, and the need to train new nuclear operators" make it unlikely that any new reactors will be finished until 2020.[41] With no new nuclear capacity on the immediate horizon, the only way to avoid disrupting the service that existing nuclear plants provide is to extend their forty-year operating licenses for a sufficient amount of time to allow a new generation of reactors to come online.[42] The

38. *See id.* at 2091–92 ("Yet high unit costs and long lead times lead to a slower learning rate and require more expenditures than would technologies of smaller scale, and the contextualized nature of site-built nuclear reactors presents a nontrivial risk of cost surprises.").

39. *See* Wildermuth, *supra* note 3, at 528; *see also* Jordan, *supra* note 21, at 972 ("[A]ccording to Professor Tomain, the potential financial consequences of an accident, changes in the energy market, and the financial condition of the nuclear industry have determined nuclear power developments since the [Three Mile Island] accident and will be major, if not conclusive, determinants of the future of nuclear power.").

40. Wildermuth, *supra* note 3, at 529; *see also* Woychik, *supra* note 2, at 402; Tomain, *supra* note 16, at 237. Despite these concerns and the recent catastrophic nuclear accident in Japan, some states continue to be interested in reviving the industry; however, others have increased their opposition as a result of the accident. Christa Marshall, *Nuclear Revival Plans Continue in Some States*, CLIMATEWIRE (Mar. 21, 2011), http://www.eenews.net/climatewire/print/2011/03/21/4 (citing Wisconsin, Minnesota, Iowa, Utah, and Missouri, as states that are still considering the nuclear option; other states, like New York and New Jersey, are less supportive).

41. Amanda Leiter, *The Perils of a Half-Built Bridge: Risk Perception, Shifting Majorities, and the Nuclear Power Debate*, 35 ECOLOGY L.Q. 31, 56 (2008); *see also* Tomain, *supra* note 16, at 240 (explaining that while there is "evidence that nuclear plants are becoming better managed . . . universities are turning out fewer trained nuclear engineers to become those managers").

42. *See* Tomain, *supra* note 16, at 228 ("Nuclear plants were the largest electric utilities operating until that time and continue to be so through the present. From 1963 to 1969, for example, the Atomic Energy Commission issued twenty-eight construction permits for plants ranging from 800 to 1100 megawatts which constitute the upper range of electric plants."). The effect of taking a nuclear plant offline was vividly illustrated by the recent shutdown of San Onofre, which affected 5 million

consequences of permanently taking nuclear power plants offline are considerable,[43] not the least of which would be the need to continue to rely on coal-fired power plants.[44] However, there are some drawbacks to relying on older nuclear plants; there is no question that safety risks[45] and maintenance costs[46] increase as plants become older. The financial uncertainty of the nuclear market, which could lead to plant cancellations and disruptions in the supply of electrical power, public opposition to nuclear power, and safety risks make building new nuclear power an unattractive alternative to states.[47] Evidently, adding nuclear power to the electric grid is no longer "a panacea" for the industry, if it ever was.[48]

B. The Nuclear Industry's Accident Record and the Particular Problems with Older Plants

Although the accident record of the commercial nuclear industry in the United States is good compared to other high-risk industries, like the chemical or deepwater drilling industry,[49] it still presents concerns. Post-Three Mile Island, there have been forty-seven accidents serious enough to require the afflicted plants to shut down for longer than a year.[50] The average cost of these

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customers. *See Power Outage Hits up to 5M in U.S. Southwest, Mexico*, ASSOCIATED PRESS (Sept. 9, 2011), http://news.yahoo.com/power-outage-hits-5m-us-southwest-mexico-034451499.html.

43. *See* Kathleen C. Reilly, *Global Benefits Versus Local Concerns: The Need for a Bird's Eye View of Nuclear Energy*, 70 IND. L. J. 679, 697 (1995) ("In cases where a nuclear plant shuts down because its safety costs are too great, one must consider opportunity costs . . . . Naturally, the opportunity costs of forgoing nuclear power include the elimination of energy the nuclear plant would have provided. However, this cost will vary under different circumstances."); *see also* Tribe, *supra* note 19, at 706 ("Each one of those big reactors represents about a half-billion dollars investment . . . . Further, for each idle reactor the utility must find and fuel alternate generating capacity. Replacement fuel alone, if generating capacity is available, amounts to about 10 million barrels for each idle reactor.").

44. *See* Reilly, *supra* note 43, at 698; *see also* Arthur W. Murphy & D. Bruce La Pierre, *Nuclear Moratorium Legislation in the States and the Supremacy Clause: A Case of Express Preemption*, 76 COLUM. L. REV. 392, 455 (1976) (referring to "the confusion and delay" that "might result in the choice of fossil fuel plants by some companies who did not wish to take even the small risk that the acts would be upheld"); Luis Li, Comment, *State Sovereignty and Nuclear Free Zones*, 79 CALIF. L. REV. 1169, 1204 (1991) (finding preemption unlikely because it was improbable that every locality would enact nuclear free zones and because the NRC could continue weapons production in its own facilities).

45. *See* Tomain, *supra* note 16, at 245.

46. *See* Paul Voosen, *As Nuclear Reactor Fleet Ages, Engineers Ask, 'Is 80 the New 40?'*, N.Y. TIMES (Nov. 20, 2009), http://www.nytimes.com/gwire/2009/11/20/20greenwire-as-nuclear-reactor-fleet-ages-engineers-ask-is-94897.html?pagewanted=all.

47. *See* Tomain, *supra* note 16, at 246 ("Nuclear does not appear to pass a market test, has increasing safety concerns, and does not have great promise for replacing fossil fuels."); *see also* Voosen, *supra* note 46.

48. Tomain, *supra* note 16, at 234 (quoting RICHARD A. POSNER, CATASTROPHE: RISK AND RESPONSE 51 (2004)).

49. *See* Babcock, *supra* note 4, at 70–75, 82–84 (discussing the accident record of the deepwater drilling industry and the nuclear industry).

50. *See* Bob Herbert, Op.-Ed., *We're Not Ready*, N.Y. TIMES, July 20, 2010, at A23, *available at* http://www.nytimes.com/2010/07/20/opinion/20herbert.html (describing "[a]nother frightening

outages has been between $1.5 billion and $2 billion, principally because of the need to find replacement power.[51] In recent years, many of these problems can be attributed to aging systems at older plants,[52] raising the probability that extending the operating lifetime of these plants will result in more problems, more outages, and more costs.

The higher accident rates at older plants as compared to newer plants are not surprising, since the components of these older plants, like their piping systems, are wearing out. A report by the Government Accountability Office found that "all 65 sites where nuclear plants are located in the United States have experienced leakage or spillage of radioactive material into groundwater, some of which is attributable to aging underground pipes."[53] Radioactive tritium has leaked from corroded, buried pipes at three-quarters of U.S. commercial reactors.[54] Moreover, based on a yearlong review of NRC records, the Associated Press found that "the number and severity of these leaks has been escalating."[55] In 2011, there was a tritium leak from underground pipes of 2.5 million picocuries per liter at the Vermont Yankee Nuclear Power Plant, which is 125 times higher than the drinking water standard promulgated by the Environmental Protection Agency (EPA).[56] The year before that, a week after

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accident" in 2002 at the Davis-Besse plant in Oak Harbor, Ohio, where a "hidden leak led to corrosion that caused a near-catastrophe. By the time the problem was discovered, only a thin layer of stainless steel was left to hold back the disaster."). More recently, radioactive tritium leaked from underground pipes at the Vermont Yankee Nuclear Power Plant in Vernon, Vermont. Peter Behr, *Experts Weigh Extending the Lives of Nuclear Power Plants for 80 Years*, CLIMATEWIRE (Sept. 20, 2010), http://www.eenews.net/climatewire/2010/09/20/1. In 2007, part of the plant's cooling tower collapsed. *Id.* For a comparison between the accident records of the nuclear industry and offshore deepwater drilling industry, see Babcock, *supra* note 4.

51. *See* Herbert, *supra* note 50.

52. *See* LOCHBAUM, *supra* note 27, at 19–20.

53. Hannah Northey, *Pipes Under Nuclear Plants are Leaking*, ENVIRONMENT & ENERGY DAILY (June 22, 2011), http://www.eenews.net/public/EEDaily/2011/06/22/10 (reporting on the release of the Government Accountability Office (GAO) Report by Congressmen Edward Markey (D.-MA) and Peter Welch (D.-VT), and citing, as an example, that a 1.5 inch hole in a buried cooling water pipe at a New York nuclear power plant was found); *see also* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-11-563, OVERSIGHT OF UNDERGROUND PIPING SYSTEMS COMMENSURATE WITH RISK, BUT PROACTIVE MEASURES COULD HELP ADDRESS FUTURE LEAKS 5 (2011), *available at* http://www.gao.gov/new.items/d11563.pdf.

54. Donn, *supra* note 6 (reporting that Excelon paid $1.2 million to settle state and county complaints over tritium leaks from two of its facilities in Illinois, one of which was awarded relicenses for an additional twenty years before the leaks in the emergency core cooling system were discovered; the company bought at least nine properties near the other facility for a total of $6.1 million).

55. *See id.* (reporting that "[n]early two-thirds of the leaks" were reported to the NRC in the last five years).

56. *Id.* Interestingly, two Entergy employees had testified earlier at two state hearings that there were no underground pipes. *See* Matthew L. Wald, *Plant Owner Sues Vermont Over License for Reactor*, N.Y. TIMES, April 19, 2011, at A16 (describing plant's operational problems as including the collapse of a wooden cooling tower in August 2007 and a tritium leak from an underground pipe, after plant officials denied that there were any underground pipes containing tritium in testimony before two state panels); *see also* Behr, *supra* note 50. Entergy later removed the employees. *See* Letter from David C. Lewis, Director, Division of Reactor Projects, NRC to Michael Columb, Entergy Nuclear Operations Site Vice President (June 17, 2010) (reporting on an NRC Inspection and Review of Areas Identified in

the forty-one year old Oyster Creek plant was relicensed for an additional twenty years, a plant worker discovered tritium "by chance" in 3000 gallons of water that had leaked into a concrete vault containing electrical cables.[57] Since that time, additional tritium leaks at Oyster Creek have been discovered at concentrations 540 times higher than the EPA's drinking water limits.[58] Tritium leaks have caused particular anxiety because tritium exposure is linked to cancer.[59]

According to nuclear safety engineers, the number of leaks "suggests" nuclear plant operators are having a hard time maintaining systems that are now "decades" old.[60] Making matters worse, there is no quick way to detect these leaks because buried pipes are inaccessible and, therefore, difficult and costly to inspect.[61] Digging up pipes (the only sure way to tell if they are corroded or leaking) is expensive.[62] Leaks can go undetected for years and may be discovered only when work is done on nearby piping or holding tanks.[63] Also, these underground pipes can carry cooling water, essential to prevent a core meltdown in case of an emergency shutdown; thus, leaking pipes may imperil emergency safety systems at these plants.[64] Poor maintenance, relaxed operating standards,[65] and the high costs of repairs mean that these problems,

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Demand for Information). However, the Vermont Attorney General said he "lacked the smoking gun" that would enable him to bring criminal charges against Entergy officials for lying about leaking underground pipes, even though the company's employees "clearly . . . [and] repeatedly failed to meet a minimally acceptable standard of credibility and trustworthiness." Hannah Northey, *Vermont Won't Charge Entergy over Radioactive Leaks*, E&ENEWSPM (July 6, 2011), http://www.eenews.net/eenewspm/2011/07/06/04. There were also tritium leaks in 2005. *Id.*

57. Donn, *supra* note 6 (recounting the critical comments of anti-nuclear activists about how the NRC gas "allowed the industry to get away with little concern about public safety").

58. *See id.* Recently, the Third Circuit directed Excelon, the owner of Oyster Creek, and the NRC to review the agency's 2009 decision to extend the plant's license for another twenty years and to advise the court on any possible impact the Japanese accident might have on "the propriety" of granting that license extension. *Court Requires Excelon, NRC to Review Licensing at Oyster Creek*, GREENWIRE (Mar. 22, 2011), http://www.eenews.net/Greenwire/2011/03/22/archive/19.

59. *See Radioactive Water Leaks in U.S. Plants Go Unchecked*, GREENWIRE (Apr. 11, 2011) [hereinafter *Radioactive Water Leaks*], http://www.eenews.net/Greenwire/2011/04/11/10/ ("The investigation of NRC documents found that almost all nuclear plants have leaked tritium, a byproduct of nuclear fission that has been linked to cancer. Most plants have leaked tritium more than once, and large leaks have been on the rise. There were five leaks or spills reported in 2010."); *id.* ("While tritium is not the most dangerous radioactive material, according to a 2006 National Academy of Sciences panel, it can increase the risk of cancer in even small doses.").

60. Donn, *supra* note 6.

61. U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 53, at 1.

62. *See id.* at 7 (quoting Excelon's presentation at a 2009 meeting with regulators as saying, "100 percent verification of piping integrity is not practical" and "[e]xcavations have significant impact on plant operations"); *id.* at 9 (saying Excelon has spent $14 million at Oyster Creek to get better access to 2000 feet of tritium-carrying pipes, but has been unable "to stop widespread leaking").

63. Donn, *supra* note 6 ("The industry tends to inspect piping when it must be dug up for some other reason.").

64. *Id.* (reporting on the discovery at Salem Unit 1 of corrosion in the unit's cooling water system which had worn the pipe down "to a quarter of its minimum required thickness").

65. *See As Reactors Age, Standards Relax*, *supra* note 5 (saying GAO reported that "[f]ederal nuclear regulators have kept the industry in compliance by repeatedly weakening standards," citing as an

as well as potential problems caused by failed cables,[66] corroding metal parts, cracked cement, brittle reactor vessels, leaky valves, and cracked tubing, are not always attended to as plant owners try to get "more and more out of these plants."[67]

The NRC review instigated in response to the accident at the Fukushima Daiichi plant in 2010 has unearthed more anomalies in U.S. reactors.[68] For example, a recent report by the NRC's Office of Inspector General reported that 30 percent of domestic nuclear power plant operators failed to report defects in plant equipment.[69] Some of these defects may have created "a substantial safety hazard" during the time they remained uncorrected.[70] Unfortunately, the NRC has not yet issued any civil penalties or taken other serious enforcement action against the utilities that failed to report.[71] The NRC's apparent laxness has energized anti-nuclear groups,[72] restoking public fears about radiation.[73] The record shows that these concerns about the safety of nuclear power plants, especially older plants, are not unfounded.

C. Regulation of Commercial Nuclear Power Plants—A House Divided

With its origins in the highly secretive Manhattan Project, the entire field of atomic energy was "monopolized by the federal government, until passage of the Atomic Energy Act of 1946," which created a civilian regulatory agency to encourage the commercial development of nuclear power.[74] When the Act

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example the case of leaky valves where regulators simply "increased the leakage allowance up to 20 times the original limit").

66. *See* Donn, *supra* note 6 (reporting on a 2008 NRC staff memo that said industry data showed that eighty-three electrical cables failed between twenty-one and thirty years of service, compared to only forty within the first ten years of service, and making the additional point that "underground cabling set in concrete can be extraordinarily difficult to replace").

67. *As Reactors Age, Standards Relax*, *supra* note 5. The AP report found that older plants have been allowed to run "less safely just to prolong operations." Donn, *supra* note 6.

68. *See* Hannah Northey & Anne C. Mulkern, *Earthquake Risks Must be Reanalyzed for U.S. Reactors,* GREENWIRE (Mar. 24, 2011), http://www.eenews.net/Greenwire/2011/03/24/4 (announcing the NRC's initiation of all 104 reactors to assess their ability to withstand earthquakes).

69. Hannah Northey, *U.S. Plant Operators Failing to Report Some Equipment Defects–NRC Audit*, E&ENEWSPM (Mar. 24, 2011), http://www.eenews.net/eenewspr/ 2011/03/24/1.

70. *Id.*

71. *See id.*

72. *See Radioactive Water Leaks*, *supra* note 59.

73. *See* Hope M. Babcock, *Global Climate Change: A Civic Republican Moment for Achieving Broader Changes in Environmental Behavior*, 26 PACE ENVTL. L. REV. 1, 17 (2009) (discussing the role of environmental groups as public norm changers).

74. Murphy & La Pierre, *supra* note 44, at 394–95 ("The Atomic Energy Act of 1946 transferred control of the development of atomic energy to a civilian agency, the Atomic Energy Commission; however, as the federal government retained the ownership of all fissionable materials and related facilities, and private activity was restricted to contractual operations for the government, the monopoly persisted."); *see also* Cavers, *supra* note 19, at 32–33 ("[I]t would be hard to defend the discontinuance of federal jurisdiction to license the construction and operation of reactors. The federal government has both special interests and special qualifications for that task. It has invested billions of dollars in the development of atomic energy, and, in the long run, its hope for any substantial return on that

was amended in 1954, Congress's preoccupation with developing commercial uses of nuclear materials meant that the legislators gave little thought to the role of states in regulating nuclear plants beyond the states' customary regulation of electric power.[75] Thus, the federal government retained nuclear power plant regulatory control.

The risk of accidents at nuclear plants, the need to isolate and safeguard radioactive wastes, the latent national security threats posed by plants, and the possible proliferation of fissionable material provided the basis for continuing federal regulation.[76] However, amendments to the AEA in 1954 and 1959 whittled away at the exclusive federal regulatory preserve over nuclear reactors and decreased the promotional bias evident in the earlier legislation.[77] These amendments created a role for states in the regulation of some nuclear materials[78] and clarified that states retained regulatory authority over the generation, sale, and transmission of electric power produced by nuclear plants.[79] At the same time, new legislation, like the Energy Reorganization Act

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investment (military uses excepted) must rest on the achievement of economic methods of utilizing nuclear fuels for atomic power.").

75. *See* Murphy & La Pierre, *supra* note 44, at 395, 397 ("The fact that there was little state regulation of these sources of radiation and that the Act provided only a very limited role for private industry meant that there was no reason to provide for or even to contemplate state regulation of atomic energy."); *see also id.* at 397 ("In ignoring such matters, Congress simply reflected the reality that there was little or no interest in state regulation of this new federal preserve."); Cavers, *supra* note 19, at 33 ("The Atomic Energy Act of 1954, which first made the private ownership of atomic reactors legally possible, was singularly silent as to the Act's effect on state authority with respect to the facilities and materials over which it gave the federal government far-reaching power to be exercised chiefly through the medium of licensing."); Reilly, *supra* note 43, at 679 ("Congress determined that federal regulation of private nuclear development would be necessary for 'optimum progress, efficiency, and economy in this area of atomic endeavor.'"); Angela Durbin, Comment, *Striking a Delicate Balance: Developing a New Rationale for Preemption While Protecting the Public's Role on Siting Liquefied Natural Gas Terminals*, 56 EMORY L.J. 507, 528 (2006) ("Congress's interest in and justification for regulating nuclear energy exclusively was due in part to the special relationship between nuclear energy and the federal government.").

76. *See* Wildermuth, *supra* note 3, at 529 ("[G]iven the danger associated with fission reactions and the radioactive waste generated by the process as well as the potential national security threat it poses, nuclear energy is regulated under a strict regime that gives the Nuclear Regulatory Commission exclusive jurisdiction over the safety of nuclear power plants.").

77. *See* Christopher F. Baum, *Banning the Transportation of Nuclear Waste: A Permissible Exercise of the State's Police Power?*, 52 FORDHAM L. REV. 663, 668 (1984) ("The primary purpose of the Atomic Energy Act of 1954 (AEA) is to foster the safe development of nuclear energy as a power source." (citing Pac. Gas & Elec. Co. v. Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 206–07 (1983)). *See also* Murphy & La Pierre, *supra* note 44, at 396 n.30 ("The reports of the Joint Committee on Atomic Energy noted that the major reason for amending the 1946 Act to provide for the participation of private enterprise was to encourage the development of atomic power for the production of electricity. S. REP. NO. 1699, 83d Cong., 2d Sess. 3 (1954), H.R. REP. NO. 2181, 83d Cong., 2d Sess. 3 (1954).").

78. 42 U.S.C. § 2021(b) (2006) (amending the AEA in 1954 to allow states to enter into agreements with the Atomic Energy Commission for the regulation of byproduct, source, and special nuclear materials in quantities too low to form a critical mass).

79. 42 U.S.C. § 2018 ("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

of 1974 (ERA)[80] and the Nuclear Regulatory Commission Authorization Act for Fiscal Year 1980,[81] weakened the promotional bias of the initial AEA.[82] While the creation of the Department of Energy in 1977 preserved the ERA's "balanced approach" to nuclear power and alternative sources of energy,[83] the new laws opened the door for states to select alternative sources of power without undermining a national goal. Collectively, these laws weakened the exclusive hold of the federal government over how the nuclear option might be fulfilled.

The 1959 amendment to the AEA specifically granting state regulatory authority over the generation, sale, and transmission of electric power produced by nuclear plants,[84] enables a state public service commission (PSC) to set rates for the power nuclear plants produce and to certify whether a new nuclear power plant is needed.[85] Certification is generally based on the "utility's need for power, its financial health, its compliance with previous rulemaking decisions, and the cost and environmental consequences of the proposed power

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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."); *see also* Goxem, *supra* note 10, at 421–22 ("The amendment, therefore, allowed the states to retain authority in specified areas of nuclear power generation, while increasing their regulatory power over certain nuclear materials. Consequently the statutory language and legislative history of the 1954 Act and its amendments did not give the federal government authority over all aspects of nuclear power regulation."); *id.* at 421 n.28 (Congress limited the scope of state-federal cooperative agreements because "Congress thought that states would not have the knowledge or capability to safely and effectively regulate power plants . . . [and] Congress was concerned with the potential impact of any state regulation on the growth of the industry.") (citations omitted).

80. 42 U.S.C. §§ 5801–5851.

81. Pub. L. No. 96–295, 94 Stat. 780. For a discussion of these and other laws, such as the National Energy Conservation Policy Act of 1978, 42 U.S.C. §§ 8201–8286b, which promotes conservation instead of consumption, see Jeannette M. Nishimura-Paige, Pacific Gas & Electric: *A Nuclear Energy Option or a Nuclear Energy Mandate?*, 35 SYRACUSE L. REV. 995, 1030 & n.213 (1984). *See also id.* at 1030 n.221 ("Congress also passed the Federal Nonnuclear Energy Research & Development Act of 1974, 42 U.S.C. §§ 5901–5920, which directed [the Energy Research and Development Administration] to develop 'a comprehensive nonnuclear energy research, development, and demonstration program.' 42 U.S.C. §§ 5905(b)(1) (1982).").

82. *See* Nishimura-Paige, *supra* note 81, at 1030 (explaining that the ERA established the Energy Research and Development Administration, the goal of which was to increase the efficiency and reliability of all sources of energy, not just nuclear power); *see also id.* ("The Act's legislative history indicates concern about a pro-nuclear bias in the regulatory agency and expresses a desire to have the Federal Government 'place greater relative emphasis on nonnuclear energy.'") (citing S. Rep. No. 980, 93d Cong., 2d Sess. 14, *reprinted in* 1974 U.S. C.C.A.N. 5470, 5480).

83. *See* Charles B. Wiggins, *Federalism Balancing and the Burger Court: California's Nuclear Law as a Preemption Case Study*, 13 U.C. DAVIS L. REV. 1, 82 (1980).

84. 42 U.S.C. § 2018.

85. *See* Woychik, *supra* note 2, at 432–33 ("Authority over state-chartered utilities, wielded by state utility regulatory agencies, is exercised generally through (1) setting a utility's rate of return on investment in power plant and equipment, (2) directing utility services provided to customers through rulemaking authority, and (3) decisions to grant or reject a power plant certificate of public convenience and necessity (CPCN) or land use permit."). Since Vermont Yankee sells wholesale power, the Federal Energy Commission and not the Vermont Public Service Board approves its rates. *See* Entergy Nuclear Vt. Yankee, LLC, v. Shumlin, No. 1:11-cv-99-jgm, 2011 WL 2811317, at *8 (D. Vt. July 18, 2011).

plant."[86] Thus, a state PSC can determine whether a nuclear or non-nuclear power plant should be built or "require the development of particular energy generation technologies, out-of-state power purchases, or implementation of energy conservation programs."[87] State PSCs can also influence the source of power a utility chooses by offering rate incentives or disincentives that encourage energy conservation or utilization of specific energy sources other than nuclear power.[88] They can also require utilities to provide lower rates for utility customers who conserve energy and to finance alternative energy construction.[89] This power amounts to indirect regulation of nuclear power "by displacing the need and incentive for its use."[90]

State PSCs can also determine what is included in a utility's rate base, specifically affecting whether it will be able to recoup the cost of constructing or maintaining a nuclear power plant.[91] For example, when a power plant never operates, as in the case of Long Island Lighting Company's Shoreham facility, or its operation produces a severe economic burden on the ratepayers, a state PSC could remove the cost of the plant from the utility's rate base.[92] Moreover, depending on how a state PSC handles these costs, it could dissuade a utility from keeping an older plant running.

In addition to control over rates, states can affect the location of a nuclear

86. Woychik, *supra* note 2, at 433.

87. *Id.* (quoting Pac. Gas & Elec. Co. v. Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 227 (1983)).

88. *See id.* at 434 ("States can promulgate rules to direct utility services and can allocate discouraging rates of return for noncompliance with such rules. States can use rulemaking authority to require implementation of energy conservation measures and alternative energy supplies that are less costly than nuclear power.").

89. *See id.* at 435–36.

90. *Id.* at 435.

91. *See id.* at 436 ("State legislatures and utility regulators also have authority to allow or disallow the cost of a nuclear reactor to be included in 'rate base.'"); *id.* at 439 ("States historically have regulated issuance of a CPCN . . . to 'prevent unnecessary or uneconomic construction.'"); *id.* ("It is well established that 'applicants for certificates of convenience and necessity . . . should show that the costs of construction or facilities which they propose are both adequate and reasonable.'"). For example, the New Jersey and Pennsylvania PSCs did not allow Metropolitan Edison to include the cost of cleaning up Three Mile Island Unit 2 in its rate base. *See* Mark P. Widoff, *The Accident at Three Mile Island*, 4 W. NEW ENG. L. REV. 223, 236 (1982), *available at* http://digitalcommons.law.wne.edu/lawreview/vol4/iss2/2/.

92. *See* Woychik, *supra* note 2, at 436 ("The general criterion is whether the facility is considered 'used and useful.' Therefore, if a reactor never begins full operation, or if it performs so poorly that it produces a severe economic burden on ratepayers, the state's utility regulators can remove the plant's cost from the owner's rate base."); *id.* at 433–34 ("The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, *under efficient and economical management* to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties." (quoting Bluefield Waterworks & Improvements Co. v. W. VA. Pub. Serv. Comm'n, 262 U.S. 679, 693 (1923) (emphasis added))); *see also* Guastella, *supra* note 10, at 759 (The "prudent investment test" does not allow "the use of plant costs in determining rates if the investment was imprudent in light of information that was reasonable available to management at the time the investment decision was made"; and while commissions rarely "disallow all of the utility's investment as imprudent," they may allow only partial recovery "whereby the costs are allocated among investors, ratepayers, and taxpayers.").

plant. Since the Supreme Court's decision in *Village of Euclid v. Ambler Realty*, [93] states have been considered protectors of their citizens' health, safety, morals, and general welfare.[94] This authority includes regulation of land use when "reasonably related to those recognized state interests."[95] A proposed site for a nuclear power plant would be a strong interest for the affected community.[96] Moreover, many of the factors that are considered when a site is chosen for a reactor implicate state knowledge of and experience with the local environment.[97]

Additionally, no environmental law specifically bars states from regulating the environmental effects of nuclear power plants.[98] Laws like section 122 of the Clean Air Act,[99] which allows states to regulate radioactive air emissions from nuclear power plants,[100] and section 116,[101] which authorizes states to set more stringent air emission limitations than federal limitations or to establish their own limitations in the absence of federal ones,[102] enable states to prevent the construction of a nuclear power plant for

93. Village of Euclid v. Ambler Realty, 272 U.S. 365 (1926).

94. *See* Eleanor M. Young, *Exercising Police Powers to Control Spent Fuel and Other Radioactive Wastes*, 14 GOLDEN GATE U. L. REV. 335, 339 (1984).

95. *Id.* at 339 (citing *Village of Euclid*, 272 U.S. at 390); *see also* George B. Adams, Jr., *Regulation of Health and Safety in Private Atomic Energy Activities: A Problem in Federal-State Relationships*, 27 GEO. WASH. L. REV. 163, 186 (1958) ("[D]espite the obvious national interest and the extensive AEC program aimed at the most effective locations for nuclear facilities, the concern of local authorities cannot be easily dismissed."); Wiggins, *supra* note 83, at 85 ("Decisionmaking about nuclear power, on the other hand, affects a subject of exclusively state control. Public utilities wishing to construct nuclear power plants seek the use of private or state-owned land and facility, which, unlike navigable waters, are not at all in the federal domain."); Tribe, *supra* note 19, at 709–10 (discussing California's nuclear power plant moratorium and arguing that "[s]ince California seeks to eliminate land-use which creates a continuing source of public fears and unrest, it is exercising a traditional land use power for purposes other than protection against radiation hazards").

96. *See* Adams, *supra* note 95, at 186 ("The proposed site of an atomic reactor is apt to be of intense local interest."); *see also* Patrick J. Murphy, Case Note, *Gone Fission: Federal Preemption and the Resurgence of the Nuclear Industry (The One That Almost Got Away)*, 82 TEMP. L. REV. 863, 886 (2009) ("[A]ttempting to protect a location from the potentially negative effects of a new power plant is a legitimate state concern regardless of the type of plant." (citing Pac. Gas & Elec. Co. v. Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 222–23 (1983))).

97. *See* Adams, *supra* note 95, at 186 ("Reactor location involves a consideration of factors (such as conditions of the soil, underground waters and access to main piping and electrical systems) with which the state has had long experience and which is not susceptible to general regulation.").

98. *See* Murphy, *supra* note 96, at 886.

99. 42 U.S.C. § 7422 (2006).

100. *See* Tribe, *supra* note 19, at 698 (Section 122 "transfers from the NRC to the EPA and the states the authority to set air quality standards and emission levels, as well as requirements respecting the control of, radioactive air pollutants for purposes of protecting public health.").

101. 42 U.S.C. § 7416.

102. *See* Nishimura-Paige, *supra* note 81, at 1031 ("The Clean Air Act Amendments of 1977 give the states the authority to regulate radioactive air emissions from nuclear plants," and "[s]tates may impose emission standards more stringent than those defined by the Nuclear Regulatory Commission.") (citations omitted); *see also* Tribe, *supra* note 19, at 698–99 ("Under [section 122], radioactive pollutants, including source material, special nuclear material, and byproduct material are covered by Section 116 [retention of state authority] of the Clean Air Act. Thus, any State, or political subdivision thereof, may establish standards more stringent than Federal, or where a Federal standards [sic] has not

noncompliance with state emission levels.[103] Even though Congress realized that requiring nuclear utilities to comply with state air emission standards could be a burden, it nonetheless concluded protecting public health was a necessary "cost of doing business for the nuclear power industry."[104] The House floor manager of the bill stated: "[T]he states may protect the ambient air and use their police powers to protect the health of the citizens in their area. This has always been true for other pollutants, and I see no reason for any exemption for radioactive pollutants."[105]

Moreover, the Clean Water Act[106] empowers the EPA and states with permitting authority to issue permits for the discharge of heated water from power plants and the design of their cooling water intake systems.[107] Recent rules implementing these provisions, such as regulations forcing nuclear utilities to install closed cycle cooling or make changes in the design of their intake structures to avoid harming aquatic organisms, could shut down "scores of power plants" because of the accompanying costs.[108] Additionally, under section 401 of the Clean Water Act,[109] a state can refuse to certify a nuclear power plant's discharge for being in non-compliance with state water quality standards.[110] Under these statutes, states have a legitimate right to protect their

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been established, may establish any standards they deem appropriate. Thus the provision would not preempt States and localities from setting and enforcing stricter air pollution standards for radiation than the Federal standards, and would not follow the holding of *Northern States Power Co. v. State of Minnesota* in the context of radioactive air pollution." (quoting H.R. Rep. No. 95-564, at 143 (1977) (Conf. Rep.))).

103. *See* Nishimura-Paige, *supra* note 81, at 1030 n.215 ("The Nuclear Regulatory Commission has agreed that, under the authority of the Clean Air Act Amendments of 1977, a state could prevent nuclear plants from being constructed at all."); *id.* at 1031 n.225 (Sections 116 and 122 "reflect the first explicit manifestation of congressional intent that states may regulate nuclear energy activity for the purposes of protecting their citizens from radiation hazards (at least in the context of radioactive air pollution)."); *see also* Woychik, *supra* note 2, at 459–60 (contending that because states can adopt tougher air quality regulations "[i]t seems safe to conclude that state regulations promulgated under the CAA, and genuinely based on concerns for clean air, would withstand a preemption challenge").

104. Nishimura-Paige, *supra* note 81, at 1031; *see also* Woychik, *supra* note 2, at 460 ("Congress recognized that the scope of the NRC's authority was 'terribly important' because 'any county [or state] in the country could close down any nuclear power plant . . . simply by establishing standards of emission that are lower than those that exist [at a reactor].'").

105. Nishimura-Paige, *supra* note 81, at 1031 n.225 (*quoting* 123 CONG. REC. 8671 (1977) (statement of Rep. Rogers)); *see also* Tribe, *supra* note 19, at 699 ("Section 122 demonstrates that Congress is not averse to allowing the states to regulate nuclear energy activity for the purpose of protecting their citizens from radiation hazards – at least in the context of radioactive air pollution.").

106. *See* 33 U.S.C. §1342 (2006).

107. *Id.* §1316(a)–(b).

108. Behr, *supra* note 50 (quoting the President of nuclear industry's chief trade association, NEI, as saying: "A blanket requirement to force the installation of cooling towers is unnecessary and will put regional economies and tens of thousands of jobs at risk by potentially forcing scores of power plants to shut down over the next decade."); *see also id.* (arguing that owners of some older nuclear plants may "opt to retire the plants" instead of building cooling towers, citing as an example Oyster Creek plant on New Jersey's Barnegat Bay, which closed ten years before the expiration of plant's operating license).

109. 33 U.S.C. § 1341.

110. This year, Vermont refused to certify Vermont Yankee's discharges and sued the NRC for extending the plant's operating license based on noncompliance with section 401. *See* Olga Peters, *NRC,*

citizens and natural resources from the adverse environmental impact of power plants.[111]

The Supreme Court acknowledged these traditional state areas of regulatory authority over nuclear power plants in *Pacific Gas & Electric v. State Energy Resources Conservation & Development Commission*, which remains good law today.[112] In that case, which involved the preemption of a California moratorium on the construction of new nuclear plants, the Court said that while the federal government has exclusive authority over nuclear power plant construction, operation, and radiological safety, states retain regulatory authority over non-radiological safety.[113] Thus, only state laws with a "direct and substantial effect" on nuclear power plant safety would be preempted.[114] Subsequent courts have narrowly defined the term nuclear "safety" to protect state police power regulations over non-radiological health and safety matters.[115] The Court also refrained from questioning California's motive behind its law—its concern about the disposal of nuclear wastes—even though this motive appeared to fall within the exclusive purview of the Atomic Energy Commission (AEC) over safety matters.[116] All the Court required was that a state, here California, show a "plausible non-safety purpose" for its action.[117]

NEC and State Square Off Over VY Clean Water Certificate, COMMONS (Aug. 17, 2011), http://vtdigger.org/2011/08/17/nrc-nec-and-state-square-off-over-vy-clean-water-certificate/; *see also* Danny Hakim, *Cuomo Stakes Tough Stance on 2 Reactors*, N.Y. TIMES, June 29, 2011, at A2 (describing New York State Department of Environmental Conservation's rejection of Entergy's application for Indian Point Units 2 and 3). The company appealed the denial to the state hearing board and the NRC. *Id.* at A8.

111. *See* Murphy, *supra* note 96, at 886. ("As the Supreme Court reemphasized in *English*, Congress never intended to block all state regulation in the nuclear field. The direct and substantial standard allows courts to review the purpose of legislation to ensure that, in practice, the law will not impermissibly encroach on federal exclusive authority notwithstanding the state legislature's stated purpose.").

112. Pac. Gas & Elec. Co. v. Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190 (1983). *See e.g.*, English v. Gen. Elec. Co., 496 U.S. 72, 85 (1990) (repeating the standard established by *Pacific Gas* and saying "for a state law to fall within the pre-empted zone, it must have some *direct and substantial* effect on the decisions made by those who build or operate nuclear facilities concerning radiological safety levels"). See also cases cited holding states laws were not preempted *infra* note 123 and accompanying text.

113. *See* Goxem, *supra* note 10, at 423.

114. *See* Murphy, *supra* note 96, at 874 ("The Court has significantly modified the *Northern States* standard of total federal control of nuclear regulation. The current standard used to interpret the meaning of the 1954 Act and the 1959 Amendment is the one laid down in *Pacific Gas*. This standard, termed 'direct and substantial' in *English* provides that a state regulation with a direct and substantial effect on radiological or safety issues, or in conflict with a named federal power, is preempted by federal law.").

115. *See id.* at 887 ("[T]he *Pacific Gas* direct and substantial standard requires a narrow construction of the definition of 'safety,' so as not to impede on a state's traditional authority to regulate energy in a manner consistent with congressional intent."); *id.* at 887 n.269 (citing *Pacific Gas* for the proposition that Congress intended "to preserve state authority over safety matters").

116. *See* Goxem, *supra* note 10, at 423.

117. *See id.* at 427 ("The Court in *Pacific Gas* held that state actions that had the effect of regulating radiological safety were permissible as long as the state could show a plausible non-safety purpose for the action. In *Silkwood*, the Court went further and found that Congress intended state

The elasticity of this standard both expanded the scope of state power over nuclear power plants and emboldened states to cross into what might otherwise be viewed as a federal regulatory preserve.

Pacific Gas is widely interpreted as creating dual regulatory authority over nuclear power plants[118] and decentralizing nuclear plant regulation by explicitly recognizing a separate sphere of state regulatory power.[119] A later decision by the Court in *Silkwood v. Kerr-McGee Corp.*[120] affirmed that the states' role in regulating nuclear power can extend into safety regulation.[121] But, while it is clear that Congress left room for states to regulate nuclear plants, the question is how much room.[122] Court decisions on whether a state's exercise of regulatory authority over nuclear reactors has crossed the line into federal authority have been far from consistent.[123]

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punitive damage awards to be available to victims of nuclear accidents, even though the purpose as well as the effect of such awards was to regulate conduct in matters related to radiological safety.").

118. *See* Goxem, *supra* note 10, at 446 ("In fact, the Atomic Energy Act and its amendments created a dual system of regulation. The federal government maintains exclusive control over the construction and operation of plants, as well as the regulation of radiological hazards. The states retain their traditional powers relating to the need for additional generating capacity, the type of generating facilities to be licensed, land use, and ratemaking. The Supreme Court recognized this dual system of regulation in *Pacific Gas* and reaffirmed in *Silkwood*.").

119. *See* Jordan, *supra* note 21, at 975 (*Pacific Gas* "'serves as a benchmark for legal change' by explicitly recognizing a state role in nuclear decision making, and thereby contributing to, or perhaps even causing, a decentralization of authority with respect to nuclear power." (quoting TOMAIN, *supra* note 21, at 17–18)); Reilly, *supra* note 43, at 684 ("The court included state economic considerations among those immune to preemption, interpreting the Act as reserving the right of states to regulate nuclear power based on the '[n]eed for new power facilities, their economic feasibility, and rates and service.'"); Pac. Gas & Elec. Co. v. Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 205 (1983) (noting that "states have traditionally governed in these areas"); *cf.* Goxem, *supra* note 10, at 441 (The federal district court in *Citizens for an Orderly Energy Policy, Inc. v. County of Suffolk*, 604 F. Supp. 1084 (E.D.N.Y. 1985), "held that a state or local government could refrain from participating in offsite [emergency] planning."); *id.* at 443 ("The result in *Citizens* is consistent with the Supreme Court's decision in *Silkwood*. In both cases, the legislative history did not indicate an affirmative intent to displace traditional state authority, even though it interfered with federal authority to regulate safety. . . . The analysis of preemption as applied to offsite [emergency] planning leads to the conclusion, therefore, that state or local governments are free to refrain from developing or implementing an offsite plan, even if motivated by safety concerns.").

120. Silkwood v. Kerr-McGee Corp., 464 U.S. 239, 256 (1984).

121. *See* Goxem, *supra* note 10, at 427.

122. *See* David E. Izhakoff, *Federal Preemption: State Regulation of Federally Owned Nuclear Production Plants*, 1989 ANN. SURV. AM. L. 665, 669 n.27 (1989) ("We thought that this act [1959 amendments to AEA] without saying in so many words did make clear that there is preemption here, but we have tried to avoid defining the precise extent of that preemption feeling it is better to leave these kind [sic] of detailed questions perhaps up to the courts later to be resolved." (quoting *Federal-State Relationships in the Atomic Energy Field: Hearing Before the Joint Committee on Atomic Energy*, 86th Cong. 308 (1959) (statement of Mr. Lowenstein))).

123. *See, e.g.*, Patrick J. Borchers & Paul F. Dauer, *Taming the New Breed of Nuclear Free Zone Ordinances: Statutory and Constitutional Infirmities in Local Procurement Ordinances Blacklisting the Producers of Nuclear Weapons Components*, 40 HASTINGS L.J. 87, 102 n.95 (1989) (citing cases holding that federal law preempted state laws and that federal law did not preempt state laws). *Compare* United States v. Manning, 527 F.3d 828, 831 (9th Cir. 2008) (holding federal law preempted Washington law that required "total cleanup of contamination" from a site before additional radioactive materials could be placed there), Skull Valley Band of Goshute Indians v. Nielson, 376 F.3d 1223, 1227

II. VERMONT AND ITS NUCLEAR POWER PLANT

Vermont Yankee Nuclear Power Plant (Vermont Yankee) is a 640 megawatt nuclear power plant located in Vernon, Vermont, at the southeastern tip of the state.[124] The plant provides one-third of Vermont's energy needs.[125] The AEC licensed the plant in 1972.[126] Entergy, a Louisiana-based energy company, purchased Vermont Yankee in 2001 for $180 million, roughly half the cost of an equivalent coal-fired plant or wind farm.[127] In 2006, the NRC, the successor federal agency to the AEC, permitted Entergy to increase the plant's power output by 20 percent.[128] After five years of review, in March 2010—ironically the day before the Fukushima disaster—the NRC extended the plant's operating license, [129] due to expire in 2012,[130] to 2032.[131] Thus,

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(10th Cir. 2004) (holding Utah law regulating nuclear fuel storage and transportation preempted), United States v. Kentucky, 252 F.3d 816, 820–23 (6th Cir. 2001) (holding federal law preempted Kentucky environmental permit conditions applicable to disposing radioactive wastes in a landfill), Cnty. of Suffolk v. Long Island Lighting Co, 728 F.2d 52, 60–61 (2d Cir. 1986) (holding state tort and contract claims against utility preempted because they related to safety), *and* Jersey Cent. Power & Light Co. v. Township of Lacey, 772 F.2d 1103, 1112 (3d Cir. 1985) (holding ordinance barring spent fuel importation and storage preempted by federal law), *with* Goodyear Atomic Corp. v. Miller, 486 U.S. 174 (1988) (declining to preempt incidental safety regulations which allowed award of additional compensation to workers at federal nuclear production facility), English v. Gen. Elec. Co., 496 U.S. 72, 90 (1990) (holding state law action for intentional infliction of emotional distress did not "fall within the pre-empted field of nuclear safety as that field has been defined in prior cases"), Kerr-McGee v. City of W. Chi., 914 F.2d 820, 826 (7th Cir. 1990) (holding City's application of its erosion and sedimentation regulations to a waste disposal site not preempted because the City is not "precluded from visiting those same areas of concern" touched upon by the NRC's comprehensive licensing scheme "so long as the City does not interfere with the regulation of radiological hazards").

124. *See* Hannah Northey, *Entergy Sues to Keep Vermont Yankee Running,* E&ENEWSPM (Apr. 8, 2011), http://www.eenews.net/eenewspm/ 2011/04/18/4.

125. Since Vermont Yankee sells wholesale power, its rates are approved by the Federal Energy Commission and not the Vermont Public Service Board. *See* Complaint at 21, Entergy Nuclear Vt. Yankee, LLC. v. Shumlin, No. 1:11-cv-00099-jgm (D. Vt. Apr. 18, 2011), 2011 WL 2811317 [hereinafter Entergy Complaint], *available at* http://www.entergy.com/content/investor_relations/pdfs/4-18-11_complaint.pdf.

126. *See* Gillian Metzger, *The Story of Vermont Yankee: A Cautionary Tale of Judicial Review and Nuclear Waste* 1, 10 (Columbia Law Sch. Pub. Law & Legal Theory Working Paper Grp., Paper No. 0592, 2005), *available at* http://lsr.nellco.org/cgi/viewcontent.cgi?article=1016&context=columbia_pllt.

127. Christian Parenti, *What Nuclear Renaissance*?, THE NATION, May 12, 2008, *available at* http://www.thenation.com/article/what-nuclear-renaissance.

128. Press Release, U.S. Nuclear Regulatory Commission, NRC Staff Approves Power Uprate for Vermont Yankee (Mar. 2, 2006), *available at* http://pbadupws.nrc.gov/docs/ML0606/ML060610249.pdf.

129. *See NRC Renews License for Vermont Yankee,* E&ENEWSPM (Mar. 21, 2011), http://www.eenews.net/eenewspm/print/2011/03/21/5; *see also* Northey, *supra* note 124 (noting that NRC renewed Vermont Yankee's operating license on March 21 "after a five-year review").

130. *See Vermont Yankee Nuclear Power Plant,* ENTERGY, http://www.entergy-nuclear.com/plant_information/vermont-yankee (last visited Mar. 30, 2010).

131. *See* Hurst, *supra* note 6 ("[C]oincidentally, only hours before the earthquake and tsunami rocked northeastern Japan and set off the situation at the Fukushima Daiichi plant, the NRC voted 4-0 to approve Vermont Yankee for another twenty years, putting the streak at 62 straight extensions."). A temporary suspension of pending applications to extend the operating lifetime of domestic reactors, including the decision to approve the Vermont Yankee extension, is no longer in effect. *See* Shir

Vermont Yankee will continue to operate for another twenty years unless something happens to shut it down.

Vermont Yankee has had several serious accidents. In 1996, there was significant circumferential cracking in the plant's reactor pressure vessel, the core shroud, and the condenser, as well as in the plant's feedwater and recirculation pipes.[132] In 2003, the reactor had a leak in the primary piping connected to the reactor vessel head, which automatically shut the plant down.[133] In 2004, spent nuclear fuel rods went missing from the plant.[134] In 2007, a wooden cooling tower collapsed for no apparent reason. [135] In 2010, tritium leaks were discovered in underground piping at the plant; that same spring both cesium and strontium-90 were found in soils surrounding the plant, and recently, a fish with high strontium levels was caught near the plant outfall.[136] Tritium was also found in the Connecticut River close to where groundwater from the plant enters the river in January 2010, and again recently in mid–July of 2011[137] prompting the Vermont Senate to take action.[138]

Vermont Yankee's accident record feeds into the general paranoia about nuclear power plants, which has been further kindled by the recent accident at the Fukushima Daiichi nuclear generating station in Japan.[139] Vermont

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Haberman, *NRC Rejects Petition to Suspend Nuke Plant Licensing Activities*, SEACOASTONLINE.COM (Sept. 16, 2011), http://www.seacoastonline.com/articles/20110916-NEWS-109160360; *see also* Union Elec. Co. d/b/a/ Ameren Missouri (Callaway Plant, Unit 2), CLI-11-05, 74 NRC __, 20–21 (Sept. 9, 2011), *available at* http://www.nrc.gov/reading-rm/doc-collections/commission/orders/2011/2011-05cli.pdf.

132. *See* Keith Harmon Snow, *Vermont Yankee: A Second Lease on Half-Life*, ALLTHINGSPASS.COM (Mar. 30, 2011), http://www.allthingspass.com/uploads/html-69VT%20Yankee%20Nuke%20Final.htm.

133. *See id.* (noting that there were actually two leaks: one when packing blew out of a valve; the other where a pump seal failed on restart).

134. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-05-339, NUCLEAR REGULATORY COMMISSION: NRC NEEDS TO DO MORE TO ENSURE THAT POWER PLANTS ARE EFFECTIVELY CONTROLLING SPENT NUCLEAR FUEL, SUMMARY (2005), *available at* http://www.gao.gov/new.items/d05339.pdf.

135. *See* Behr, *supra* note 50.

136. *See* Dave Gram, *Despite Calls to Slow Down, NRC Grants Vermont Yankee Renewal*, BURLINGTON FREE PRESS (Mar. 21, 2011), http://www.burlingtonfreepress.com/viewart/20110321/NEWS07/110321010/Despite-calls-slow-down-NRC-grants-Vermont-Yankee-renewal. Underscoring the Governor's concern, a fish caught near the plant contained strontium-90, a radioactive isotope capable of causing leukemia and bone cancer. Although strontium-90 can occur naturally, "[o]ne finding of [strontium-90] just above the lower limit of detection in one fish sample is notable because it's the first time strontium-90 has been detected in the edible portion of any of our fish samples." *Radioactive Fish Found Near Vermont Plant*, GREENWIRE (Aug. 3, 2011), http://www.eenews.net/Greenwire/print/2011/08/03/23.

137. *See Tritium Found Again in River Near Vermont Yankee Nuclear Plant*, GREENWIRE (Aug. 18, 2011), http://www.eenews.net /Greenwire/2011/08/18/21.

138. *See infra* note 156 (discussing circumstances of Vermont Senate vote directing the state PSB to deny Vermont Yankee a new certificate of public good).

139. *See* Babcock, *supra* note 4, at 140–47 (discussing public fear of nuclear power). The effects of the Japanese accident are still unfolding as more evidence is gathered about human and environmental exposure. *See Fukushima Containment Chambers Likely Breached*, GREENWIRE (May 25, 2011), http://www.eenews.net/Greenwire/print/2011/05/25/10 ("Last month, Japan's government raised the

Yankee's reactor design is the same as the Fukushima Daiichi plants.[140] It contains the Mark 1 suppression system that failed to function in the Japanese accident[141] and relies on above-ground spent fuel storage tanks like the Japanese plants.[142]

Thus, Vermont Yankee "has long been a bone of contention for many Vermonters."[143] In 1975, Vermont amended its public services laws to require the approval by both houses of the Vermont General Assembly before the state Public Service Board (PSB)—the equivalent of a public service commission or state utility board—could issue a certificate of public good for the construction of a nuclear power plant.[144] Vermont Yankee's original owner consented to the state's regulatory power over its nuclear plant, subjecting the plant to regulation by the Vermont PSB as well as the state Water Resources Board and Health Board.[145] In 2002, when Entergy Corporation bought the plant, it signed an agreement with the PSB that it would reapply to the PSB for a new certificate of public good when the plant's operating license expired in 2012.[146]

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severity rating of the Fukushima crisis to the highest, matching Chernobyl in 1986" and "the Fukushima plant may release more radiation than Chernobyl."); *see also* Norimitsu Onishi & Martin Fackler, *Japan Hid Radiation Path Leaving Evacuees in Peril*, N.Y. Times, Aug. 9, 2011, at A1. In response to the accident, both Germany and Switzerland have suspended their nuclear plans. *See Germany, Switzerland Suspend Nuclear Plans*, GREENWIRE (Mar. 14, 2011), http://www.eenews.net/gw/sample/print/7.

140. *See* Babcock, *supra* note 4, at 67 n.13.

141. *See* Snow, *supra* note 132 (quoting Harold Denton, NRC Director of Regulation, as saying the Mark 1 containment system had "something like a 90% probability of containment failure" in the event of a core meltdown).

142. *See* Hurst, *supra* note 6 (quoting the executive director of an anti-nuclear citizens group as saying, when referring to the Fukushima Daiichi plant, "[t]hat plant, which uses the same General Electric boiling water reactors with Mark-1 containment vessels and above-ground spent waste storage pools as those at Vermont Yankee, contains more spent fuel than all four of the pools at Fukushima combined").

143. *Id.*

144. An Act Relating to the Certificate of Public Good for Extending the Operating License of a Nuclear Power Plant, VT. STAT. ANN. tit. 30, § 248(c) (Cum. Supp. 1975) ("Before a certificate of public good is issued for the construction of a nuclear fission plant the public service board shall obtain the approval of the general assembly and the assembly's determination that the construction of the proposed facility will promote the general welfare."). In 2005, the General Assembly recodified the authority of the PSB over the facility's operation, extending that authority beyond its 2010 license expiration date. The General Assembly's located its authority over the PSB's certification decision in the Assembly's regulatory authority over future spent fuel storage. *See* Vt. Stat. Ann. tit. 10, § 6522(c) (2011). This is not Vermont's first attempt at controlling initiatives involving radioactive materials. *See generally* Lisa Anne St. Amand, Note, *Legislative Control Over the Uranium Industry in Vermont: Flirting with Preemption*, 7 VT. L. REV. 315, 323 (1982) (discussing Vermont's earlier attempt to use its police powers to mandate legislative approval of uranium development proposals).

145. Murphy & La Pierre, *supra* note 44, at 420 (saying that the utility also agreed to abide by state rules regulating radioactive emissions and "to use its best efforts to secure AEC approval of the installation of any device that would restrict emissions"); *id.* (speculating that the reason Vermont Yankee signed the agreement was that "it was trying to secure the approval of the Vermont Public Service Board for a bond issue").

146. *See* Wald, *supra* note 56, at A16 ("When [the subsidiaries of Entergy Corporation] bought the plant from local utilities in 2002, they signed an agreement with Vermont's regulatory agency, the Public Service Board, agreeing that when the plant's 40-year license expired in March 20212, its 'certificate of public good' would also need to be renewed."); Dave Gram, *Nuke Plant VP Says Firm*

In 2006, the General Assembly passed Vermont Act 160—the focus of this Article—that prevents the operation of Vermont Yankee beyond the expiration date of its license without the Assembly's authorization.[147] In 2008, the General Assembly passed Act 189, calling for a "thorough, independent, and public assessment" of the reliability of the plant's systems, structures, and components because of the plant's age.[148] Act 189 required the PSB to undertake a comprehensive assessment of the plant's safety when it initiated its review of Vermont Yankee's license extension.[149] This audit resulted in a "Comprehensive Reliability Assessment" of the plant's continued operation and safety beyond 2012 and, on balance, concluded that the plant could be operated safely for another twenty years.[150] Although Act 189 allows the PSB to start proceedings for the issuance of a certificate of public good,[151] Act 160 prohibits the PSB from issuing the certificate without legislative approval.[152] By subjecting Vermont Yankee to the jurisdiction of both the state's PSB and General Assembly, Vermont Act 160 makes Vermont Yankee not only the sole

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Agreed to Vt. Oversight, ASSOCIATED PRESS (Sept. 13, 2011), http://finance.yahoo.com/news/Nuke-plant-VP-says-firm-apf-1869991089.html; *see also* Northey, *supra* note 124 ("Entergy argues that it bought the Vermont Yankee plant in 2002 under an agreement with the state that stipulated that the Vermont Public Service Board, not the state's legislature, would grant the plant's certificate."). Certificates of public good are required for all Vermont power plants. *See* Wald, *supra* note 56, at A16 (saying Vermont "requires such certificates of all big power plants").

147. 2006 Vt. Acts & Resolves 160. This Act amended title 30, section 248 of the Vermont Code by specifically prohibiting operation of a nuclear plant beyond the date permitted in its certificate of public good without the approval of the state general assembly and sets up a process for petitioning the PSB to gain such approval, including arranging for a study that looks at the need for the plant and its benefits, risks, costs, and alternatives that might promote the general welfare better than the nuclear plant. The study must also identify and analyze any long-term accountability and financial responsibility issues, as well as long-term environmental, economic, and public health issues, including issues related to dry cask storage of nuclear waste from the plant and decommissioning options. In spring 2011, two bills were introduced in both houses of Vermont's legislature amending section 248(e)(2) by removing the requirement for legislative approval of the continued operation of a nuclear power plant beyond the date of its current certificate of public good and for the storage of spent fuel at the reactor beyond that date. *See* S. 84, 2011–2012 S., Reg. Sess. (Vt. 2011); H. 331, 2011–2012 H., Reg. Sess. (Vt. 2011). As of the date of this Article, neither bill has passed either legislative body.

148. An Act relating to a Comprehensive Vertical Audit and Reliability Assessment of the Vermont Yankee Nuclear Facility, 2008 Vt. Acts & Resolves 189. According to Entergy, the Act specifically requires an inquiry into (1) whether the "design of the system [is] in keeping with the expected initial conditions and its design basis"; (2) whether "plant records adequately represent the as-built condition of the plant'; (3) "[w]hat changes or compensations have been made to accommodate unanticipated operations outcomes"; (4) the results of periodic testing and inspection of the systems; (5) whether "the management system for aging components [has] been adequately maintained to assure the components meet the design basis"; (6) all repairs, modifications, and redesigns to plant systems; and (7) the efficacy of plant operator training. *See* Entergy Complaint, *supra* note 125, at 21.

149. 2008 Vt. Acts & Resolves 189.

150. Entergy Complaint, *supra* note 125, at 22. After the discovery of tritium in plant monitoring wells, Vermont Governor Shumlin ordered the PSB to appoint a "Reliability Oversight Committee" to provide "additional expertise on oversight of Vermont Yankee issues within the state's jurisdiction." *Id.*

151. *See supra* note 149 and accompanying text.

152. Entergy Complaint, *supra* note 125, at 22.

nuclear reactor in the country facing two layers of state regulatory review,[153] but also the only one where a state legislature can block its continued operation.[154]

In February 2010, after the discovery of tritium in the plant's monitoring wells, the state PSB opened an investigation of whether Vermont Yankee should be shut down or take other steps to stop radioactive and non-radioactive releases into the environment pending the completion of certain repairs, whether "good cause" existed to revoke or modify Entergy's 2002 Certificate of Public Good for the plant, and whether penalties should be issued because these releases violated Vermont law.[155] However, without waiting for the results of that investigation, at the urging of then-State Senator Peter Shumlin, the Vermont Senate voted 26-4 to direct the PSB not to issue a certificate of public good for the plant.[156] Explaining the Senate vote, now-Governor Shumlin said "the plant was too old to operate reliably."[157] In March 2011, despite findings by both the NRC and Vermont's nuclear engineer that the plant was safe, Governor Shumlin said:

> Given the serious radioactive tritium leaks and the recent tritium test results, the source of which has yet to be determined, and other almost weekly problems occurring at this facility, I remain convinced that it is not in the public good for the plant to remain open beyond its scheduled closing in 2012.[158]

Indicating its determination to press forward with the plant, Entergy announced

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153. Murphy & La Pierre, *supra* note 44, at 432 n.221 ("The statute clearly provides that nuclear power plants are subject to the jurisdiction of the General Assembly in addition to the jurisdiction of the Public Service Board. Therefore, the statute does not merely shift evaluation of nuclear power plants from one state agency to the legislature but in fact subjects them to an additional layer of government review."); *see also* Wald, *supra* note 56, at A16.

154. *See* Hurst, *supra* note 6 ("[B]ecause the Vermont legislature must also approve the license extension, the only U.S. state where that is the case, the state decision and the NRC decision will stand in opposition to each other–and that has never happened in a relicensing before.").

155. *Entergy/Vermont Yankee*, Docket 7600 (Vt. Pub Serv. Bd. 2011), *available at* http://psb.vermont.gov/docketandprojects/electric/7600.

156. *See* Wald, *supra* note 56, at A16 ("In February 2010, the State Senate voted 26-4, to refuse to grant such a certificate to Vermont Yankee, partly at the urging of the governor Peter Shumlin, who was then a state senator. The House did not vote."). Vermont is not the only state threatening the license extension of one of Entergy's nuclear plants. *See* Kaplan & Hakim, *supra* note 21, at A18 (discussing Entergy's public relations campaign initiated in response to "intensified political opposition and public unease"); *id.* ("An advertising campaign would be the most visible sign yet of Entergy's concern that Mr. Cuomo and other opponents pose a serious threat to the future of the plant.").

157. *See* Wald, *supra* note 56, at A16; *id.* ("Underlying the struggle is that the plant has had embarrassing operational lapses in recent years, and is the same vintage and design as No. 1 reactor at the Fukushima Daiichi plant in Japan, which was damaged in the March 11 earthquake and tsunami.").

158. Gram, *supra* note 136; *see also Yankee Owner Tries New Strategy To Win Over Vermonters*, VPRNEWS (Mar. 31, 2011), http://www.vpr.net/news_detail/90481/ (According to Governor Shumlin, "I don't think you can convince most Vermonters today . . . that Vermont's best energy choice is to play Russian Roulette with an aging nuclear power plant."); Alan Wirzbicki, *Vermont's Unique Nuclear Power Veto*, BOSTON GLOBE (Mar. 23, 2011), http://www.boston.com/bostonglobe/editorial_opinion/ blogs/the _ angle/20 11103/vermonts _ unique.html (Governor Shumlin said "more states should follow Vermont's lead . . . [by] 'tak[ing] control into their own hands about aging plants'").

in July 2011 its intent to refuel the reactor to avoid having to shut it down.[159] The company has been unsuccessfully trying to sell the plant for a while.[160] The stage was set for a battle between the power company, which indicated no interest in shutting the plant, and the state, which had every intent that it be shut down.

Predictably, Entergy filed suit to overturn the state law,[161] alleging that the AEA preempts Vermont Act 160.[162] Entergy's complaint asserted that the Senate had intruded into the province of the NRC by making a decision based on safety, as opposed to economic, concerns.[163] Entergy denied that its lawsuit

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159. *See Entergy Plans to Refuel Vermont Yankee Plant*, GREENWIRE (July 26, 2011), http://www.eenews.net/Greenwire/print/2011/07/26/10 (saying that refueling will cost the company up to $65 million, but will earn the company $90 million if it can operate until March when its state certificate expires).

160. *See* Wald, *supra* note 56, at A16 (Entergy has "tried to sell the troubled reactor, but no buyers stepped forward."); *see also Green Mountain Power, Unwilling to get on Vermont Yankee, Looks East*, GREENWIRE (May 25, 2011), http://www.eenews.net/Greenwire/print/2011/05/25/12 (reporting that Green Mountain Power Corporation had instead reached a twenty-three year power purchase agreement to get electricity from Seabrook nuclear power plant in New Hampshire because of the "uncertainty around the future of Vermont Yankee which the state is pushing to close"); *Third Vermont, Utility Declines Deal With Vermont Yankee*, GREENWIRE (Apr. 27, 2011), http://www.eenews.net/Greenwire/print/2011/04/27/14 (reporting that Vermont Electric Cooperative's board voted against entering into a twenty-year contract with Vermont Yankee nuclear power plant despite substantial savings).

161. Entergy Nuclear Vt. Yankee, LLC, v. Shumlin, No. 1:11-cv-99-jgm, 2011 WL 2811317 (D. Vt. July 18, 2011); *see also* Wald, *supra* note 56, at A16 (saying Entergy sued Vermont officials in federal district court in Burlington, Vermont "challenging the constitutionality of a state law giving the Vermont legislature veto power over operation of the reactor when its current license expires next March"). Prior to Entergy's lawsuit, a coalition of environmental groups sued the NRC for failing to obtain a section 401(c) water quality certification from the state for the license extension or a waiver by the state of that requirement. *See Lawsuit Alleges Clean Water Act Violations in Vermont Yankee License Extension*, GREENWIRE (May 24, 2011), http://www.eenews.net/Greenwire/print/2011/05/24/10 (discussing the lawsuit brought by the Vermont Department of Public Service and New England Coalition, an anti-nuclear group, claiming the NRC failed to obtain a section 401 water quality certificate or a state waiver of the requirement and seeking to enjoin "proposed license extension until Entergy Corp . . . provides the water quality certificate to federal nuclear regulators"; Vermont Yankee's position is that the original Section 401 certificate "still applies today.").

162. Entergy Complaint, *supra* note 125, at 21–22. Entergy's nuclear subsidiary and Entergy Nuclear Vermont Yankee joined Entergy. The Defendants were Governor Shumlin, the state attorney general, and members of the Vermont PSB. *See* Wald, *supra* note 56, at A16 (noting the suit was filed by Entergy subsidiaries Entergy Nuclear Vermont Yankee and Entergy Nuclear Operations and the defendants were Governor Shumlin, State Attorney General William Sorrell, and the members of the PSB). Massachusetts and three environmental organizations filed amicus briefs supporting Vermont; a local union filed in support of Entergy. Massachusetts argued that it had an interest in the future of the plant since it was located five miles from the border with Massachusetts and several towns in Massachusetts received electricity from the plant and were within its emergency evacuation zone. Should an accident happen, "Massachusetts communities could face contamination of soil, water, and agriculture resources that would force displacement of residents and businesses, conceivably devastating state or local economies for years into the Commonwealth's future." Brief for Commonwealth of Massachusetts as Amici Curiae Supporting Defendant at 4, Entergy Nuclear Vt. Yankee, LLC v. Shumlin, No. 1:11-cv-00099-jgm (D. Vt. Apr. 18, 2011), *available at* http://www.atg.state.vt.us/assets/files/Massachusetts%20Amicus%20in%20support%20of%20Vermonts%20opposition%20to%20PI.pdf.

163. *See* Wald, *supra* note 56, at A16 (An Entergy executive "said the legislature had improperly taken the decision out of the hands of experts at the Nuclear Regulatory Commission and given it to 'political decision makers.' Only the Nuclear Regulatory Commission can make decisions about

breached the 2002 Memorandum of Understanding with the PSB in which it agreed to submit its relicensing application to the PSB, saying that it was not "going back on its word," rather the "general assembly changed the rules and left [it] with no other choices."[164] Although the company initially lost on its preliminary injunction motion to keep the plant running during the course of the litigation on the ground that it failed to show irreparable harm from the plant's closure,[165] it ultimately prevailed in the district court on its preemption argument.[166]

The case quickly gained national recognition, aided by comments like those from U.S. Senator Bernie Sanders of Vermont, to the effect that the lawsuit was none of the Justice Department's business.[167] But as Entergy sees it, what Vermont did is very much a matter of national concern because Vermont Act 160 conflicts with the AEA and its exclusive jurisdiction over the safety of nuclear power plants. According to Entergy, the NRC's decision to extend Vermont Yankee's license is proof positive of this conflict.[168] While Entergy seems correct in that there is little question that safety concerns played a role in the General Assembly's enactment of Act 160, the legislative history also reflects unease about the unpredictability of nuclear power plant costs.[169]

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safety."); *see also* Northey, *supra* note 124 (quoting an Entergy official as saying "[t]he 2006 law 'took the decision about Vermont Yankee's future away from the Public Service Board, a quasi-judicial expert decision-maker, independent of legislative control' and placed it into the 'hands of political individuals'"). Entergy additionally accused the state of being willing to issue the certificate of public good if the company gave "utility price breaks" to its Vermont customers, which, according to the lawsuit, would "violate the federal authority's exclusive right to regulate interstate commerce because it would result in consumers in New Hampshire and Massachusetts paying higher rates." Wald, *supra* note 56, at A16; *see also* Northey, *supra* note 124 (saying that Entergy contends that any agreement between it and Vermont that gave "preferential rates," compared to non-Vermont utilities, to Vermont residents would "favor in-state residents over out-of-state residents" and therefore violate the Commerce Clause).

164. Wald, *supra* note 56, at A16 (According to an Entergy executive: "You will hear that Entergy is going back on its word and breaking the deal it made in the 2002 Memorandum of Understanding. This is not true. We believe the general assembly changed the rules and left us with no other choices.").

165. *See Judge Rejects Bid to Keep Vermont Yankee open Amid Law Suit,* GREENWIRE (July 19, 2011), http://www.eenews.net/Greenwire/print/2011/07/19/14.

166. Entergy Nuclear Vt. Yankee v. Shumlin, 838 F. Supp. 2d 183 (D. Vt. 2012) (holding that the AEA preempted Vermont Act 160 and that plaintiff Entergy Vermont Yankee was also entitled to injunctive relief on its Commerce Clause claim).

167. In a related maneuver, Senator Sanders, enraged that the NRC had held a secret vote on whether to ask the Department of Justice to intervene in the lawsuit in support of Entergy, blocked the nomination of a member of the NRC to a full term on the Commission. *See* Hannah Northey, *Sanders Blocks Controversial NRC Pick Over Vermont Lawsuit,* GREENWIRE (June 28, 2011), http://www.eenews.net/ Greenwire/print/2011/06/28/5. Senator Sanders only lifted the hold when the Department of Justice announced it would not intervene in the case. *See* Hannah Northey, *DOJ Won't Intervene in Vermont Yankee Case–Sanders,* E&ENEWSPM (June 30, 2010), http://eenews.net/eenewspm/print/2011/06/30/05; *see also Justice Department Confirms it Won't Intervene in Vermont Yankee Lawsuit,* BERNIE SANDERS—U.S. SENATOR FOR VT. (Aug. 8, 2011), http://www.sanders.senate.gov/newsroom/news/?id=5dff4478-cb04-410a-9c5d-90353f15c13d.

168. *See generally* Entergy Complaint, *supra* note 125.

169. *See* Murphy & La Pierre, *supra* note 44, at 432 n.220 (noting rejection of the 1975 floor amendment that would have limited the General Assembly's approval to "non-radiological aspects of the construction and operation of the plant" and that legislative findings for the bill indicated "there were

The question is whether the state could block Vermont Yankee's relicensing to avoid those costs without being preempted by the AEA by straying into an area of exclusive federal regulation.

III. AN INTRODUCTION TO THE PREEMPTION DOCTRINE

> *I do not think the United States would come to an end, if we lost our power to declare an Act of Congress void. I do think the Union would be imperiled if we could not make that declaration as to the laws of the several states. For one in my place sees how often a local policy prevails with those who are not trained to national views and how action is taken that embodies what the Commerce Clause was meant to end.*[170]

This Part briefly sets out the preemption doctrine's general features, focusing on the presumption against preemption and the intent of the drafters of both the preempting and preempted law. The doctrine is examined within the context of general federalism principles and the policies that animate those principles.

A. The Preemption Doctrine in Broad Strokes

The preemption doctrine is entirely judge-made. It "is rooted in the juxtaposition of the powers reserved to the states and the supremacy of federal law over state law under the United States Constitution."[171] The doctrine is neither dictated by the Constitution nor required by our federal structure of government.[172] Rather than a characteristic of federal law,[173] preemption is a

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substantial questions concerning (1) the safety and effect on public health of nuclear fission plants, (2) the reliability of emergency core cooling systems, (3) the safe disposal of radioactive wastes, and (4) the economic costs of fission plants which are unpredictable and often raise the final cost of electricity to prohibitive levels" (citing H. 127, 1975 Gen. Assemb., Reg. Sess. (Vt. 1975) (enacted as VT. STAT. ANN. tit. 30, § 248(c))).

170. OLIVER WENDELL HOLMES, *Law and the Court*, *in* COLLECTED LEGAL PAPERS 291, 295–96 (1920).

171. Tribe, *supra* note 19, at 686.

172. *See* S. Candice Hoke, *Preemption Pathologies and Civic Republican Values*, 71 B.U. L. REV. 685, 754–55 (1991) ("[P]reemption adjudication does not focus on a constitutional text, structural principle, or value. Preemption decisions instead interpret legislative, administrative, or common law schemes that issue from the federal and state governments, and determine whether the schemes can co-regulate"). Hoke generally finds that constitutional jurisprudence is no help to a court faced with a conflict between federal and state law and that any reference to the Supremacy Clause is "superfluous" as the Clause operates at a "meta-constitutional level bereft of substantive content." *Id.* at 755; *see also* Stephen Gardbaum, *Congress's Power to Preempt States*, 33 PEPP. L. REV. 39, 41 (2005) ("[A]lthough *both* supremacy and preemption displace (or supersede) state law, they operate to displace *different types* of state law and do so by the *different mechanisms* of automatic consequence and discretionary power respectively.").

173. *See* Gardbaum, *supra* note 172, at 40–41 (Unlike preemption, "Supremacy is an attribute of federal law, specifying its hierarchical status vis-à-vis state law . . . an attribute that automatically or inherently attaches to all federal law by virtue of the Supremacy Clause and, like other attributes–for

power that Congress possesses and may choose to exercise at its discretion.[174] Hence, congressional intent is central to any preemption analysis performed by a court.

The preemption doctrine declares invalid state laws that "retard, impede, burden, or in any matter control[] the operation of federal law."[175] When a court finds that federal law preempts a state law, the state cannot take action based on that state law,[176] even if it would otherwise be free to act.[177] While

example, being the law of the land directly upon enactment without need for state implementation–is not something that Congress can either bestow or change."); *id.* at 49 (identifying the Necessary and Proper Clause, "an enumerated power of Congress," as "the proper and best source of Congress's power of preemption").

174. *See id.* at 41 ("Preemption . . . is a power of Congress rather than an automatic characteristic of federal law. Like all powers of Congress, it is discretionary and so may or may not be exercised."). Gardbaum argues that "what is central to any preemption analysis is not conflict, not the Supremacy Clause, but the nature, source, and limits of Congress's power of preemption." *Id.* at 46. For this reason, he argues that Congress should be held to a higher standard of clarity for preemption determinations, similar to that imposed under the Dormant Commerce Clause and the Eleventh Amendment. *Id.* at 56–57 ("Proper understanding of the nature of preemption as a *power to abrogate concurrent state authority* renders it sufficiently similar to Eleventh Amendment abrogation to require a similar standard, and the stated rationale behind the condition on both Eleventh Amendment and dormant Commerce Clause powers is exactly the same in the preemption context: namely, congressional altering of the Constitution's default position on federal-state relations.").

175. Robert L. Glicksman & Richard E. Levy, *A Collective Action Perspective on Ceiling Preemption by Federal Environmental Regulation: The Case of Global Climate Change*, 102 NW. U. L. REV. 579, 585 (2008) (quoting McCulloch v. Maryland, 17 U.S. (4 Wheat.) 316, 436 (1819)). Some scholars ascribe to the theory that affected individuals should only be required to respond to one master. *See* Kenneth L. Hirsh, *Toward a New View of Federal Preemption*, 1972 U. ILL. L.F. 515, 525 (1972) (*San Diego Building Trades Council v. Garmont*, 359 U.S. 236 (1959), and other cases "like it suggest what may be called a 'one master' theory of preemption. This theory declares that private activities subject to regulation by a federal agency with broad regulatory powers should be subject to only one master; state laws imposing requirements which could be imposed by the federal agency are presumptively invalid."); *see also id.* ("The important point to note here is that the 'one master' theory is a judicially elaborated doctrine of preemption which is based on the principle that different types of laws require different types of preemption rules."); *id.* at 550 ("[T]he one-master theory is treated as a presumption rather than as an absolute rule; the Court applies it in cases where Congress has delegated regulatory powers to a federal agency unless there are substantial countervailing factors," and the theory "does not extend to cases where the delegated federal authority does not permit comprehensive federal regulation of what the Court perceives to be the relevant field." (citing Fla. Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132 (1962))).

176. *See* Wiggins, *supra* note 83, at 27–28 ("[When the Court] forecloses state regulatory power by finding a state enactment preempted, the states cannot avoid the result but must cease to act in a field that may be of great local or regional concern. If the Court finds against preemption, however, the state remains capable of regulating the subject. If Congress disagrees, it can legislate away state authority explicitly. Thus a state–supportive presumption in preemption cases shows deference to primary congressional responsibility for the federal balance."); *see also* Hoke, *supra* note 172, at 687 n.4 ("The term 'preempted' surfaces in a wide range of legal contexts, often merely as a synonym for 'forbidden' or 'ousted.' In its strict sense, the term 'federal preemption' expresses the conclusion that state or local law must be disabled from operation because it conflicts with some aspect of a federal legislative scheme. Thus, federal statutes and administrative regulations constitute the potentially preemptive law in this strict sense. Other types of federal law, including federal constitutional law and federal common law principles, may also disable and displace state and local law, but those inquiries proceed under legal principles that diverge from legislative preemption . . . .").

preemption allows the federal government to displace state law with respect to matters within the federal government's constitutional powers,[178] it allows state regulation to supplement federal initiatives so long as the state does not interfere with or otherwise obstruct the federal law's purposes.[179]

The preemption doctrine has evolved into what Professor Schroeder calls "a multipart universe consisting of express and implied preemption, the latter encompassing both field and conflict preemption, which is further divided into physical impossibility and obstacle preemption."[180] If the language of the federal law is explicit as to its preemptive effect, that is called express preemption;[181] otherwise, preemption is implied.[182] Implied preemption has

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177. *See* Susann J. Stabile, *Preemption of State Law by Federal Law: A Task for Congress or the Courts?*, 40 VILL. L. REV. 1, 10 (1995); *see also* Gardbaum, *supra* note 172, at 41 ("Supremacy means that in the case of a conflict between federal and state law, federal law trumps or displaces the conflicting state law."); *id.* at 46 ("[S]upremacy is all about conflict. Conflict between federal and state laws is the only reason that state laws are displaced under the principle of supremacy. By contrast, preemption is *not* all about conflict between federal and state laws, but is primarily about a congressional power and its exercise. It is the exercise of this power that is the *major* reason state law is displaced–because Congress has said so–and not the existence of the resulting conflict."); Bradford R. Clark, *Process-Based Preemption*, *in* PREEMPTION CHOICES: THE THEORY, LAW, AND REALITY OF FEDERALISM'S CORE QUESTION, 167, 192-93 (William W. Buzbee ed., Cambridge University Press 2009) ("The negative implication of the [Supremacy] Clause, however, is that state law continues to govern in the absence of 'the supreme Law of the Land.'"). Gardbaum refers to supremacy as a "lesser principle" compared to Congress's preemptive power. Gardbaum, *supra* note 172, at 48 ("[T]he Supremacy Clause is the only source of the (lesser) principle of supremacy and not the (greater) power of preemption.").

178. *See* Stabile, *supra* note 177, at 4.

179. *See* Tribe, *supra* note 19, at 687. *But see* Christopher H. Schroeder, *Supreme Court Preemption Doctrine*, *in* PREEMPTION CHOICE: THE THEORY, LAW, AND REALITY OF FEDERALISM'S CORE QUESTION 127 (William W. Buzbee ed., Cambridge University Press 2009) ("When Congress has taken the particular subject-matter in hand, coincidence is as ineffective as opposition, and a state law is not to be declared a help because it attempts to go farther than Congress has seen fit to go." (quoting Charleston & W. Carolina R. Co. v. Varnville Furniture Co., 237 U.S. 597, 604 (1915) (Holmes, J.))). Hoke makes the point that the Supremacy Clause is only one of the constitutional provisions that addresses the relationship between the federal and state governments. *See* Hoke, *supra* note 172, at 756 n.337 ("[T]he supremacy clause is only one feature of the particular federalism which structures the national government and its interrelation with the states," with the ninth, tenth, and fourteenth amendments and the guarantee clause as other "specific texts upon which our federalism is structured.").

180. Schroeder, *supra* note 179, at 143. *But see id.* at 125 n.23 ("Once we recognize that all preemption cases are about contradiction between state and federal law, we should begin to question the usefulness of dividing them into the separate analytical categories of 'express' preemption, 'field' preemption, and 'conflict' preemption." (quoting Caleb Nelson, *Preemption*, 86 VA. L. REV. 225, 226 (2000))); Karen V. Jordan, *The Shifting Preemption Paradigm: Conceptual and Interpretative Issues*, 51 VAND. L. REV. 1149, 1175 (1998) ("The slippery path between the frustration prong of conflict preemption and field preemption reinforces the view that the three categories of implied preemption are not 'rigidly distinct.'"); Erwin Chemerinsky, *Empowering States: The Need to Limit Federal Preemption*, 33 PEPP. L. REV. 69, 74 (2005) ("[T]here should be only two situations when there is preemption of state law. One is express preemption. The other is when federal law and state law are mutually exclusive so it is not possible for somebody to comply with both. This would then eliminate preemption based on states interfering with the achievement of the federal objective. It would eliminate implied preemption based on the intent of Congress.").

181. *See* Glicksman & Levy, *supra* note 175, at 586 ("As the name suggests, express preemption arises as a result of the explicit language of a federal statute."); *see also* Borchers & Dauer, *supra* note

the same preemptive effect as express preemption.[183]

One type of implied preemption, field or occupation preemption, requires a court to determine not only that the federal government has occupied a regulatory field, but also that a state has impermissibly intruded into it.[184] Although field preemption can be implied from the pervasiveness of federal regulation, based on a "reasonable inference" that Congress intended not to allow state activity in the area,[185] courts today find pervasiveness less helpful than they once did.[186] For example, the mere fact that a federal agency has promulgated many complex regulations in a given field does not mean that a court will infer from this a congressional intent to preempt that field

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123, at 102 n.99 (describing the proposition that Congress may preempt state law in express terms (citing Jones v. Roth Packing Co., 430 U.S. 519, 525 (1977))).

182. *See* Glicksman & Levy, *supra* note 175, at 590 ("Congress has the authority to expressly preempt state law, and its failure to do so is significant. Reading a statute to displace state regulatory authority in the absence of a textual provision based on general statutory purposes is precisely the sort of interpretive methodology that textualists criticize. Indeed, it is plausible to argue that there should be no such thing as implied preemption in the sense of displacing state authority."). *But see* Stabile, *supra* note 177, at 86 ("The flexibility of an implied preemption analysis allows courts to consider whether their preemption decision is appropriate not only in terms of the statute in question but in the context of the regulation of that field as a whole."); *id.* ("[C]ourts engaging in implied preemption analysis can analyze and balance the competing federal and state interests with appropriate regard for the existing social, political and legal landscape, as well as for the regulation of the relevant field as a whole.").

183. *See* Glicksman & Levy, *supra* note 175, at 587 ("Field preemption is a form of implied preemption under which federal law completely displaces any state law in a given area—even if there is no apparent inconsistency between federal and state law."); *see also* Wiggins, *supra* note 83, at 30 ("Preemption by occupation forecloses state authority even though Congress has not enacted legislation dealing with the precise subject under scrutiny.").

184. *See* Jordan, *supra* note 180, at 1169.

185. *See* Wiggins, *supra* note 83, at 31 (The factors used by courts to determine field preemption specifically include: "The scheme of federal regulation may be so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it. Or 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. Likewise, the object sought to be obtained by the federal law and the character of the obligation imposed by it may reveal the same purpose." (quoting Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230–31 (1947))); *see also* Tribe, *supra* note 19, at 689 ("[Federal occupation of a field] may be evinced by the pervasiveness of the federal regulatory scheme, by the overriding dominance of the federal interest, or by the nature of the federal purpose and the character of the obligations imposed by the federal law."); Schroeder, *supra* note 179, at 128 ("Field preemption in such areas of primary federal authority similarly amounts to the inverse of the 'presumption against preemption' that operates in areas where state regulation has historically been dominant. Here, the Court is using the criterion of dominant federal interest much as it has used the criterion of regulatory pervasiveness, as an indicator of whether or not the Congress intended to occupy the field."); Borchers & Dauer, *supra* note 123, at 103 n.100 (citing Fidelity Fed. Sav. & Loan Ass'n v. De la Cuesta, 458 U.S. 141, 153 (1982)).

186. *See* Wiggins, *supra* note 83, at 31 ("It is often a perplexing question whether Congress has precluded state action or by the choice of selective regulatory measures has left the police power of the States undisturbed except as the state and federal regulations collide." (quoting *Santa Fe*, 331 U.S. at 231)); *id.* at 33 ("A finding that the California Nuclear law invades a field exclusively occupied by federal regulatory authority must thus be based on a sounder footing than the mere fact of abundant federal legislative activity.").

entirely.[187] Findings of no field preemption also include instances where there is a federal licensing scheme.[188] According to Professor Wiggins, even where Congress has "enacted 'pervasive' legislation on a subject, its regulatory interest will not automatically be converted into preemption of state legislation in the same field."[189]

Additionally, field preemption will not automatically be found where there is an "important federal interest" in the subject area being regulated.[190] However, the "national character" of the area being regulated, such as foreign affairs, as opposed to the importance of the federal interest, may still be key to a judicial decision.[191] Finally, unless there is an actual conflict between the federal and state law, the congressional purpose underlying the federal statute is also of limited importance in determining field or occupation preemption.[192]

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187. *See* Hillsborough Cnty. v. Automated Med. Labs, Inc., 471 U.S. 707, 718 (1985) ("[I]f an agency does not speak to the question of pre-emption, we will pause before saying that the mere volume and complexity of its regulations indicate that the agency did in fact intend to pre-empt. Given the presumption that state and local regulation related to matters of health and safety can normally coexist with federal regulations, we will seldom infer, solely from the comprehensiveness of federal regulations, an intent to pre-empt in its entirety a field related to health and safety.").

188. *See* Tribe, *supra* note 19, at 689 n.48 (*Huron Portland Cement Co.* "demonstrates that the existence of a federal licensing scheme does not always imply preemption."); *see also* Ray v. Atl. Richfield Co., 435 U.S. 151, 168–69 (1978) ("Of course, that a tanker is certified under federal law as a safe vessel insofar as its design and construction characteristics are concerned does not mean that it is free to ignore otherwise valid state or federal rules or regulations that do not constitute design or construction specifications.").

189. Wiggins, *supra* note 83, at 33, 40 ("The comprehensiveness of a federal legislative scheme no longer is held to indicate Congressional intent to occupy the field."); *see also* New York State Dep't of Social Servs. v. Dublino, 413 U.S. 405, 415 (1973) ("We reject, to begin with, the contention that pre-emption is to be inferred merely from the comprehensive character of the federal work incentive provisions . . . . The subjects of modern social and regulatory legislation often by their very nature require intricate and complex responses from the Congress, but without Congress necessarily intending its enactment as the exclusive means of meeting the problem."); Silkwood v. Kerr-McGee Corp., 464 U.S. 238, 239 (1984) ("[P]re-emption should not be judged on the basis that the Federal Government has so completely occupied the field of safety that state remedies are foreclosed but on whether there is an irreconcilable conflict between the federal and state standards or whether the imposition of a state standard in a damage action would frustrate the objectives of the federal law.").

190. *See* Jordan, *supra* note 180, at 1166 ("[B]ecause every subject that merits federal legislation is a subject of national concern, [field preemption] analysis requires a finding of some 'special features' warranting preemption.").

191. *See* Wiggins, *supra* note 83, at 34 (discussing "national character of the subject matter," adding labor regulation "to this list of preempted subjects," and noting that "[f]oreign affairs policy is a classic early example of a subject which should be regulated only at the federal level" (citing Hines v. Davidowitz, 312 U.S. 52, 62 (1941))); *id.* at 41 ("The remaining *Rice* factor, the characterization of the subject matter regulated as either national or local, is the key to occupation analysis. The Court is familiar with the federalism balancing function involved in employing this standard because it has been used in dormant commerce clause cases since *Cooley*. It is also a sufficiently standardless guidepost to permit the value preferences of the Justices regarding appropriate federal-state authority over a particular subject matter to predominate.").

192. *See* Wiggins, *supra* note 83, at 40 ("The Court has also deemphasized the importance of the purpose for which Congress legislates . . . ."); *id.* at 40–41 ("In the less obvious cases which normally arise, however, the Court now seeks to compare the objectives of state and federal legislation to uphold both actions if possible. Thus, the purpose factor of *Rice* has been transplanted from occupation to conflict analysis."); *see also* Tribe, *supra* note 19, at 692 (*Ray* "demonstrates that where the federal and

How a court defines the federal regulatory field is critical:[193] the narrower the scope of a preemptive federal field, the less likely a state law will intrude into it.[194] Narrowing the scope of the field thus lessens the likelihood that preemption will create an undesirable regulatory gap that may not be filled until, and if, Congress acts.[195]

Another type of implied preemption is conflict preemption. Conflict preemption may occur in two situations: when compliance with both federal and state law is impossible or when a state law presents an obstacle to meeting the objective and purpose of a federal law.[196] Impossibility preemption is rare,[197] and courts do not generally look for conflicts between federal and state laws.[198] For example, the mere existence of state standards that are different

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state means do not conflict, similarity of purpose will not necessarily result in a finding of preemption.").

193. *See* Schroeder, *supra* note 179, at 126 ("When the Federal Government completely occupies a given field or an identifiable portion of it . . . 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' and not whether the state regulation conflicts with a specific federal requirement. In these cases, a critical question can often be how the 'field' that has been preempted is to be defined." (citing *Silkwood*, 464 U.S. at 260)).

194. *See* Jordan, *supra* note 180, at 1167 ("[C]ase law also shows that the Court will seek to narrow the scope of the preemptive field to mitigate against the impact of field preemption." (citing Pac. Gas & Elec. Co. v. Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190 (1983))); *see also* Robert L. Glicksman, *Federal Preemption by Inaction*, *in* PREEMPTION CHOICE: THE THEORY, LAW, AND REALITY OF FEDERALISM'S CORE QUESTION 167, 181 n.33 (William W. Buzbee ed., Cambridge University Press 2009); Schroeder, *supra* note 179, at 123 ("The presumption against preemption instructs the courts to give federal statutes a 'narrow reading' in order to avoid interpretations that would override state law and to look for a 'clear' statement that Congress means to preempt state law."); Chemerinsky, *supra* note 180, at 75 ("Even as to express preemption, provisions of federal law that expressly preempt state law should be narrowly construed unless Congress has indicated otherwise."); Hoke, *supra* note 172, at 763; Tribe, *supra* note 19, at 689; Baum, *supra* note 77, at 667 ("Even if some amount of federal preemption is found, the states' police power is not considered totally preempted, but is invalidated only 'to the extent that it clearly has been preempted.'" (quoting Illinois v. Kerr-McGee Chem. Corp., 677 F.2d 571, 579 (7th Cir. 1982))).

195. *But see* Jordan, *supra* note 180, at 1167 (1998) ("Field preemption creates a regulatory vacuum that courts must honor because, in theory, Congress deliberately created the vacuum."); *see also* discussion of regulatory gaps *supra* notes 60–61.

196. Glicksman & Levy, *supra* note 175, at 588 ("[C]onflict preemption arises in two ways. The first is when it is impossible to comply with both federal and state law . . . . The second type of conflict preemption occurs when state law is an obstacle to the object and purpose of federal law."). Professor Schroeder notes that the Court's reluctance to find field preemption has led it to decide these cases on conflict grounds. Schroeder, *supra* note 179, at 131 ("The Supreme Court in recent years has shown reluctance to find additional federal statutes to have engaged in field preemption. In contrast, the Supreme Court continues to decide in numerous cases that 'conflict' preemption exists.").

197. *See* Glicksman & Levy, *supra* note 175, at 588 ("Impossibility of compliance is relatively rare, but when it is present, preemption is clear."); *see also* Borchers & Dauer, *supra* note 123, at 103 (citing Fla. Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132, 142–43 (1963), for the proposition that "state law is preempted when compliance with both state and federal standards 'is a physical impossibility'" and quoting Hines v. Davidowitz, 312 U.S. 52, 67 (1941), for the proposition that state law is preempted when it "is 'an obstacle to the accomplishment and execution of the full purposes and objectives of Congress'").

198. *See* Tribe, *supra* note 19, at 689 ("The Court upheld a Detroit ordinance regulating smoke emitted while a ship's boilers were being cleaned, despite extensive federal licensing of such ships in interstate and foreign commerce. The Court, refusing to 'seek[] out conflicts between state and federal

from their federal counterparts does not create an impossibility situation if the regulated party can comply with both sets of standards simultaneously.[199]

The second type of conflict preemption—obstacle preemption—requires a reviewing court to determine whether state law "stands as an obstacle to the accomplishment and execution of the full purposes of Congress."[200] Thus, a reviewing court must examine how the state and federal laws are interpreted and applied.[201] This requires courts to look beyond the federal statute's text and structure and to inquire about the relevant section's purpose.[202] This includes examining whether, given the broader legal context into which the

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regulation where none clearly exists,' found 'no overlap between the scope of the federal ship inspection laws' that set safety standards for federal licensing of sea-going vessels and the municipal control ordinance." (quoting Huron Portland Cement Co v. Detroit, 362 U.S. 440, 446 (1960))); *id.* at 720 ("In determining whether the state's nuclear provisions are preempted, a court must be cognizant of the 'sensitive interrelationship between statutes adopted by the separate, yet coordinate, federal and state sovereignties' and 'the proper approach is to reconcile the operation of both statutory schemes with one another rather than holding one completely ousted.'" (quoting Merrill Lynch, Pierce, Fenner & Smith v. Ware, 414 U.S. 117, 123 (1971))).

199. *See* Glicksman & Levy, *supra* note 175, at 588 ("It is important to note that the existence of state standards that differ from federal standards does not always implicate impossibility of compliance, if the regulated party can physically comply with both standards."). *See also* Tribe, *supra* note 19, at 688 n.44 ("The Court noted that it 'must be careful to distinguish between those situations in which the concurrent exercise of a power . . . may *possibly* lead to conflicts and those situations where conflicts *will necessarily arise.*'" (quoting Goldstein v. California, 412 U.S. 546, 554 (1973) (sustaining California law "in the face of federal copyright laws"))); Wiggins, *supra* note 83, at 49 ("[T]he Court might have opted to find a conflict between the ordinance and federal law, because it was impossible to comply with the Detroit regulation using the boilers and fuel authorized by the Coast Guard. Instead, the Court held there was 'no overlap' between the two regulations because they were aimed at different purposes. . . . This difference in purpose prevented preemption, even though it left Huron with the unattractive option of making substantial modifications to its vessels' Coast Guard-approved boilers or avoiding the Port of Detroit." (citing Huron Portland Cement Co. v. City of Detroit, 362 U.S. 440 (1960))); *id.* at 84 ("At the policy level, then, there is reason for arguing that since the current Court will not find that a conflict between state and federal law '*will necessarily*,' arise, a different result [from *First Iowa* preempting a state law requiring a hydroelectric facility to get a state permit as a condition precedent to securing a federal permit under the Federal Power Act] would be reached in the merits." (citing First Iowa Hydro-Electric Coop. v. Fed. Power Comm'n, 328 U.S. 152, 164 (1946))).

200. Wiggins, *supra* note 83, at 43 (quoting Hines v. Davidowitz, 312 U.S. 52, 67 (1941)).

201. *See* Jordan, *supra* note 180, at 1171 ("Whether a state 'law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress . . . requires [an analysis of] the relationship between the state and federal law as they are interpreted and applied.'" (quoting Jones v. Rath Packing Co., 430 U.S. 519, 526 (1977))); *see also* Stabile, *supra* note 177, at 10 ("Federal legislative goals and purposes cannot be viewed as standing in a vacuum; instead they must be weighed against the interests the state has in enacting its legislation.").

202. *See* Jordan, *supra* note 180, at 1225 ("Under a purposive approach to the question, a court would then look beyond the statute's language and structure in order to determine what purpose or policy or underlying principle ought to be attributed to the provisions at issue."); *id.* at 1203–04 (discussing how courts "should consider relevant sources of information in addition to the statute's text, such as the law's legislative history and the circumstances surrounding the law's enactment" when trying to identify a law's purpose); *id.* at 1204 (Hart and Sacks posit "that in construing a statute to carry out its purpose, courts should take into account relevant overarching principles and policies and should ensure that the interpretation is in accord with any relevant 'policy of clear statement,' such as the premise underlying preemption that state laws should not be found preempted absent 'clear evidence' of congressional intent.").

federal law was enacted, Congress reasonably would have enacted such a provision.[203] Courts are increasingly willing to find obstacle preemption, perhaps because legislative purpose is often subject to interpretation and the analysis required to find obstacle preemption is becoming less rigorous.[204]

Scholars differ as to what must or should be shown to establish obstacle preemption. For Professor Wiggins, determining the existence of obstacle preemption is relatively simple—when a state law has the same purpose as a federal law, state law will more likely present an obstacle to the fulfillment of that federal law and, therefore, be preempted.[205] Professor Jordan argues, however, that the state and federal methods designed to achieve a shared goal must actually conflict.[206] Additionally, Professors Levy and Glicksman argue that since laws have many purposes,[207] less important purposes should not be used to support federal preemption of protective state laws[208] unless Congress provides an indisputable and clear signal of preemptive intent.[209] Regardless of

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203. *See id.* at 1225 ("While a court could not attribute to the statute a meaning that the words would not bear, the court would treat the statute as not only having an immediate purpose, but also a larger and subtler purpose in its relation to the legal system as a whole. Thus, a court would consider the context of the statute's enactment and inquire why, given the state of the law, a reasonable legislator would have enacted the provision.").

204. *See* William W. Buzbee, *State Greenhouse Gas Regulation, Federal Climate Change Legislation, and the Preemption Sword*, 1 SAN DIEGO J. CLIMATE & ENERGY LAW 23, 47 (2009) [hereinafter Buzbee, *Preemption Sword*] (describing "a growing 'obstacle preemption' jurisprudence where a direct conflict need not be shown for preemptive outcomes; rather, challenges must merely demonstrate that a state or local law strikes a different balance than federal law"). *But see* Li, *supra* note 44, at 1204 ("[T]he Court has not read the Constitution as an absolute bar to any state action that affects foreign affairs" and "the Court's preemption doctrine has increasingly favored state interests.").

205. *See* Wiggins, *supra* note 83, at 55 (saying "when state and national regulation are aimed at the same purpose the Court seems more willing to find the state statute obstructs federal law and is therefore unconstitutional"); *id.* ("The majority opinion in *Arco* [*Ray*] demonstrates again that the characterization of the state purpose remains very important in conflict preemption decisionmaking."). *But see* Gade v. Nat'l Solid Waste Mgmt. Ass'n, 505 U.S. 88, 103 (1992) ("In determining whether state law 'stands as an obstacle' to the full implementation of a federal law, 'it is not enough to say that the ultimate goal of both federal and state law' is the same . . . 'A state law also is pre-empted if interferes with the methods by which the federal statute was designed to reach th[at] goal.'").

206. *See* Jordan, *supra* note 180, at 1174 (State law can be preempted if it "hinders either the primary substantive purpose underlying the federal law or the secondary purpose of avoiding duplicative regulation." (quoting *Gade*, 505 U.S. at 103)).

207. *See* Richard E. Levy & Robert L. Glicksman, *Access to Courts and Preemption of State Remedies in Collective Action Perspective*, 59 CASE W. RES. L. REV. 919, 929 (2009) ("[M]ost federal laws have multiple purposes of varying degrees of centrality . . . [and] it is important to distinguish between the primary or principal purposes of a statute—those justifications that were central to a statute's adoption—and secondary purposes that might have been articulated during the legislative process.").

208. *See* Glicksman & Levy, *supra* note 175, at 610 ("[G]eneral references to minimizing regulatory burdens, protecting businesses, or balancing environmental protection and economic growth should not, standing alone, justify the conclusion that federal law precludes states from adopting a different balance that is more protective of the environment than the federal standard is.").

209. *See id.* at 642 ("The analysis in the [Ninth Circuit's] fuel additive case does not preclude Congress from preempting state regulation that would frustrate the secondary purposes associated with environmental legislation. It simply cautions courts not to find preemption based on conflicts with those purposes absent clear indication of congressional intent, preferably on the face of the statute."); *see also*

what scholars believe the showing must be to establish obstacle preemption, those who are more protective of state laws oppose preemption's increasing use to strike down state laws.[210]

There is little question that Congress has the power to preempt state law when acting within its constitutional limits.[211] When preemption occurs, however, it "strikes at the distribution of federal and state power in a federal system"[212] and, therefore, according to Professor Tribe, should not be taken lightly.[213] By preempting state law, Congress transforms a mixed federal-state regulatory area into one that is exclusively federal, either totally or partially depriving states of their pre-existing legislative authority.[214] When federal law

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Goxem, *supra* note 10, at 450 ("Pursuant to the decisions in *Pacific Gas* and *Silkwood*, all state and local regulation of implementation of an offsite plan should not be preempted. Rather a determination of whether a particulate state action is preempted is dependent upon an examination of the particular purpose behind each individual legislative action. In the alternative, when state and local governments are acting pursuant to their traditional police powers, courts should focus on whether there is a clear congressional intent to displace such action. This is true even though the action may constitute regulation of nuclear power safety.").

210. *See* Glicksman, *supra* note 194, at 183 ("If the only reason that a state reaches a different decision on the desirability of regulation is that the two levels of government assess comparative risks differently—because, for example, the state places a higher priority than the federal government does in addressing a particular form of market failure, as compared to alternative uses of government resources—conflict or obstacle preemption is not justified on the ground that state regulation would interfere with the achievement of federal objectives."); *see also Wyeth v. Levine*, 129 S. Ct. 1187, 1200 (2009) ("If Congress thought state-law suits posed an obstacle to its objectives, it surely would have enacted an express pre-emption provision."); William W. Buzbee, *Preemption Hard Look Review, Regulatory Interaction, and the Quest for Stewardship and Intergenerational Equity*, 77 GEO. WASH. L. REV. 1521, 1572 n. 237 ("[A] grant of authority to an agency to set standards 'did not include the authority to decide the pre-emptive scope of the federal statute because no such delegation regarding the statute's enforcement provisions is evident in the statute.'" (quoting Adams Fruit Co. v. Barrett, 494 U.S. 638, 649–50 (1990)).

211. *See* Schroeder, *supra* note 179, at 124 ("It is well established that within constitutional limits Congress may pre-empt state authority by so stating in express terms.").

212. Tribe, *supra* note 19, at 686 ("Preemption by the federal government of the states' power to regulate an activity strikes at the distribution of federal and state power in a federal system."); *see also* Hoke, *supra* note 172, at 752 ("As a normative matter, existing preemption jurisprudence warrants revision because it has eroded meaningful constitutional federalism as well as the political space available for civic republican activities."); *id.* at 714 ("Civic republicanism constructs a normative lens through which to measure the social and political costs of current preemption adjudication, and counsels an interpretive approach that promotes maximum preservation of state and local regulatory power."); Gardbaum, *supra* note 172, at 41 ("[B]y exercising its power of preemption, Congress can displace state law even where the latter is *not* in conflict with federal law" and "by exercising its preemption power, Congress may . . . [also] redistribute general legislative competence between itself and the states").

213. *See* Schroeder, *supra* note 179, at 143 ("Because the ultimate issue in preemption cases is so fundamental and important, the doctrines the Supreme Court has developed to resolve preemption controversies have been and will continue to be the subject of controversy."); *see also* Kenneth W. Starr, *Reflections on* Hines v. Davidowitz*: The Future of Obstacle Preemption*, 33 PEPP. L. REV. 1 (2005) ("For decades, the doctrine of preemption has been a fecund source of confusion and division."); Gardbaum, *supra* note 172, at 41 ("Congress's power of preemption, when exercised to the full, has a far more radical impact on state law than the automatic characteristic of federal supremacy.").

214. Gardbaum, *supra* note 172, at 41; *see also* Stabile, *supra* note 177, at 9 ("There are at least three identifiable principles that should underlie preemption analysis: (1) appropriate regard for federalism, which involves consideration of both the federal interest in Congress' substantive regulation

preempts state law it "kills off . . . an entire scheme of a particular community's law," a result Professor Hoke calls "jurispathic."[215] She finds this result troubling because it allows judges applying the preemption doctrine to overrule a law enacted by state legislators who, arguably, better understand the needs and desires of their constituents than unelected federal judges.[216] Thus, according to some, although Congress has the power to preempt, courts should rarely find preemption because it disrupts the delicate balance between federal and state power in our federal structure by eliminating one of the contributors to that balance.

In contrast, scholars who envision a cooperative federal-state regulatory regime[217] find this "jurisdictional line drawing" between federal and state governments pointless.[218] In the modern federal state, where law and reality

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and the states' interest in enacting their legislation and in preserving their spheres of power; (2) predictability; and (3) ease of administration.").

215. *See* Hoke, *supra* note 172, at 694 ("The shortcomings resulting from current preemption practice have a broader impact than that of fortifying the substantive injuries to the public that flow from misguided or weak national regulation . . . a ruling of federal preemption is inherently 'jurispathic,' it kills off one line, perhaps even an entire scheme, of a particular community's law." (quoting Robert Cover, *The Supreme Court, 1982 Term: Foreword–Nomos and Narrative*, 87 HARV. L. REV. 4, 40 (1983))).

216. *See* Hoke, *supra* note 172, at 694 ("The law slayed by a preemption ruling arises from the political and legal bodies that are both closest and most amenable to practical political efforts by average citizen.").

217. *See* Sandra Zellmer, *Preemption by Stealth*, 45 HOUS. L. REV. 1659, 1669 (2009) ("A dynamic, polyphonic view of federalism—a workable government where federal, state, tribal, and local authorities are appropriately matched with geographic and socioeconomic issues—should encourage stronger, more coherent and more cooperative forms of problem solving and leadership."); *see also* Tribe, *supra* note 19, at 687 (The *Merrill Lynch* Court "noted that 'the proper approach is to reconcile the operation of both statutory schemes with one another rather than holding one completely ousted.'" (quoting Merrill Lynch, Pierce Fenner & Smith v. Ware, 414 U.S. 117, 127 (1973))); Edward J. Larson, *Building a Nation from Thirteen States: The Constitutional Convention and Preemption*, 33 PEPP. L. REV. 7, 14 (2005) (According to Madison's Convention notes in support of a proposal to have state legislatures appoint Senators: "[W]hatever power may be necessary for the Nat[iona]l Gov[ernmen]t a certain portion must necessarily be left in the States. It is impossible for one power to pervade the extreme parts of the U.S. [sic] so as to carry equal justice to them. The State Legislatures also ought to have some means of defending themselves ag[ain]st encroachments of the Nat[iona]l Gov[ernmen]t. In every other department we have studiously endeavored to provide for its self-defense. Shall we leave the States alone unprovided with the means for this purpose? And what better means can we provide than the giving them some share in, or rather to make them a constituent part of, the Nat[iona]l Establishment[?]).").

218. *See* Robert B. Ahdieh, *From Federalism to Intersystemic Governance: The Changing Nature of Modern Jurisdiction*, 57 EMORY L.J. 1, 17 (2007) ("The world is growing more complex, and regulation is following suit. In particular—and perhaps most relevant for present purposes—the ensuing articles paint a picture in which jurisdictional line-drawing is increasingly futile."); *id.* ("The emergence of an array of new actors; heightened mobility; increasing external effects driven by new and varied technologies, and a litany of related trends have collectively undermined the meaning—and perhaps the singular utility—of boundaries."); *see also* David E. Adelman & Kirsten H. Engel, *Adaptive Environmental Federalism*, *in* PREEMPTION CHOICE: THE THEORY, LAW, AND REALITY OF FEDERALISM'S CORE QUESTION 277, 296 (William W. Buzbee ed., Cambridge University Press 2009) ("As a general matter . . . efforts to identify the optimal level of government for federal regulation are misconceived.").

are constantly changing in response to new social, political, and economic conditions,[219] power is "flattening"; the hierarchy between different levels of government is becoming less important as power is allocated and reallocated.[220] Coordination, not conflict, is what is called for between and among different levels of government,[221] with overlap the growing reality in law and regulation.[222] These scholars therefore argue the critical question is how to manage this jurisdictional overlap and federal-state interface effectively.[223]

The mismanagement of this fluid distribution of power between states and the federal government could cause serious "negative consequences," such as preventing a state from achieving its goals without justification.[224] To some, this possibility means that courts should proceed cautiously when faced with the potential of changing that power distribution.[225] It also means that, since

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219. *See* Ahdieh, *supra* note 218, at 17.

220. *Id.* at 24–25 ("In important respects, the articles herein can be read to tell a story of the flattening of power . . . a softening of the sharp edges of hierarchy in law and regulation. If not quite democratic, the allocations of power described herein are at least more dispersed."). To Ahdieh, this phenomenon leads to new "operative strategies." *Id.* at 24 ("In a coordination game dynamic, the operative strategic need is to align expectations, rather than alter incentives."); *id.* at 25 ("A flattening of power, and resulting need for regulatory institutions to engage in persuasion to advance their aims, follows quite naturally from the generalized sense of complexity . . . ."). Reflecting this flattening, Resnik sees states interacting among themselves, "resulting in individual localities or states adopting specific measures." Judith Resnik, *Foreign as Domestic Affairs: Rethinking Horizontal Federalism and Foreign Affairs Preemption in Light of Translocal Internationalism*, 57 EMORY L.J. 31, 86 (2007).

221. *See* Ahdieh, *supra* note 218, at 5 (identifying "four facets of modern jurisdiction," what Ahdieh calls "intersystemic governance," reflected in "regulatory design" as "*complexity* and *overlap*," "dynamic of *coordination*," "patterns of *dependence* among regulatory institutions," and "a growing role of *persuasion*, rather than hierarchical mechanisms of control"); *id.* at 18 (discussing the need for coordination given "the patterns of jurisdictional overlap" and how "bargains" or what Mark Tushnet calls "political deals," "define federalism in the United States," and how these "bargains, at heart, are coordination games"); *see also* Resnik, *supra* note 220, at 42 ("Despite the ideology of each state acting alone as one of fifty within the United States, the practice is increasingly coordinated, in part in response to translocal businesses and NGOs, lobbying across jurisdictions, and to a media similarly unleashed from territorial constraints."); *id.* at 87–88 (discussing "the degree to which local and state actors work in conjunction with their counterparts as they shape and are in turn affected by policies that transcend the boundaries of their jurisdictions").

222. *See* Ahdieh, *supra* note 218, at 17; *see also* Adelman & Engel, *supra* note 218, at 277 (describing the "current system of environmental federalism" as "a dynamic one of overlapping federal and state jurisdiction").

223. *See* Robert A. Schapiro, *Federalism as Intersystemic Governance: Legitimacy in a Post-Westphalian World*, EMORY L.J. 115, 120–21 (2007) [hereinafter Schapiro, *Federalism as Intersystemic Governance*] ("Federalism is a system in which there are multiple nodes of political authority within a country. Polyphonic federalism focuses on the creative overlap of these different legal regimes.").

224. *See* Stabile, *supra* note 177, at 10 ("When the preemption balance is struck incorrectly, negative consequences result. In some cases, there will be an improper interference with a state sphere of authority, preventing the state's attainment of its goals without appropriate justification."). For additional arguments why preemption is a bad idea, see *supra* notes 60–69 and accompanying text.

225. *See* Hoke, *supra* note 172, at 763 ("Because a judgment of federal preemption implicates federal structure and civic republican activities, it is appropriate to constrain and direct judicial interpretation of allegedly preemptive federal statutes . . . these vital capabilities must be *channeled* to protect republican federalism and participatory politics.").

this is "a field of constitutional law in which policy and law are inextricably intertwined,"[226] any redistribution of that balance will cause friction.[227]

Despite these scholarly arguments and Professor Buzbee's statement that "the federal versus state choice is, in a sense, the wrong question because interaction and mutual learning has been the norm in most areas of federal risk, product, and environmental regulation,"[228] it is still a choice that courts grapple with when deciding whether federal law preempts a state law or course of action. Determining whether state law supplements federal law, rather than interferes or conflicts with it, can be very difficult.[229] Given the indeterminacy of the answer to the factual question whether a federal law preempts a state law, the arguments among legal scholars are shedding little light on the answer, except possibly those scholars who suggest that the courts proceed with caution because of the federalism consequences of their actions.

Concern about disabling otherwise legitimate state legislation and disrupting the delicate balance between state and federal authority is particularly sharp in the environmental law context. Environmental problems are typically "multifaceted" and multi- or inter-jurisdictional[230] and harms can

226. Schroeder, *supra* note 179 at 143.

227. *See* Gardbaum, *supra* note 172, at 62 ("The existence of concurrent powers necessarily presumes a certain amount of unavoidable inconvenience and friction when they are both exercised. Supremacy is designed to do away with the most extreme form of such friction—namely, irreconcilability—but not all forms."). Perhaps for this reason, Professor Chemerinisky recommends looking at preemption through the lens of federalism, in which federalism is seen as empowering different levels of government to deal effectively with society's ills. *See* Chemerinsky, *supra* note 180, at 74 (proposing "an alternative thesis with regards to preemption and federalism . . . [namely] federalism as empowerment"); *id.* at 75 ("In this way, I think, we achieve the optimal level of federalism, empowering government at all levels to deal with society's serious social problems.").

228. William W. Buzbee, *Preemption Hard Look Review, Regulatory Interaction, and the Quest for Stewardship and Intergenerational Equity*, 77 GEO. WASH. L. REV. 1521, 1544 (2009) [hereinafter Buzbee, *Hard Look*]. *But see* Robert A. Schapiro, *From Dualism to Polyphony*, *in* PREEMPTION CHOICES: THE THEORY, LAW, AND REALITY OF FEDERALISM'S CORE QUESTION 33 (William W. Buzbee ed., Cambridge University Press 2009) [hereinafter Schapiro, *Polyphony*] ("[P]reemption is fundamentally a question of institutional choice" about whether the federal government should be "the sole regulator in a particular area or should state and federal laws operate concurrently," which level can "promise the best regulatory design," which design (unilateral or cooperative) should Congress or federal agencies select, "and how should courts discern this regulatory choice in specific situations.").

229. *See* Zellmer, *supra* note 217, at 1661 ("One can hardly dispute that preemption issues are complex and highly nuanced, involving both federalism and separation of powers—congressional prerogatives, agency competence, and judicial deference—as well as efficiency, equity, victim compensation, and cost-shifting objectives."); *see also* Stabile, *supra* note 177, at 80 n.313 ("Less charitably, it might be countered that judicial determination of when federal law preempts state law means that preemption analysis will be subject to the Supreme Court's 'vacillating perspective on federalism.'" (quoting William W. Bratton, Jr., Note, *The Preemption Doctrine: Shifting Perspectives on Federalism and the Burger Court*, 75 COLUM. L. REV. 623, 626 (1975))).

230. Professor Robert Shapiro describes contemporary federalism in this country as "layered governance." Schapiro, *Federalism as Intersystemic Governance*, *supra* note 223, at 115 (describing "contemporary federalism" in the United States as "layered governance"). *But see* Schapiro, *Polyphony*, *supra* note 228, at 42 ("Political scientists have debated whether a 'layer cake' or a 'marble cake' best reflects federalism. However, either of these spatial/gastronomic metaphors envisions state and federal regulation as inhabiting separate regions. It is difficult to imagine two things occupying the same space

be caused by a variety of market and regulatory failures, which "arise along numerous dimensions and at different scales."[231] As a result, the wherewithal to attend to environmental problems generally occurs at more than one level of government, depending on the mix of political, economic, and environmental factors involved.[232] Therefore, the consequences of preempting a state environmental law are particularly severe as it removes a critical layer of government implementation and enforcement of environmental norms.

B. Judicial Presumptions and Congressional Intent

This section examines two predominate features of the preemption doctrine: the judicial presumption disfavoring preemption and the importance of congressional intent.[233] The application of each involves wide swathes of judicial discretion, making any particular outcome of a preemption case highly unpredictable.

1. A Judicial Presumption Against Preemption

The presumption against preemption of state law is a "consistent overarching" doctrinal principle in preemption cases, amounting to a "substantive canon disfavoring the result of preemption."[234] The underlying premise for the presumption is that Congress does not intend to preempt state law.[235] As the Supreme Court said in *Medtronic Inc. v. Lohr*, "because States

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without combining into a new undifferentiated whole. The choice is layer cake, marble cake, or stew."). He calls the concurrent exercise of authority "polyphonic federalism." *See* Schapiro, *Federalism as Intersystemic Governance, supra* note 223, at 120 ("Polyphonic federalism emphasizes that, as a descriptive matter, states and the federal government in fact exercise concurrent authority.").

231. Adelman & Engel, *supra* note 218, at 278 (explaining that the authors' approach "rejects the static matching principle for an adaptive model" because environmental problems are "multifaceted; [s]ources of environmental harm may be the manifestation of numerous failures, market as well as regulatory, that arise along numerous dimensions and at different scales"). The authors are particularly interested in what adaptive models can teach about "the benefits of a more dynamic federalism, as well as the appropriateness of an adaptive approach to federalism in managing a highly complex and changing system such as the natural environment and the human impacts upon it." *Id.* at 279 (explaining the authors' interest in determining "whether the strategy embodied in adaptive systems adds additional support for arguments for over-lapping federal and state jurisdictions and against static attempts to carve out separate state and federal regulatory roles").

232. *See* Adelman & Engel, *supra* note 218, at 278.

233. *See* Glicksman & Levy, *supra* note 175, at 585 (calling these two features "foundational premises" of traditional preemption doctrine).

234. *See* Buzbee, *Hard Look, supra* note 228, at 1563; *id.* at 1570–71 ("As a matter of Supreme Court doctrine, however, the decided weight of preemption and administrative law precedents favors the presumption in favor of preserving 'state-created rights.'"); *see also* Schroeder, *supra* note 179, at 122 ("In dealing with [express preemption cases], the Supreme Court frequently articulates one particular principle or canon of statutory interpretation. This is the 'presumption against preemption,' which is designed to implement respect for federalism values."); Buzbee, *Preemption Sword, supra* note 204, at 48.

235. *See* Medtronic Inc. v. Lohr, 518 U.S. 479, 485 (1996) ("In all pre-emption cases, and particularly in those in which Congress has 'legislated . . . in a field which the States have traditionally occupied, we 'start with the assumption that the historic police powers of the States were not to be

are independent sovereigns in our federal system, we have long presumed that Congress does not cavalierly pre-empt state-law causes of action."[236] The presumption thus originates in federalism concerns[237] about preserving state "sovereign authority to regulate for the well-being of their people, even if the Constitution contemplates that state power will be restricted in some ways and that federal law will be supreme in case of a conflict."[238] In this view, federal laws like the AEA are merely "interstitial," acting against a "backdrop" of state law and policies.[239] Accordingly, courts use the presumption against preemption because they should not infer congressional intent to displace state authority without serious consideration.[240]

The presumption against preemption is particularly strong when "Congress has legislated . . . in a field which the states have traditionally occupied."[241] Thus, the presumption against preemption is robust when the basis for state action is its traditional police powers.[242] However, courts will

superseded by the Federal Act unless that was the clear and manifest purposes of Congress.'"); *see also* Adams Fruit Co. v. Barrett, 494 U.S. 638, 650–51 (1990) ("[F]ederal rights should be regarded as supplementing state-created rights unless otherwise indicated."); Glicksman & Levy, *supra* note 175, at 589–90.

236. *Medtronic Inc.*, 518 U.S. at 485.

237. *See* Glicksman & Levy, *supra* note 175, at 589 ("The presumption against preemption is based principally on federalism concerns, but we [the authors] think that those federalism principles are reinforced by principles of textualism in statutory construction."); *id.* at 590 ("[Textualism] ensures that Congress makes a conscious choice to displace state regulatory authority, a choice that has been approved through the constitutional process of bicameralism and presentment. This ensures in turn that the political safeguards of federalism are operative.").

238. *Id.* at 589 (calling this concern "[a]n essential principle of [American] federalism"); *see also* Alden v. Maine, 527 U.S. 706, 748 (1999) ("Although the Constitution grants broad powers to Congress, our federalism requires that Congress treat the States in a manner consistent with their status as residuary sovereigns and joint participants in the governance of the Nation."); Rice v. Sante Fe Elevator Corp., 331 U.S. 218, 241 (1947) (Frankfurter, J., dissenting) ("Suffice it to say that due regard for our federalism, in its practical operation, favors survival of the reserved authority of a State over matters that are the intimate concern of the State unless Congress has clearly swept the boards of all State authority, or the State's claim is in unmistakable conflict with what Congress has ordered.").

239. *See* Hoke, *supra* note 172, at 752 ("Federal law is generally interstitial in its nature . . . . Federal legislation, on the whole, has been conceived and drafted on an *ad hoc* basis to accomplish limited objectives. It builds upon legal relationships established by the states, altering or supplanting them only so far as necessary for the special purpose. Congress acts, in short, against the background of the total *corpus juris* of the states in much the way that a state legislature acts against the background of the common law. . . ."); *see also* Wiggins, *supra* note 83, at 28 n.101 (saying that state-supportive presumption "also 'comports with the basic conception of federal law as interstitial in nature'" (quoting L. TRIBE, AMERICAN CONSTITUTIONAL LAW 384 n.1 (1978))); Schapiro, *Federalism as Intersystemic Governance*, *supra* note 223, at 122 (quoting Justice Kennedy as saying "in creating federalism, the framers 'split the atom of sovereignty'"); U.S. Term Limits, Inc. v. Thornton, 514 U.S. 779, 838 (Kennedy, J., concurring).

240. Glicksman & Levy, *supra* note 175, at 589.

241. *Medtronic*, 518 U.S. at 485; *see also* Buzbee, *Hard Look*, *supra* note 228, at 1564.

242. *See* Schroeder, *supra* note 179, at 123 ("Sometimes the Supreme Court also notes that the presumption is especially strong when the state law at issue amounts to an exercise of the states' traditional powers to protect the public health, safety, and morals."); *see also* Zellmer, *supra* note 217, at 1666; Buzbee, *Hard Look*, *supra* note 228, at 1572 (citing Solid Waste Agency of N. Cook Cnty v. U.S. Army Corps of Eng'rs, 531 U.S. 159, 174 (2001), as an example of the Court rejecting a federal

not apply the presumption to sustain state law in the face of conflicting federal law where doing so would be contrary to the goals of national uniformity or would disrupt a "careful regulatory scheme established by federal law."[243] Thus, even in areas of traditional state regulation, if the state law conflicts with some other federalism norm, like the achievement of national uniformity, the presumption will not protect it from preemption.

Because of the importance of states in our federal structure, the presumption against preemption can only be overcome by clear evidence of contrary congressional intent.[244] For example, contrary intent can be found in a

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assertion of power to protect isolated wetlands because "federal law was impinging on state land-use regulation, an area of traditional state authority"); Hirsh, *supra* note 175, at 551 ("[T]he countervailing factors [in *Florida Lime & Avocado Growers*] were a tradition of local regulation of foodstuffs for market, and the absence of a finding of an important national interest (such as the freedom of interstate commerce from unjustifiable state discrimination) which would require the preemption of the state regulation."); *id.* at 552 (One reason the *Parker* Court did not preempt state regulation was that the "federal Act authorized the Secretary to cooperate with state programs. This authority indicated that Congress contemplated the existence of state programs consistent with the federal Act" (citing Parker v. Brown, 271 U.S. 341 (1943))). *But see* Hirsh, *supra* note 175, at 551 (discussing Cloverleaf Butter Co. v. Patterson, 315 U.S. 148 (1952), and saying the Court rejected state arguments that state cooperation with federal officials was not impeding federal efforts, state inspectors filled inspection gap created by too few inspectors and therefore supplemented incomplete federal inspections, and state seizure of product only effective way to protect butter's purity where visual inspections more effective than infrequent federal lab tests).

243. Zellmer, *supra* note 217, at 1707–08 (quoting United States v. Locke, 529 U.S. 89 (2002), and arguing that giving broad effect to a savings clause in the Ports and Waterways Safety Act would "disrupt national uniformity" and finding "the presumption against preemption inapplicable when the state regulates activities marked by a history of substantial federal presence, such as maritime law"); *see also* Michael S. Greve, *Federal Preemption: James Madison, Call Your Office,* Symposium, 33 PEPP. L. REV. 77, 88 (2005) ("The logical extension of that basic insight . . . is to afford federal statutes broad preemptive force where such statutes are demonstrably targeted to curtail the federalism risks that alarmed the Framers–in particular, the risk of interstate exploitation and interferences with interstate commerce."). *But see* Pac. Merch. Shipping Ass'n v. Goldstene, 639 F.3d 1154 (9th Cir. 2011) (holding that California regulations requiring oceangoing vessels near the coast to switch to low-sulfur fuels were not preempted by the federal Submerged Lands Act and rejecting an argument that presumption against preemption should not apply where there is a long history of federal regulation). The *Pacific Merchant* court was persuaded by *Wyeth v. Levine*, 555 U.S. 555 (2009), where the Supreme Court rejected such a claim despite a long history of federal regulation given the "historic presence of state law" in the field. *Pac. Merch.*, 639 F.3d at 1166–67. The court also noted states "have long sought to protect their own residents from the undisputedly harmful effects of air pollution and other firms of environmental harms." *Id.* at 1167. However, the shipping association filed a petition for certiorari filed June 23, 2011 on grounds that the Supremacy and Commerce Clauses bar California's extraterritorial exercise of its police powers and the federal Submerged Lands Act preempts state regulation and limits the state's seaward boundary to three geographical miles from coastline. *See U.S. Supreme Court Asked to Review State's Maritime Fuel Use Regulations*, Env't. Rep. Online (BNA) No. 42 at 1544 (2011).

244. *See* Jordan, *supra* note 180, at 1227 ("Effectuating a presumption against preemption means that the analysis must be approached from the perspective that the assumption must be overcome by clear evidence of congressional intent: a 'silent implication' simply would not suffice."). In environmental preemption cases, courts look at the strength of the federal law's purpose. *See* Glicksman & Levy, *supra* note 175, at 585 (The "critical question" for the court's preemption analysis in an environmental case "is whether, in a particular case, the congressionally declared purposes of federal environmental law provide a sufficiently strong justification to overcome the presumption."); *see also* Buzbee, *Hard Look*, *supra* note 228, at 1563–64 ("[S]tart with the assumption that the historic police powers of the States [a]re not to be superseded by the Federal Act unless that was the clear and manifest

clear congressional statement of preemptive intent or a clear delegation of preemptive power to an agency.[245] Professor Buzbee likens this clear statement requirement to "hard look review" of agency decision making, since it serves a similar "analytical function of requiring heightened political burdens of clarity and justification."[246] In the case of overcoming the presumption against preemption, the burden is placed on Congress to legislate its intent clearly and courts will look closely to see if that burden has been met.

How a court uses the presumption is dependent on how it construes "the proper balance of federal and state regulatory power over a given subject matter."[247] According to Professor Wiggins, a court should give heavy weight to the presumption unless there is a "persuasive reason[]" to do otherwise, such as when the subject area being regulated "permits no other conclusion" than to favor federal regulation or Congress has explicitly "ordained" federal regulation.[248] Professor Resnik would agree but for a different reason. The

purpose of Congress." (quoting Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947))). The presumption against preemption also plays a role in interpreting statutory purpose by, providing a reason to distinguish between primary and secondary statutory purposes. *See* Levy & Glicksman, *supra* note 207, at 929 (noting that characterizing statutory purposes as primary or secondary "may be disputed," but the distinction has been drawn "to underscore the basic point that the sovereign interests of the states are entitled to respect and one way in which that respect is manifested is in the consistent application of a strong presumption against preemption"). On the topic of what to do when a statute's purpose is unclear, see *id.* at 929 (discussing the importance of maintaining state remedies in the face of federal preemption). *See also* Jordan, *supra* note 180, at 1226 ("Under the purposive approach as conceived by Hart and Sacks, when doubt still remains as to the [statute's] purpose . . . a court may resort to an appropriate presumption drawn from some general policy of law.").

245. *See* Buzbee, *Hard Look*, *supra* note 228, at 1564 ("Cases embracing the presumption against preemption look for a clear statement of preemptive legislative intent or a clear delegation to an agency of power to preempt, but they do not instruct agencies how, procedurally, they must assert preemptive effect."); *see also* Gardbaum, *supra* note 172, at 55 ("[W]hether Congress has the enumerated power to abrogate state immunity under the Commerce Clause as well as under the Fourteenth Amendment's enforcement power, its rule of express textual abrogation has been continuously affirmed under both powers."); Greve, *supra* note 243, at 88–89 ("Nothing in federalism's constitutional architecture warrants a judicial presumption in favor of the federal government. In fact, in these sorts of contexts, a 'presumption against preemption' and a 'clear statement rule' look like sensible ways of approximating the logic of the constitutional, enumerated powers architecture.").

246. Buzbee, *Hard Look*, *supra* note 228, at 1563; *see also* Glicksman & Levy, *supra* note 175, at 589 ("The presumption against preemption should be understood as a drafting principle or as a quasi-constitutional clear statement requirement."); Hoke, *supra* note 172, at 760–61. (discussing the "presumption disfavoring preemption" and saying that the Court's justifications for the presumption "include the desire for 'assurance that the federal-state balance will not be disturbed unintentionally by Congress or the courts' and the need to 'prevent[] Congress from using ambiguous statutory intent to conceal its failure to accommodate competing interests bearing on the federal-state balance of power'"). *But see id.* at 761 (criticizing the "clear statement rule" because the Court has failed to "elaborate[] in conventional evidentiary terms the burden for demonstrating a clear congressional statement of preemptive intent"). Hoke also criticizes the clear statement rule because it is not "defensible from the standpoint of larger jurisprudential theory, and should not be embraced merely because of its instrumental value in achieving even vital substantive outcomes." *Id.* at 762.

247. *See* Wiggins, *supra* note 83, at 30.

248. *See id.* ("The state-supportive presumption should figure heavily in deciding occupation preemption cases, since 'federal regulation of a field of commerce should not be deemed preemptive of state regulatory power in the absence of persuasive reasons – either that the nature of the subject matter

problem, according to Resnik, is that "the *law* of federalism" has not changed to "correspond to the transformation in the landscape of federalism";[249] a landscape that is increasingly "permeable" due to "seepage."[250] In this changing federalism landscape, states and local communities "engage in robust multi-faceted discourse" with each other and with foreign nations that "compete[s] with and lessen[s] the hegemony of the national government."[251] Because Resnik sees jurisdictional boundaries as "fragile,"[252] she urges courts to proceed with caution when they are inclined to invalidate a state or local initiative and to require exacting proof of specific and immediate harm before doing so.[253] The congressional presumption against preemption should play a more definitive role, but perhaps because of the difficult federalism questions that are implicated in any preemption decision,[254] courts have used the presumption erratically, lessening its use as a bright line interpretative rule.[255]

2. Determining Congressional Intent

Congressional intent is the "'touchstone' in every preemption case."[256] Courts discern evidence of intent from traditional tools of statutory interpretation, as well as from the circumstances in which the statute was enacted, and its legislative history.[257] Regardless of whether the type of

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permits no other conclusion, or that the Congress has unmistakably so ordained.'" (quoting Fla. Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132, 142 (1963))).

249. Resnik, *supra* note 220, at 42–43.

250. *Id.* at 60.

251. *Id.* at 64.

252. *Id.* at 91.

253. *Id.* at 87.

254. *See id.* at 65 ("[U]ndergirding" this interpretative process are difficult "questions of separation of powers and judicial role as well as questions about the degree to which states ought to be centers of robust authority and potential sites of experimentation and variation.").

255. *See* Buzbee, *Hard Look*, *supra* note 228, at 1563 ("[A]lthough erratically used, it remains the most consistently stated interpretive guide for how courts should review claims of preemptive effect"); *see also* Buzbee, *Preemption Sword*, *supra* note 204, at 49 ("The bottom line is that the 'presumption against preemption' no longer is applied predictably or consistently."); Glicksman & Levy, *supra* note 175, at 589 ("The Court has often stated that there is a presumption against preemption, but its scope and force are not entirely clear."); Greve, *supra* note 243, at 83 ("[T]here is a real limit to the extent to which one can squeeze a coherent 'preemption law' out of the presumption lemon.").

256. Medtronic Inc. v. Lohr, 518 U.S. 479, 485 (1996); *see also* Schroeder, *supra* note 179, at 120 ("So the crucial question is now to interpret the content of the federal law and that depends on congressional intent."). *But see* Stabile, *supra* note 177, at 89 ("Just as many modern theories of statutory interpretation reject the notion that what courts should be doing in interpreting statutes generally is striving to follow legislative intent, legislative intent should not be determinative of the issue of whether federal law should preempt state law.").

257. *See* Zellmer, *supra* note 217, at 1667 ("[E]vidence of congressional intent would be gleaned from canons of statutory interpretation, the historic context of the statute in question, and legislative history."); *see also* Glicksman & Levy, *supra* note 175, at 587 ("The scope of the preemption provision presents an interpretative question that may be resolved using the traditional tools of statutory construction."); Tribe, *supra* note 19, at 688 (contending preemption is a matter of statutory construction). *But see* Zellmer, *supra* note 217, at 1668 (attributing to Professor Roderick Hills the thought that "preemption cases exhibit a type of 'faux textualism in which the Court invokes the alleged

preemption is express or implied, a court is saddled with trying to divine the intent of Congress.[258] According to Professor Schroeder, this can make the outcome of the court's review "far from certain."[259] Other factors, such as the circumstances giving rise to a case, could also make judicial attempts to determine congressional intent *ad hoc* and nuanced.[260] To some scholars, this type of inquiry is misplaced.[261]

Courts generally hold that for express preemption, congressional intent to preempt state law must be specific and a "statement of general purpose" is not sufficient to preempt state action that might interfere with the achievement of that purpose.[262] This is especially true when the state law being preempted is

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plain meaning of two wholly ambiguous words' in a statutory clause to reach antiregulatory results"). For Professor Hoke, this inquiry into legislative purpose should include an identification of the problems that Congress wanted to address by enacting the law. *See* Hoke, *supra* note 172, at 763.

258. *See* Glicksman & Levy, *supra* note 175, at 589 ("In sum, the purposes of federal regulation are implicated in all three categories of preemption. In express preemption, purposes are relevant to the congressional determination of whether and to what extent state authority should be preempted and to the judicial construction of the scope of ambiguous express preemption provisions. For field preemption, the purposes of federal regulation are relevant to determining whether the field has been occupied and defining the scope of that field. Finally, the displacement of state authority in cases of conflict preemption depends upon a determination that state regulation stands as an obstacle to the accomplishment of federal purposes.").

259. Schroeder, *supra* note 179, at 119; *see also* Murphy & La Pierre, *supra* note 44, at 439 ("[T]he difficulty of deriving any fixed standards of preemption is compounded by the fact that the Court has used a broad range of terms, often imprecisely and inconsistently, to announce its determination that state law is superseded. At the same time, while the Court's general views of the appropriate bounds of federal and state authority have undergone significant changes, it has purported to apply the same 'tests' of preemption."); Stabile, *supra* note 177, at 86 n.328 ("Even if one accepts the notion that preemption should be an exercise in determining congressional intent, that would not compel the conclusion that preemption must be dealt with expressly. That argument assumes that the final version of the statute reflects some coherent notion of the intent of the body of Congress. Some commentators would argue that it does not, suggesting that legislation is a product of public choice theory.").

260. *See* Hirsh, *supra* note 175, at 520 ("The need for focusing on these specifics [relevant statutory provisions, the matters they regulate, and the circumstances giving rise to the case] means that the Court's preemption decisions are largely based on ad hoc considerations, especially on the exact statutes in question."); *see also* Wiggins, *supra* note 83, at 24 ("Our prior cases on pre-emption are not precise guidelines in the present controversy, for each case turns on the particularities and special features of the federal regulatory scheme in question." (quoting City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624, 638 (1973))); Gardbaum, *supra* note 172, at 59 n.90 (What Congress says when it "speak[s] to the issue of preemption in the statutory text" may "not be 'clear' or 'plain,'" in which case courts have the duty of interpreting the ambiguity.").

261. *See* Stabile, *supra* note 177, at 89 n.335 ("It is submitted that the Supreme Court abdicates its duty as arbiter of the federal system when it makes the test of preemption the intent of Congress . . . . First, it is questionable whether the action of Congress should be allowed to conclusively preclude state action in any given area . . . . It is equally doubtful whether Congress should have the sole power . . . . The framers intended the Supreme Court, not the Congress, to determine where the demands of federalism should require the line to be drawn." (quoting Harrop A. Freeman, *Dynamic Federalism and the Concept of Preemption*, 21 DEPAUL L. REV. 630, 638 (1972))).

262. *See* Baum, *supra* note 77, at 679 ("A statement of general purpose does not demonstrate a congressional intent to preempt any state action that might hamper the achievement of that purpose." (citing Commonwealth Edison Co. v. Montana, 453 U.S. 609, 633 (1981) (finding that the Power-Plant and Industrial Fuel Use Act of 1978's congressional objective to "encourage and foster great use of coal" not reflective of intent to preempt all state action having adverse impact on coal use))); *see also*

within a state's traditional regulatory power.[263] However, even when Congress appears to specifically preempt state action, problems arise due to Congress's difficulties in drafting precise and enduring preemption provisions.[264] When Congress writes an express preemption provision, it does so with "the then-existing social and legal landscape in mind."[265] A carefully drafted preemption provision may not work well, however, when the circumstances that provoked it have changed, [266] such as changes in views about the appropriate federalism

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Shattuck, *supra* note 17, at 265 ("The pressure on legislatures to discharge their responsibility with care, understanding and imagination should be stiffened, not relaxed. Above all, they must not be encouraged in irresponsible or undisciplined use of language. In the keeping of legislatures perhaps more than any other group is the wellbeing of fellow men. Their responsibility is discharged by words. They are under a special duty therefore to observe that 'Exactness in the use of words is the basis of all serious thinking. You will get nowhere without it.'" (quoting Justice Frankfurter, *Some Reflections on the Reading of Statutes*, 47 COLUM. L. REV. 527, 246 (1947))); Puerto Rico Dep't of Consumer Affairs v. ISA Petroleum Corp., 485 U.S. 495, 501 (1988) ("Without a text that can . . . plausibly be interpreted as *prescribing* federal pre-emption it is impossible to find that a free market was mandated by federal law."); Glicksman, *supra* note 194, at 186 (discussing how Congress can specifically delegate preemptive power to a federal agency, but "the courts should not find preemption unless the agency has clearly exercised that power"); Jordan, *supra* note 180, at 1227 ("[A] court would approach the analysis from the perspective that, '[s]o long as full scope can be given to the amendatory legislation without undermining non-conflicting State laws, nothing but the clearest expression should persuade [the court] that the federal Act wiped out . . . State requirements deeply rooted in their laws.'" (quoting Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 245 (1947) (Frankfurter, J., dissenting))); Nishimura-Paige, *supra* note 81, at 1032 ("The Court [in *Commonwealth Edison*] refused to equate general policy statements encouraging the use of coal with an intent to preempt all potentially adverse state legislation.").

263. *See* Tribe, *supra* note 19, at 691 ("[W]here the subject is traditionally 'local' and the states' interest in retaining significant authority to regulate is thus greater, total federal preemption will not be inferred in the absence of especially plain congressional intent to bar state authority over the same subject matter.").

264. *See* Stabile, *supra* note 177, at 2 (It is difficult for Congress to draft "satisfactory preemption provisions . . . [and] [o]ften, Congress' desire to achieve quite legitimate goals may result in preemption language that is overinclusive, operating to prevent the attainment of important state interests even when no federal goal is advanced by preemption."); *see also* Robert R. Gasaway, *The Problem of Federal Preemption: Reformulating the Black Letter Rules*, 33 PEPP. L. REV. 25, 28–29 (2005) ("[T]here are fifty sovereign States that might potentially infringe the policies of Congress or the Executive Branch," increasing exponentially the complexity for a Congress attempting to frame "meta laws restricting state lawmaking."). *But see* Glicksman, *supra* note 194, at 178 ("Congress is fully capable of making such intent explicit.").

265. Stabile, *supra* note 177, at 2; *see also id.* at 89–90 ("Even assuming Congress' intent about the general contours of a preemption provision can be accurately and reliably ascertained, it is clear that Congress did not and could not have anticipated the circumstances in which preemption claims have arisen under many of the statutes containing express preemption provisions."); *id.* at 89 ("[F]ocusing on intent fixes the point of reference at the time Congress was enacting legislation, thus limiting the inquiry to the problems Congress was then addressing and the times in which it was acting").

266. *See id.* at 2 ("[A]ny express preemption provision is drafted with a particular set of problems . . . in mind. The problems and landscape change dramatically over time, yet the express preemption provision remains largely fixed."); *id.* at 30 ("Congress cannot make a comprehensive and accurate determination at the time it enacts legislation regarding the appropriate breadth of that statute's preemptive reach."); *see also* Schroeder, *supra* note 179, at 135 ("One particularly vexing problem arises when an older federal statute containing an express preemption clause confronts regulatory issues that were unanticipated at the time of the federal enactment."); Gasaway, *supra* note 264, at 30 ("No legislature can envision the full effects of ordinary laws; it is especially impossible for a legislature to

balance.[267] Thus, even when Congress has expressly stated its intent on preemption of state law, the clear statement rule may not help when the context in which that statement was made changes.

Despite the clear statement rule, some courts have implied preemption when Congress has only considered the idea of preemption.[268] However, many scholars oppose the idea of implied preemption in cases of congressional inaction.[269] They contend implied preemption creates excess regulatory uncertainty [270] and results in adverse consequences, such as giving too much power to private entities and courts.[271]

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pre-envision the need for preemptive laws; and it is even more unrealistic to expect a legislature to pre-interdict state action that occurs simultaneously on fifty fronts, and that, as a matter of hydraulic politic pressure, will center in those States most opposed to federal policies. Likewise, a divided federal legislature cannot possibly negate, after-the-fact, all of the intrusions one expects from fifty quasi-independent and potentially hostile sovereigns.").

267. *See* Stabile, *supra* note 177, at 80 ("An express preemption provision written with one set of conditions in mind may not work well when the conditions to which it is being applied change."); *id.* ("Static statutory language can not [*sic*] easily adapt to such a change.").

268. *See id.* at 6; *see* also Ark. Elec. Coop. Corp. v. Ark. Pub. Serv. Comm'n, 461 U.S. 375, 384 (1983) ("A federal decision to forego regulation in a given area may imply an authoritative determination that the area is best left *un*regulated, and in that event would have as much preemptive force as a decision *to* regulate"). *But see* Gardbaum, *supra* note 172, at 59 ("Congress has no power to impliedly preempt the states."); Glicksman, *supra* note 194, at 186 (Some courts "have appropriately recognized a distinction between an agency's 'mere failure' to act and its affirmative decision that regulation at any level of government would be inappropriate."); *id.* ("Inaction alone thus represents only 'the *absence* of a real regulatory decision,' which should be afforded no preemptive effect." (quoting Balt. & Ohio R.R. Co. v. Oberly, 837 F.2d 108, 116 (3d Cir. 1988))); *Ark. Elec.*, 461 U.S. at 387 n.11 ("The relevant inquiry is not whether Congress authorized or expected [state] regulation, but whether it indicated by its own actions to *forbid* it.").

269. *See, e.g.*, Glicksman, *supra* note 194, at 178 ("A court should not assume that Congress wanted to preempt to avoid the adverse spillover effects of state regulation, prevent interference with federal goals such as uniformity, or prohibit the states from seeking a cleaner environment or less risk that the market would produce on its own.").

270. *See* Murphy & La Pierre, *supra* note 44, at 439 ("[T]he scope of the doctrine of implied preemption is uncertain. The Court must construe the state statute and its operation as well as the federal statute, and the interrelation of any two statutes may assume myriad forms ranging from direct conflict through to tangential interference to complementary coincidence.").

271. *See* Hoke, *supra* note 172, at 716 ("Private parties independently determine what aspects of state law hinder their interests and, under the weak standards for determining implied preemption, are permitted to achieve through litigation the preemptive impact that the political institution did not, and perhaps because of internal disagreement could not, reach. This substitution of judicial policymaking for political decision undermines democratic accountability and public decisionmaking at the national level, as well as the democratic process and regulatory space of states and localities."). The same problem arises in the administrative context, where an agency's inaction is construed by courts as foreclosing comparable regulation at the state level. *See* Glicksman, *supra* note 194, at 186 ("[A]n agency's failure to regulate has preemptive effect only where that failure 'takes on the character of a ruling that no such regulation [by any level of government] is appropriate or approved pursuant to the policy of the statute.'" (quoting Ray v. Atl. Richfield Co., 435 U.S. 151, 178 (1978))); *id.* at 187 ("[T]he courts should lend greater credence to an agency's determination that its inaction preempts state law if that determination is made during the course of a rulemaking proceeding, in which the agency invited and considered public comments than if it first asserts that its inaction preempts state law in the course of litigation." (citing United States v. Mead Corp., 535 U.S. 218, 226–27 (2001))). Professor Glicksman proposes applying the same clear statement rule that the courts apply to Congress to agency declarations so that only courts should only find agency preemption where there is a clear declarations of preemptive

One can hardly think of a clearer statement of congressional intent not to preempt than the inclusion of a saving clause in a statute. For example, the savings clause in the AEA[272] explicitly preserves a state's ability to use a variety of legislative, regulatory, and common law tools to protect the public health and wellbeing of its citizens.[273] Congress may include a savings clause to reflect its view of the comparative institutional competence and efficiency of the states and the federal government. On the other hand, a savings clause may indicate Congress's desire to achieve comprehensive regulation by allowing overlap.[274] Despite their apparent clarity, however, savings clauses embroil courts in the same task of divining legislative intent.[275]

Under traditional rules of statutory interpretation, Congress's act of saving state law should be indicative of congressional intent not to displace it[276] and should cause courts to be reluctant to disrupt the careful federalism balance Congress struck.[277] But, how courts treat statutory savings clauses is not cut and dry and, according to some scholars, can depend on whether the interest being regulated by the state constrains business interests.[278] For example,

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intent. *See id.* at 186 ("Unless the agency explicitly declares that its own decision not to regulate also bars states from doing so, the courts should not find conflict preemption based on interference with federal purposes.").

272. *See* Atomic Energy Act § 271, 42 U.S.C. § 2018 (2006) ("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."); § 274(k), 42 U.S.C. §2021(k) ("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."). *See also* Zellmer, *supra* note 217, at 1704 (arguing that the savings clauses found in sections 271 and 274(k) "played a role in the resolution of" *Pacific Gas*).

273. *See* Zellmer, *supra* note 217, at 1732 ("Savings clauses preserve the states' ability to use a variety of regulatory and common law tools to provide increased protection for their citizens and the environment over and above the federal regulatory floor.").

274. *See id.* at 1731.

275. *See* Stabile, *supra* note 177, at 85 n.328 ("[L]egislation simply reflects the conflicting interactions of interest groups; the resulting law sometimes reflects their private, selfish interest, and sometimes serves no purpose at all." (quoting WILLIAM N. ESKRIDGE, JR. & PHILIP P. FRICKEY, LEGISLATION: STATUTES AND THE CREATION OF PUBLIC POLICY, 49–56 (2006))).

276. *See* Zellmer, *supra* note 217, at 1733 ("Where Congress has included a savings clause, straightforward rules of statutory construction dictate that state laws and remedies related to the subject matter of the clause should not be displaced. If the clause does not strictly apply to the state law or activity in question, implied preemption arguments may still be raised to defeat the state law, but the savings clause should be seen as evidencing congressional intent *not* to occupy the field. Moreover, the savings clause should weigh against a blanket determination that state law poses an obstacle to the accomplishment of federal purposes."). *See also id.* at 1732 ("Statutory savings clauses have been included in many federal regulatory statutes in order to temper Congress's 'extraordinary power' to displace state laws." (quoting Gregory v. Ashcroft, 501 U.S. 452, 460 (1991))).

277. *See* Zellmer, *supra* note 217, at 1732 ("Ignoring explicit savings clauses or construing them unduly narrowly undermines congressional policy in the highly sensitive, politically charged area of federal-state relations. Conversely, giving savings clauses appropriate weight honors congressional choices, avoids regulatory gaps, fosters innovative measures to protect human health and the environment, and enhances institutional competency by empowering government at all levels to protect the public at appropriate scales.").

278. *See, e.g., id.* at 1731.

Professor Zellmer finds that if state regulations impose a burden on economic interests, then pro-business courts will be inclined to ignore a savings clause; if they do not, then those courts will likely give a savings clause full effect.[279] Therefore, local regulation of business interests is particularly vulnerable to preemption in recent years.[280] Given this trend, Vermont's law, which burdens an economic interest, may be vulnerable to preemption despite the savings clauses in the AEA.

IV. POLICY REASONS FAVORING AND DISFAVORING PREEMPTION

This Part examines policy arguments supporting and opposing preemption and, thus, provides the last piece of background information necessary to analyze whether the AEA preempts Vermont Act 160.

A. Why Preemption May Be a Good Idea

Avoiding collective action problems is one of the strongest rationales supporting federal preemption.[281] Additional rationales favoring preemption include the creation of economies of scale, the prevention of burdens on interstate commerce, the coordination of the management of interstate resources, and the creation of uniform national standards.

Collective action problems arise when states are motivated to act in furtherance of their individual interests to the detriment of the interests of other

279. *Id.* ("With the exception of certain agricultural practices, where states have imposed constraints on economic interests, statutory savings clauses have been given short shrift or even ignored. Conversely, in cases where state laws are less onerous on economic pursuits than federal regulation would be, prodevelopment interests have been upheld under the guise of saving state law. Despite the presence of savings clauses, progressive state regulatory programs have been even more vulnerable to judicial preemption than have state common law claims, particularly where the state, for whatever reason, was not a party to the litigation.").

280. *See id.* at 1703 ("In the Rehnquist and Roberts Courts, progressive state and local regulatory programs have been exceptionally vulnerable to judicial preemption despite the presence of statutory savings clauses. During the past decade in particular, such regulations have been struck down almost without exception whenever they would impose greater economic burdens on industry than those established by the federal regulatory floor. The recent trend, which began in the mid-1990s, has prompted some scholars to equate the modern day preemption doctrine with the Lochner Era of the early 1900s, where the Court employed an array of tools to strike down progressive state and local economic and social regulation."); *see also* Hoke, *supra* note 172, at 718 n.147 ("The judicial veto of legislative acts highlights preemption's threat to usher in a new *Lochner* era, supplying a doctrinal cover for judicial meddling with the policy decisions of elected representatives at all levels of government."). *But see* Zellmer, *supra* note 217, at 1700 (In *Wisconsin Public Intervenor v. Mortier*, 501 U.S. 597, 607–608 (1991), "the Rehnquist Court gave weight to the savings clause to afford room for local governments . . . to restrict or even prohibit aerial spraying in order to protect the health of their citizens.").

281. *See* Levy & Glicksman, *supra* note 207, at 929 ("[F]ederalism is a structural response to collective action problems among states," which "arise when individual states have incentives to act in a manner that is contrary to the interests of states as a collective, and transaction and enforcement costs would prevent an effective agreement among states to act collectively."); *see also* Glicksman & Levy, *supra* note 175, at 593 ("Under *McCulloch's* analysis, federal environmental regulation is most justified when collective action problems create incentives for states acting individually to regulate in ways that are contrary to the interests of the states as a collective.").

states or the nation,[282] such as transferring its regulatory burdens to other states.[283] When a state acts in its own self-interest, it might enact laws or regulations that protect its citizens, but potentially harm everyone else.[284] An example is the "Not-In-My-Backyard" (NIMBY) syndrome, where a state blocks the siting of facilities that benefit the public-at-large, but create environmental harms for that state.[285] Other collective action problems include transboundary pollution caused by a facility in one state that creates negative externalities in other states. Resource pooling,[286] where states share resources

282. *See* Victor Flatt, *The History of State Action in the Environmental Realm: A Presumption against Preemption in Climate Change Law?*, 1 SAN DIEGO J. CLIMATE & ENERGY L. 63, 67 (2009) ("[P]reemption in the environmental arena would, thus, be justified if and when 'collective action problems create incentives for states to act individually to regulate in ways that are contrary to the interests of the states as a collective.'"); *see also* Glicksman & Levy, *supra* note 175, at 592 ("Federal power is most appropriate when the cost-benefit analysis of state policymakers is distorted by collective action problems."); Robert L. Glicksman, *Climate Change Adaption: A Collective Action Perspective on Federalism Considerations*, 40 ENVTL. L. 1159, 1175 (2010) ("The exercise of federal authority is most justified in response to collective action problems that provide incentives for states to act in a manner that is inconsistent with the interest of the nation as a whole . . . . In other words, the federal action is necessary or justified when state regulation is unlikely to produce the optimal result, viewed from the perspective of the United States as a whole, because the incentives of individual states and the interest of the states as a collective run in different directions.").

283. *See* Levy & Glicksman, *supra* note 207, at 935–36 ("[C]eiling preemption is not ordinarily justified if the purpose of federal regulation is to prevent the export of health and safety risks to other states, because that kind of externality would tend to cause underregulation," but it "may be justified in one of two circumstances: (1) when states have incentives to export regulatory burdens, or (2) when states have incentives to overregulate an activity that exports benefits to other states."); *see also* Schapiro, *Federalism as Intersystemic Governance*, *supra* note 223, at 125 ("Scholars argue that states may seek to apply their laws to those not represented in their political systems. States might attempt to impose costly regulations on out-of-state entities that happen to do business in the states. States might also adopt regulatory schemes that have the practical effect of dictating standards to other jurisdictions . . . . Either situation presents the potential for political-process failures. Jurisdictions would be imposing regulatory costs on those not democratically represented in the polity.").

284. *See* Flatt, *supra* note 282, at 79 ("States will rarely use their power to create unique regulatory schemes, and when they do, they only do so when it is necessary to protect the health and well-being of their citizens—a state's most important role."). Flatt describes this as creating a commons problem. *See id.* at 67 ("Unfettered, such behavior would result in a state economic competition in which all states would create policies that initially might benefit their own citizens but, in the aggregate, hurt everyone—a 'commons' problem.").

285. *See id.* (This justification "also validates preemption of some state Not-In-My-Back-Yard (NIMBY) policies, which would restrict locations of environmental negatives when the benefits are important to everyone"); *see also* Glicksman & Levy, *supra* note 175, at 593–94 ("Thus, it is not surprising that the traditional justifications for federal environmental regulation reflect commonly understood collective action problems, including negative environmental externalities, resource pooling, the 'race to the bottom,' uniform standards, and the 'NIMBY' [] phenomenon."); *id.* at 608 ("[C]eiling preemption makes sense when federal environmental regulation responds to a NIMBY problem because stringent state regulation may have the purpose and effect of forcing environmentally damaging activities to locate somewhere else," as demonstrated by the Low Level Radioactive Waste Policy Amendments Act of 1985 (Pub. L. No. 99–240, 99 Stat. 1842 (1986)), the purpose of which is to prevent the forty-seven states without low level radioactive waste storage capacity "from unfairly burdening" the three states that have it "with the risks and costs created by the disposal of the entire nation's low level wastes.").

286. *See* Glicksman, *supra* note 282, at 1178 ("In the environmental context, resource pooling has the capacity to generate efficiencies in the collection and distribution of scientific and technical

like data collection systems, is another type of collective action problem, which may create an incentive for individual states to "free ride on the efforts of others."[287]

Thus, states' self-dealing and the unpopularity of certain types of activities, such as nuclear or hazardous waste storage facilities, may lead to states blocking such facilities, even though their siting creates positive spillover effects for other states. The loss of these positive spillover effects can negatively affect those states as well as the entire country's social welfare.[288] To Professor Pierce, the likelihood of a state's regulations creating positive and negative spillover effects is the defining issue for determining at what level of government regulations should take effect.[289] Following the logic of Professor Pierce's thinking would mean that state laws that eliminate significant positive spillover effects for other states, as well as those laws which would create negative spillover effects for other states, should be preempted.[290]

For example, the federal government may need to prevent states from lowering their environmental standards to encourage the siting of new industries.[291] When powerful economic interests benefit from low standards or

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information."); *see also* Robert R.M. Verchick & Nina Mendelson, *Preemption and Theories of Federalism*, *in* PREEMPTION CHOICES: THE THEORY, LAW, AND REALITY OF FEDERALISM'S CORE QUESTION 13, 18 (William W. Buzbee ed., Cambridge University Press, 2009) ("A federal rather than a state-focused approach is more likely to effectively address problems that cross state lines.").

287. *See* Glicksman, *supra* note 282, at 1176–81 (listing collective action situations justifying a federal role, including: transboundary negative externalities, resource pooling race-to-the-bottom potential, uniformity of standards, the "NIMBY syndrome," and the "threat of under and overregulation by the states"). Resource pooling achieves economies of scale and synergistic effects create a "'public good,' which in collective action terms creates an incentive for each state to free ride on the efforts of others". *Id.* at 1177; *see* Levy & Glicksman, *supra* note 207, at 931 (listing collective bargaining, national defense, and scientific research as examples of resource pooling where "states individually lack the resources or incentives to act effectively").

288. Richard J. Pierce Jr., *Regulation, Deregulation, Federalism, and Administrative Law: Agency Power to Preempt State Regulation*, 46 U. PITT. L. REV. 607, 651–52 (1985).

289. *Id.* at 610 ("Thus, the issue of whether regulation should be imposed on a national level or on a state level should be resolved primarily by determining whether, and to what extent, state regulation would create interstate spillovers."). According to Pierce, making this determination when there is a federalism dispute involving "'incomparables,' like safety and economics," involves a two-step analysis, the first of which is empirical research of predictable in- and out-of-state impacts and the second of which calls for "a decisionmaking process [that] balance[s] benefits of one type of regulation (e.g. environmental) with the costs of another (e.g. economics)." *Id.* at 662.

290. *See id.* at 651, 652 ("States should not be permitted to make regulatory decisions when those decisions have the potential to create or to eliminate large positive spillover to other states.").

291. *See* Glicksman, *supra* note 282, at 1165 (listing among the benefits of "federal participation and leadership" that states may not have necessary resources and "are likely to have incentives to put their citizens at an advantage vis-a-vis those of other jurisdictions fighting for the scarce resources such as water, the actions of one jurisdiction may have spillover effects in other places, and coordination of the policies of multiple jurisdictions may be needed to ensure effectiveness"); *see also* Verchick & Mendelson, *supra* note 286, at 18 ("A uniform federal approach will minimize the risk that states will 'race to the bottom,' competing with each other to loosen their environmental or other standards so as to attract new business."). *But see id.* at 18 (noting the difference of opinion among scholars on this point, but saying "at a minimum, this scholarship raises important questions about whether state regulation may sometimes be affected by pathologies causing state regulators to choose less-than-optimal levels of

when the adoption of a tougher standard would impose significant costs on those interests, the state in which they operate may not have an incentive to make its standards equivalent to states with higher standards.[292] Professors Glicksman and Levy find little support for the conjecture that some states might become overenthusiastic regulators and "race to the top."[293] Professor Schapiro agrees, finding that the dormant commerce clause, the constitutional protections of free speech, the power of out-of-state money to block unfavorable laws, and the interlocking nature of the country's economy check such behavior.[294] Also, interstate competition and the costs of regulating laws make it unlikely that states will become enthusiastic over-regulators.[295] Under-regulation, however, is much more likely.

But reliance on the federal government to take care of collective action problems may be misplaced. Congress does not act as an effective check on state tendencies to enact laws where the in-state benefits exceed in-state costs,[296] even in circumstances where the national costs of those laws exceed

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environmental protection"); Resnik, *supra* note 220, at 88 ("The literature's focus on the 'race to the bottom' presumes interstate effects but singular state incentive structures. Yet, the evidence of cooperative action among state actors suggests their increasing awareness of spillover effects that require coordinated action.").

292. *See* Glicksman & Levy, *supra* note 175, at 606 ("It is conceivable that some states or localities might engage in a 'race to the top,' competing to be the most environmentally friendly so as to attract some preferred group of citizens or businesses (for example, wealthy taxpayers)."); *see also* Levy & Glicksman, *supra* note 207, at 935 ("If . . . an activity within a state produces economic benefits that are exported to other states, but causes health and safety burdens within the state, then the state may have an incentive to overregulate. This is, in essence, the NIMBY problem."); *id.* at 930 ("[D]isplacement of state authority is justified when collective action principles would suggest that state courts have incentives to 'overregulate' in ways that interfere with the interests of the nation as a whole.").

293. Glicksman and Levy also note that there is little evidence supporting the idea that the Prisoner's Dilemma forces states to overregulate to improve their competitive posture vis-à-vis other states or that a "race to the top" exists that might lead a state to overregulate. Glicksman & Levy, *supra* note 175, at 606.

294. *See* Schapiro, *Federalism as Intersystemic Governance*, *supra* note 223, at 131–32 (Checks on states "targeting their regulations to have only out-of-state effects" include the fact that "federal and state laws all occur within a democratic field"; that states operate within a constitutional framework which "imposes norms of procedural and substantive fairness on state regulations"; and that "principles of free speech allow out-of-state entities to participate in the political debates within a given state, even if votes are limited to citizens of the state"; the "interconnectedness of the national economy," which prevents "cost shifting; and that states would bear at least part of the costs for any inefficient regulatory scheme that is promulgated.").

295. *See* Greve, *supra* note 243, at 88 ("The regulating state will at all events have to live with the costs as well as the benefits of their laws, and state competition acts as a potent disciplining mechanism.").

296. *See* Lori A. Martin, *The Legality of Nuclear Free Zones*, 55 U. CHI. L. REV. 965, 996 (1988) ("Congress does not have a mechanism for learning about state and local rules that intrude upon either regulated or unregulated matters of federal interest."). *But see* Tribe, *supra* note 19, at 721 ("Should a state exercise its power to reject this nuclear option notwithstanding a federal policy to make the option as attractive as possible, a court faced with a preemption challenge must remember that Congress remains free to decide that vital national interests require overriding the state's choice and then to use unambiguous statutory language to that effect.").

national benefits.[297] There are too many other matters on Congress's agenda for its focus to be as a watchdog over potential state interference with national policies[298] and playing that role puts Congress in conflict with another level of government, the courts.[299] Congress is also ill-suited to act sufficiently quickly to prevent a state from enforcing a local law that interferes with some national objective.[300]

Beyond avoiding collective action problems, federal regulation may also prevent burdens on interstate commerce and be politically easier to adopt at the national level.[301] Many environmental problems present difficult dynamics that limit the effectiveness of state regulation. For example, managing water resources calls for coordination among various jurisdictions, which states have difficulty implementing. The federal government is also better at dealing with inter-jurisdictional problems because states lack the technical and information-gathering resources necessary for effective regulation and because states cannot provide forward-looking and uniform solutions to problems that lack a geographic boundary.[302] Additionally, states may be competing with each

297. *See* Martin, *supra* note 296, at 994.

298. *See id.* at 995 (discussing the reasons Congress can cabin negative tendencies in the states and saying "under the pressure of the usual business of Congress, evaluation of state intrusions on foreign affairs policy may not receive high priority"); *id.* at 996 ("Judicial review of state encroachment on federal power does not deny Congress the power to amend the court's decision through statute. But if Congress is overcome by legislative inertia, the advantage of judicial review is that a federal body, subject to national checks, will have passed on the state statute.").

299. *See id.* ("Many of the matters that command the attention of Congress are positive measures that set the policy and programs of the country. Evaluating state actions places Congress in the position of reacting defensively to the goals set by another political body."). When Congress fails to act, the responsibility to decide which level of government should regulate a given activity is foisted onto the courts. *See id.* at 997 ("Congress is a more representative body than the courts to pass on state actions that encroach on national foreign policy. But representative government is not attained if Congress fails to act, not out of a positive assessment of the impact of state legislation on national foreign policy, but due to a failure to deliberate at all."); *id.* ("If the courts sit uneasily as arbiters of federalism challenges to local [nuclear free zones], they do so because the political branches have evaded their responsibility to define better the role of the states in the regulation of nuclear weapons.").

300. *See id.* at 996 ("Lobbyists are able to present their grievances to Congress, but if a party seeks immediate redress, such as an injunction against enforcement of the local measure, only courts provide timely relief."); *id.* ("Congress is not suited to the task of determining whether local ordinances are incompatible, on an 'ad hoc basis,' with the federal system. . . . [To do so] Congress would have to study the effects and legislative history of each local rule, a task better handled in an adjudicative fashion.").

301. *See* Pierce, *supra* note 288, at 646 (Boyden Gray "recognized . . . that federal regulation sometimes can provide benefits that more than offset the advantages of permitting regulatory power to be exercised primarily at the state and local level . . . . [H]e argued that federal regulation sometimes is superior to state regulation for one of four reasons: (1) federal regulation can prevent burdens on interstate commerce; (2) some socially beneficial programs are easier to adopt as a political matter on the federal level; (3) states may compete on the stringency of regulation to the detriment of the nation; and (4) the federal government usually has greater access to sources of relatively scarce expertise essential to some types of regulatory programs."); *see also* Adelman & Engel, *supra* note 218, at 292 ("In modern environmental law, federal regulation is premised on several standard grounds, including the need for uniform regulations for interstate commerce, the economies of scale that come with federal-level regulation, and the distorting effects of externalities on state laws.").

302. Zellmer, *supra* note 217, at 1665.

other for scarce resources, requiring the presence of a federal regulatory scheme.[303]

The goals of uniformity and the elimination of transaction costs that burden interstate commerce also support federal regulation.[304] States may "undervalue" these benefits because they are realized in other states.[305] "The transaction costs of nonuniform regulations are particularly high for goods produced in large numbers that move from state to state, like cars and trucks."[306] The federal government can more easily equalize the balance of regulatory benefits and costs and achieve economies of scale by eliminating divergent state laws.[307]

However, for a stationary source, like a power plant, transaction costs are significantly lower than the costs for transitory goods like cars that are mass produced and sold nationally.[308] For non-transitory goods, such as power plants, it makes sense to regulate conditions of sale, like the cost of power, at the state level because the impacts of such regulations are entirely in-state.[309]

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303. Glicksman, *supra* note 282, at 1165; *see also* Ahdieh, *supra* note 218, at 18 ("Federalism, as such, represents a regime of coordination."); Angela Durbin, Comment, *Striking a Delicate Balance: Developing a New Rationale for Preemption While Protecting the Public's Role in Siting Liquefied Natural Gas Terminals*, 56 EMORY L.J. 507, 539 (2006) (discussing Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 HARV. L. REV. 621 (1998), and explaining Heller's thesis that "where *too many* parties are given the right to exclude others, a 'tragedy of the anticommons' is created" that "lies in the 'underuse' of the resource at issue").

304. *See* Levy & Glicksman, *supra* note 207, at 932 (noting that "[a] common justification for federal regulation is the need for uniformity, particularly as a means of removing obstructions to interstate commerce" and seeing "this federal purpose as the rationalization of regulatory standards so as to reduce transaction costs associated with a national market"); *see also* Schapiro, *Polyphony*, *supra* note 228, at 45 ("State regulation of interstate business may have differential effects in different states. A state's laws might impose burdens on out-of-state firms, while benefiting in-state consumers. Product safety rules, for example, might protect consumers in one state, while imposing costs on manufacturing processes that take place in other states. Depending on the structure of the market, firms might not be able to customize their price structure so as to force a state to internalize the costs of regulation.").

305. Levy & Glicksman, *supra* note 207, at 932; *see also id.* at 930 (Collective action problems for states typically "include negative externalities, resource pooling, the race to the bottom, uniformity and rationalization of standards, and the 'NIMBY' phenomenon. In the broadest sense, the benefits of collective action in these situations produce a public or collective good for all states.").

306. Glicksman & Levy, *supra* note 175, at 627.

307. *See* Buzbee, *supra* note 228, at 1571; *see also* Hoke, *supra* note 172, at 693 n.36 ("Even if a firm's bargaining power is high in most states, it may still seek national regulation because the benefits of uniformity may outweigh the costs resulting from higher average level of regulation. National regulation may produce scale economies and thereby provide large national concerns an advantage over their local or regional competitors. In short, large national firms may actively seek federal preemption legislation to avoid the costs of diversity." (quoting Jerry L. Marshaw & Susan Rose-Ackerman, *Federalism and Regulation*, in THE REAGAN REGULATORY STRATEGY: AN ASSESSMENT 101, 134 (G. Eads & M. Fix eds., 1984))); Pierce, *supra* note 288, at 658 (discussing Professor Foote's regulatory classifications "for purposes of determining whether they should be imposed on a national or state level"); Verchick & Mendelson, *supra* note 286, at 18 ("Notwithstanding the federalism-related benefits of preserving state authority to regulate, there still may be reason to limit state control over a particular regulatory issue or to supplement it with federal regulation.").

308. Glicksman & Levy, *supra* note 175, at 635.

309. Pierce, *supra* note 288, at 659 (citing Elizabeth Foote, *Beyond the Policies of Federalism: An Alternative Model*, 1 YALE J. REG. 217 (1984)); *see also* Greve, *supra* note 243, at 88 ("Conversely,

Where an industry is evolving, as is the nuclear industry,[310] and the context in which it functions is dynamic and uncertain because different problems can be encountered at different locations, preemption of alternative regulatory approaches is "risky." This is because preemption eliminates an additional layer of protection and increases the risk that the industry will be unable to adapt to changing circumstances.[311]

There are benefits to uniform regulatory standards: such standards assure citizens that their level of protection will be the same regardless of where they live.[312] National standards also guarantee industry that regulations are certain and consistent regardless of where their facilities are located. Having only national standards avoids multiple layers of regulation, which can be expensive to comply with and interpret.[313] A "unitary federal approach" saves

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where Congress purports to regulate economic activities and preempts state legislation that has no adverse effects on interstate commerce, a more restrictive interpretation seems warranted. Statutes regulating workplace conditions or localized environmental events fit this description.").

310. *See* Babcock, *supra* note 4, at 129–35 (discussing the changes in reactor design and plant licensing procedures after the accident at Three Mile Island); *id.* at 143 n.403 (referring to a new generation of reactor designs); *id.* at 143 n.405 (describing more recent changes in the licensing process).

311. William W. Buzbee, *Interaction's Promise: Preemption Policy Shifts, Risk Regulation, and Experimentalism Lessons*, 57 EMORY L.J. 145, 158 (2007) [hereinafter Buzbee, *Interaction's Promise*]; *see also* Adelman & Engel, *supra* note 218, at 290 ("[I]n many, if not most, areas of environmental regulation, uniformity is as much a problem as it is a virtue. . . . Finality, which is often in opposition to adaptability, is also a double-edged sword in constantly changing natural, technological, and commercial environments that otherwise would create at least the possibility of new information and beneficial policy experimentation."); Glicksman & Levy, *supra* note 175, at 648 ("[C]eiling preemption of state restrictions on GHG emissions is not supported by most of the principal justifications for federal environmental regulation, including interstate externalities, resource pooling, a race to the bottom, and NIMBYism. The desire to achieve uniformity in regulation in order to avoid burdening regulated entities with excessive transaction costs provides limited justification for ceiling preemption of programs to control GHG emissions from motor vehicles, but not of stationary source controls."). Professor Flatt distinguishes between product and production standards and health and safety standards, finding cause for federal preemption of the former where there is a national market for these standards. *See* Flatt, *supra* note 282, at 65 (drawing a distinction between product and production standards and other health and safety standards and suggesting "[e]ven proponents of a strong state role in environmental policymaking advocate federal preemption for the regulation of products for which there is a national market" (quoting Ann Carlson, *Energy Efficiency and Federalism*, 107 MICH. L. REV. FIRST IMPRESSIONS 63, 67 (2008)); *id.* ("This, of course, fits with the general breakdown of power between the states and the federal government, in that the federal government is given exclusive jurisdiction over interstate commerce (to the benefit of all), but state and local governments are generally seen as better able to operate to protect health and safety interests through the exercise of localized police power.").

312. *See* Verchick & Mendelson, *supra* note 286, at 18 ("[A] national standard can give each citizen an assurance—even something of an entitlement—to a minimum level of safety, health, or environmental protection, no matter where he or she resides.").

313. *See id.* at 18–19 ("A single federal approach, without separate state standard-setting, also has advantages for regulated entities. . . . [They] can face a regulatory regime that is more certain and uniform and thereby avoid multiple layers of regulation, which not only may be costly to comply with but also may be costly to figure out."). *But see* Buzbee, *Interaction's Promise*, *supra* note 311, at 158 ("A place surely exists for strongly preemptive federal standards that provide no latitude for deviation and eliminate multiple regulators retaining roles with the associated possibility of divergent regulatory approaches. However, such settings are few and the risks of such approaches are considerable.").

government resources, as only one level of government has to invest in developing regulatory standards.[314]

But uniformity may be an exaggerated value[315] and, in this era of timid federal regulation, states have taken an aggressive regulatory posture to environmental problems.[316] Also, the localized nature of regulations limiting land and water use strongly suggests they should be designed at the state level.[317] States also are in a better position to protect the health, safety, and economic interests of their constituents because local elected officials are more directly accountable to their constituents and have greater knowledge of local factors.[318] Because of the mixed benefits of uniformity and preemption's intrusive effect, Professors Levy and Glicksman warn that before a court preempts local standards because of a desire to achieve uniformity, the preemptive federal law should clearly state achievement of uniformity as a "primary purpose."[319]

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314. *See* Verchick & Mendelson, *supra* note 286, at 19 ("A unitary federal approach might also save resources, as only one government, the federal government, would invest its resources in developing regulatory standards. A fully encompassing federal regulation thus might benefit from economies of scale.").

315. *See* Stabile, *supra* note 177, at 79 ("[U]niformity, insofar as it refers to the application of a uniform national legal rule, is not universally desirable. Although there are certain circumstances in which uniformity is valuable, there are often equally compelling reasons for allowing different law to address local needs or individual circumstances."). Uniformity is problematic when it is used solely to justify broad preemptive statutory language. *See id.* at 30 ("Uniformity may be a legitimate federal goal; there assuredly will be situations where allowing differing state laws to operate will frustrate federal interest. However, using uniformity to justify broad express preemptive language elevates uniformity to an unjustified degree. There must be some advantage or value to uniformity before it can be used as a basis to displace state law. Yet, the consequence of express language is to preempt state law even when there is no such federal benefit."); Wiggins, *supra* note 83, at 34 ("In most other areas, on the other hand, the balkanization of regulation that occurs when each state constructs a system of control is not a sufficient problem to warrant the ouster of legitimate desires to maintain some local control. There is no catalogue dividing the myriad subjects of regulatory action into these two categories, so an ad hoc determination is necessary as each case arises."). The Court's jurisprudence reflects diminishing reliance on uniformity as a preemption rationale. *See* Wiggins, *supra* note 83, at 35 ("The Court's recent preemption opinions are not totally consistent, but they do suggest an increasing reluctance to infer preemption because the subject matter regulated by the state requires uniform national rules.").

316. This is especially true with global climate change regulation. *See generally* Buzbee, *Preemption Sword*, *supra* note 204; Flatt, *supra* note 282.

317. *See* Zellmer, *supra* note 217, at 1712 ("'[T]he Government's expansive interpretation would 'result in a significant impingement of the States' tradition and primary power over land and water use.' Regulation of land use, as through the issuance of the development permits . . . is a quintessential states and local power. . . . We ordinarily expect a 'clear and manifest' statement from Congress to authorize an unprecedented intrusion into traditional state authority.'" (quoting Rapanos v. United States, 547 U.S. 715, 737–38 (2006))); *id.* at 1714 ("'Changes in the river like these fall within a State's legitimate legislative business, and the Clean Water Act provides for a system that respects the States' concerns.'" (quoting S.D. Warren Co. v. Me. Bd. of Envtl. Prot., 547 U.S. 370, 386 (2006))).

318. *See* Glicksman & Levy, *supra* note 175, at 592 ("Because state governments are more directly accountable and more familiar with regional conditions, they are generally in a better position than the federal government to make policy judgments for their constituencies.").

319. *See* Levy & Glicksman, *supra* note 207, at 934 ("To avoid the intrusion on state autonomy that would result from preemption of a broad swath of state regulation, the purpose of promoting uniformity

In contrast, according to Professor Adelman, the federal government's greater ability to widely disperse regulatory innovations, because of its status as the "top regulator" and its "unique relationship" with every state in the union, further supports preemption.[320] Another "virtue" of regulating at the national level is that it avoids the myopia and tendency to be "overwhelmed" by the high level of uncertainty that may accompany regulation by lower level policymakers.[321] Increased stability can also result from looking at problems in the aggregate level.[322] As with many of the perceived benefits of preemption discussed in this part, except for the benefits that flow from preventing self-dealing among states, these regulatory benefits can be offset by the benefits of localism. They are also dependent on the debatable views of states as ill-equipped to handle complex regulatory tasks and the need to achieve uniformity in all regulatory matters.

B. Why Preemption May Be a Bad Idea

A principal reason why preemption is not preferable is the strong, independent role states play in a "decentralized government."[323] In addition, having states as concurrent centers of regulatory authority minimizes regulatory risk of error, increases the opportunity for learning at both levels of government, creates multiple entry points for citizens into the governing process, and preserves states as laboratories for innovation.

Having states play an independent role in a decentralized government enables them to respond to the "needs of a heterogeneous democratic society by preventing 'capture' by industry, increasing opportunities for public involvement, and encouraging governmental creativity by making states compete to satisfy a mobile citizenry."[324] By acting as "rival centers of power,"[325] states can limit the excesses of the national government or moderate

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to rationalize standards and thereby reduce transaction costs for regulated entities should be a clear, primary purpose of the federal law before it justifies preemption of state law.").

320. Adelman & Engel, *supra* note 218, at 293.

321. *Id.* at 294.

322. *Id.*

323. *See* Stabile, *supra* note 177, at 9 (Justice Black described federalism as representing "a system in which there is sensitivity to the legitimate interests of both State and National Governments, and in which the National Government, anxious though it may be to vindicate and protect federal rights and federal interests, always endeavors to do so in ways that will not unduly interfere with the legitimate activities of the States" (quoting Younger v. Harris, 401 U.S. 37 (1971))). Perhaps this is why the Framers rejected various proposals to curtail the power of the states in favor of a strong central government. *See* Larson, *supra* note 218, at 14 (According to Madison's Convention notes, "[o]n Friday, June 8, the delegates debated whether the national legislature should have the power to veto state laws. Madison strongly supported the proposal, but this effort to radically curtail the power of the states was decisively rejected, just as his effort to prevent the state legislatures from electing senators was defeated the day before.").

324. Zellmer, *supra* note 217, at 1663.

325. Greve, *supra* note 243, at 78 ("The point of endowing subordinate (state) sovereigns with authority over the same citizens and territory–while limiting the central authority's sphere of authority–is to create rival centers of power, to make '[a]mbition . . . counteract ambition,' and in that fashion to

its policies.[326]

Robust state governments with regulatory structures that overlap or complement federal regulations offer clear benefits.[327] For example, having more than one regulator making decisions reduces risk of error.[328] Furthermore, it puts less of a premium on an initial decision, as other regulatory venues are available to question that approach and, by testing other approaches, correct errors.[329] Preemption "eliminates the possibility of plurality, dialogue,

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make government control and discipline itself." (quoting THE FEDERALIST NO. 51 (James Madison))); *see also* Larson, *supra* note 217, at 13 (Madison's Convention notes reported that John Dickinson argued, "The preservation of the States in a certain degree of agency is indispensable. It will produce that collision between the different authorities which should be wished for in order to check each other. To attempt to abolish the States altogether, would degrade the Councils of our Country, would be impracticable, would be ruinous. [Dickinson] compared the proposed National System to the Solar System, in which the States were the planets, and ought to be left to move freely in their proper orbits"); Shattuck, *supra* note 17, at 252 ("[I]t has remained a fundamental premise of federalism doctrine that '[t]he Constitution, in all its provisions, looks to an indestructible Union, composed of indestructible states.'" (quoting Texas v. White, 74 U.S. (7 Wall.) 700, 725 (1869))).

326. *See* Verchick & Mendelson, *supra* note 286, at 16; *see also* Greve, *supra* note 243, at 78 n.6 ("Madison noted that by dividing the powers 'between two distinct governments' America created a 'double security' as 'to the rights of the people.' . . . This design would cause '[t]he different governments [to] control each other; at the same time that each [would] be controled [sic] by itself.'" (quoting THE FEDERALIST NO. 51 (James Madison)); Zellmer, *supra* note 217, at 1664 ("American federalism is defined generally as the extent to which state autonomy limits the exercise of federal power. . . . At its best, federalism safeguards the public from dangerous, tyrannical impulses at the national level by allowing flexible, decentralized institutions to flourish.").

327. *See* Durbin, *supra* note 75, at 540–41 (discussing William W. Buzbee, *The Regulatory Fragmentation Continuum, Westway and the Challenges of Regional Growth*, 21 J.L. & POL. 323 (2005) [hereinafter Buzbee, *Regulatory Fragmentation Continuum*], and attributing to Buzbee the ideas that "the division of authority between different regulatory bodies is not always a bad thing" because "[f]ragmentation can serve to slow down or even halt projects whose harms might otherwise be overlooked in a more streamlined regulatory scheme" and that "regulatory fragmentation is especially important at 'the intersection of environmental and land use laws,' where multiple layers of regulators at the federal, state, and local levels have all played important roles during the past four decades").

328. *See* Buzbee, *Hard Look*, *supra* note 228, at 1577 ("More interactive, multi-actor regulatory strategies, however, greatly reduce several pervasive sources of regulatory risk and also improve the odds of superior regulatory outcomes."); *see also* Schapiro, *Federalism as Intersystemic Governance*, *supra* note 223, at 121 ("[T]he concurrence of state and federal power promotes several benefits, including a plurality of regulatory perspectives, a dialogue among regulators, and a system of redundancy to guard against errors by state or federal regulators."); Durbin, *supra* note 75, at 542 ("[F]inal review by a single federal agency . . . rather than a multi-layered, multi-tiered review by several state and federal agencies, has the potential to create a situation in which negative aspects of the project might . . . be overlooked." (quoting Buzbee, *Regulatory Fragmentation Continuum*, *supra* note 327, at 324); *id.* (explaining why FERC should welcome the participation of states and localities in the siting process for LNG terminals, especially with respect to "regional safety and security hazards . . . . Otherwise, although the number of LNG terminals will increase at a faster rate due to centralized regulation, the siting of those terminals may be insufficiently analysed, causing the public to be subject to unwarranted safety and security risks.").

329. *See* Schapiro, *Federalism as Intersystemic Governance*, *supra* note 223, at 126; *see also* Buzbee, *Hard Look*, *supra* note 228, at 1577 ("[I]f all regulatory power is handed to one actor, all is dependent on the initial regulatory judgment being right. If it falls short, or is imprudent at the moment of creation, the absence of other actors or regulatory venues to reconsider that judgment can freeze the law. Not only will no better approach be tested or revealed, but incentives to critique the status quo will exist only if that single actor is amenable to persuasion. When one factors in reluctance to engage in

and redundancy"; where the only regulatory authority is federal, there is "no backup system" should the federal approach not work.[330] Preemption also can destroy the positive results of state and local political efforts.[331]

Concurrent and overlapping regulatory actors also create mutual learning opportunities and possibilities for adjusting a given regulatory approach.[332] They create multiple venues and means for citizens and stakeholders to participate in government,[333] and represent a move away from centralized power.[334] This, in turn, lessens the likelihood of federal error and regulatory "stasis" and "fosters 'democratic experimentalism.'"[335] Federal regulators, legislators, and courts are more removed from the average citizen and lack inexpensive ways for citizens to submit direct communications. This removes citizens from the democratic process.[336] Thus, preemption, which works within

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self-criticism, giving sole regulatory turf to one actor is risky"); Buzbee, *Interaction's Promise*, *supra* note 311, at 157 ("Handing all regulatory power to one actor is the antithesis of the diversity of actors called for in experimentalist literature. With complete displacement, . . . no actor or institution outside the federal regulatory venue has any room or incentive to criticize and seek change.").

330. Schapiro, *Federalism as Intersystemic Governance*, *supra* note 223, at 126; *see also* Adelman & Engel, *supra* note 218, at 293 ("The hierarchy inherent in the federal system . . . clearly has its place. Yet, as the Framers understood from the outset, it poses many risks as well. From the standpoint of adaptive systems and traditional theories of federalism, the most obvious one is the dramatic loss in diversity that can result from preemptive federal regulation. This loss may be a direct result of a strict standard or may arise more subtly from the highly aggregated level at which federal regulators view environmental problems.").

331. *See* Hoke, *supra* note 172, at 721–22 ("Federal preemption edicts often eviscerate the substantive achievements of these state and local political efforts.").

332. *See* Buzbee, *Hard Look*, *supra* note 228, at 1577–78 ("[A]llowing multiple actors to retain roles reduces the risk of a single actor monopolizing the regulatory field without opportunities for dynamic learning."); Buzbee, *Interaction's Promise*, *supra* note 311, at 164 ("[F]loor preemption's retention of multiple institutions and the different modalities and incentives of common law litigation mean that one need not rely on hyper-involved citizens and selfless bureaucrats to prompt regulatory reexamination and adjustment.").

333. *See* Buzbee, *Preemption Sword*, *supra* note 204, at 53–55 (listing among the benefits of dual regulation that states and local government "provide additional venues in which citizens and stakeholders can participate and nudge governments"); *see also* Verchick & Mendelson, *supra* note 286, at 17 ("Greater state autonomy to regulate will mean more opportunities for citizens to participate in governance and seek responsive government. That may result in greater 'civic virtue' in citizens by encouraging them to become better informed and more actively engaged in all levels of government.").

334. *See* Hoke, *supra* note 172, at 688–89 (noting de Tocqueville would have been concerned by "[t]he transmutation of political issues into not merely judicial questions but also federal preemption issues" because "embedded in this metamorphosis is a move toward greater administrative centralization of power, and a concomitant decline in the competing centers of political power which he had praised for protecting our democratic republic").

335. Buzbee, *Preemption Sword*, *supra* note 204, at 55 (quoting Michael C. Dorf & Charles F. Sabel, *A Constitution of Democratic Experimentalism*, 98 COLUM. L. REV. 267, 287–88 (1998)).

336. Hoke, *supra* note 172, at 687, 695 ("Federal preemption decisions impede the ability of those governmental bodies that are structured to be more responsive to citizens' public values and ideas—state and local governments—and have concomitantly undermined citizens' rights to participate directly in governing themselves."); Pierce, *supra* note 288, at 645 (noting that Boyden Gray identified as a major disadvantage of federal regulation the fact that "it is implemented by a massive, inefficient bureaucracy remote from the needs of the people in each locality"). Hoke calls this an "odd 'tragedy of the commons.'" Hoke, *supra* note 172, at 695 ("As each public issue and particular industry's regulatory apparatus is nationalized, fewer and fewer issues of substance remain for the political activity of average

"a bipolar model of federalism," shuts off "the political space within which grass-roots citizens" work to change government or its policies.[337] Because of these social costs, Professor Resnik is a "critic of the new preemption rules in which judges shape quasi-constitutional doctrines limiting federalism's iterative opportunities."[338]

However, regulatory overlap has "potential pitfalls."[339] These include undermining uniformity, finality, and accountability, and causing inefficiencies if different or even contradictory regulations apply to the same activity or product.[340] When there is regulatory overlap, "lines of responsibility" may become blurred, and citizens who are dissatisfied with a particular government initiative may not know which level of government to hold responsible.[341] Conversely, Professor Schapiro claims that polyphonic federalism, in which the federal and state governments exercise *concurrent* authority, can effectively manage jurisdictional overlap.[342] Concurrent authority may produce a more innovative and resilient form of government that "advances the valuable characteristics of plurality, dialogue, and redundancy," and "encourage policy

citizens on a local or state level."); *id.* at 696 ("[E]ach additional industry or other interest group's success in nationalizing a regulatory issue divests from states, localities, and citizens the ability to create meaningful change through democratic political activity, compressing the legislative and regulatory space available for meaningful self-government").

337. Hoke, *supra* note 172, at 696; *see also* Resnik, *supra* note 220, at 41 ("These multiple sites for conflicts about social norms are the opportunities provided by democratic federalism to permit problems to be argued in more than one forum and more than once . . . . I do not suggest that the outcomes of such contestation are either optimal or to my personal liking, nor that problems of aggrandizement, capture, cartels, and overreaching are absent. But the reiterated conflicts are desirable because they enable us to watch and to participate in struggles over the content of the law of the United States.").

338. Resnik, *supra* note 220, at 41; *see also* Hoke, *supra* note 172, at 696 ("Most theories of federalism . . . fail to recognize that federalism is not properly understood as bipolar or dichotomous, but is three-dimensional, with the availability of citizen participation and citizen power supplying the third plane of analysis."); Schapiro, *Federalism as Intersystemic Governance*, *supra* note 223, at 126 ("Preemption prevents the interplay of state and federal law that constitutes one of the chief benefits of federalism.").

339. Schapiro, *Polyphony*, *supra* note 228, at 44.

340. *See also* Adelman & Engelet al., *supra* note 218, at 290 ("The multilevel approach of adaptive (and dynamic) federalism is not costless. Uniformity, accountability, and finality are all sacrificed to some degree by allowing multiple jurisdictions to address environmental problems simultaneously."); *id.* at 295 ("Clearly, where a proliferating polyglot of state-level regulations becomes enormously disruptive to the economy, federal preemption may be warranted.").

341. Schapiro, *Polyphony*, *supra* note 228, at 45.

342. Schapiro, *Federalism as Intersystemic Governance*, *supra* note 223, at 120–21; *see also id.* at 121 ("Federalism is a system in which there are multiple nodes of political authority within a country. Polyphonic federalism focuses on the creative overlap of these different legal regimes."); Resnik, *supra* note 220, at 42 (The question is "how to weave the fact of such joint action into legal theories that aspire to celebrate the diversity, the potential for redundancy, the distribution of power entailed in the potential singularity of each state, and the differences among states."); *id.* at 86 ("Non-uniformity is a predicate of federalist systems, which can impose a national norm but which ought to be dedicated to local divergence wherever tolerable.").

experimentation."[343] Professor Schapiro sees preemption under circumstances of "broad participation and shared interest" as "an unduly blunt and generally unnecessary mechanism to protect an abstract principle of democratic control."[344]

When not preempted, state regulations can fill regulatory gaps left by federal inaction and overcome the "status quo bias" of federal regulatory decisions.[345] States may offer a more finely tuned layer of regulation, which can be adjusted quickly in response to changes in perceived local needs or conditions.[346] Businesses use the preemption doctrine to block state health and safety laws that are more aggressive than their federal counterparts or civil rights laws that require broader protection.[347] When businesses are successful and state law is preempted, states and local communities cannot move to fill a

343. Schapiro, *Polyphony*, *supra* note 228, at 43; *see also* Buzbee, *Hard Look*, *supra* note 228, at 1544 (indicating his preference for the phrase "polyphonic federalism" because it reflects current practice and "serves numerous salutary ends").

344. Schapiro, *Federalism as Intersystemic Governance*, *supra* note 223, at 132; *see also* Adelman & Engel, *supra* note 218, at 296 (The "findings suggest further that federal preemption should be used sparingly, and that exclusive federal control of environmental regulation should be reserved for exceptional circumstances.").

345. *See* Buzbee, *Interaction's Promise*, *supra* note 311, at 155–56 ("Any regulatory design choice needs to take into account and adjust for numerous regulatory failure risks. Among those common risks are regulatory inertia, capture, poor initial choice or error, outdated choices, and inadequate funding of administrative agencies. Creation of effective regulatory schemes must further anticipate status quo bias, which can make any initial choice sticky, and risk-averse regulators.").

346. *See* Verchick & Mendelson, *supra* note 286, at 16 ("[I]f states possess robust authority to regulate, the policies chosen within a state will tend to be tailored to local concerns and to citizen preferences."); *see also* Pierce, *supra* note 288, at 645–46 (saying that Boyden Gray identifies as advantages of state and local regulation that "(1) it produces programs tailored to local needs with correspondingly greater ability to respond promptly to changes in local needs; (2) it permits experimentation with a variety of approaches to regulation; and (3) it provides for greater political accountability and legitimacy"); Mark Tushnet, *Judicial Enforcement of Federalist-Based Constitutional Limitations: Some Skeptical Comparative Observations*, 57 EMORY L.J. 135, 138 (2007) ("Consider finally the best general statement of federalism's normative basis, the principle of subsidiarity, according to which governmental activities should be conducted on the lowest level at which they can effectively be carried out.").

347. Hoke, *supra* note 172, at 721 ("Whether it is greater concern for the dangers posed by nuclear power plants and toxic wastes, or by the loss of privacy rights and reproductive freedoms, some states have enacted regulation that is far more public-regarding than has the national government."); *see also* Verchick & Mendelson, *supra* note 286, at 19 (discussing the virtues of "a hybrid, power-sharing arrangement between the federal government and the states" and saying "[e]ven with federal environmental standards in place, some citizens may still face acute localized risks, called 'hot spots' by environmentalists; preserving state authority to go beyond federal standards can allow an effective response to these local problems"); Buzbee, *Hard Look*, *supra* note 228, at 1570–71 ("Of course, preemption advocates prefer preemptive outcomes precisely to reduce regulatory and legal burdens."). Professor Zellmer finds disturbing the pro-development, anti-regulatory tilt of the current Supreme Court. *See* Zellmer, *supra* note 217, at 1662 ("Although an empirical study of the full range of preemption cases issued by the Rehnquist Court indicated that preemption may be less likely when a state is a party to the dispute, in the cases surveyed in this Article, judicial outcomes reflect an antiregulatory sentiment, whether or not a state played a role in the litigation."); *id.* at 1731 ("Since the mid-1990s, the Rehnquist and Roberts Courts have consistently shielded industry from progressive state regulations in areas of traditional state concern ranging from pollution prevention to workplace safety.").

regulatory void, leaving their citizens exposed to harm[348] and reducing states to little more than administrative arms of the federal government.[349] It is not easy for states to get Congress to restore their legislative power.[350] The result is that the level of protection of citizens is less complete than it otherwise might have been had state law not been preempted.

In addition, when state regulations are preempted, short-term economic benefits may be created for industry,[351] which generally prefers more lax federal regulation to more aggressive state regulation.[352] Professor Hoke argues that federal preemption benefits larger corporations because they can bear the higher costs of complying with federal laws and have the resources to influence the content of federal laws.[353] But one level of regulation leaves federal agencies vulnerable to capture by industries[354] and removes states as a potential "stabilizing device."[355] Citizens lack the resources and wherewithal to offer a counterbalance to industry's preferences.[356] Since preemptive federalism undermines "the dynamism of a healthy system of overlapping jurisdiction," powerful feedback loops may emerge, one of which, according to Professor Adelman, is a shift in industry's lobbying efforts to the federal level.[357] As industry representatives are "substantially fitter" players at this

348. *See* Hoke, *supra* note 172, at 718.

349. *See id.*

350. *See* Stephen L. Wasby, *Justice Harry A. Blackmun in the Burger Court*, 11 HAMLINE L. REV. 183, 214 (1988) (noting that many of Justice Blackmun's critics accused him of overestimating "the states' ability to protect their interest through their representatives in Congress").

351. *See* Hoke, *supra* note 172, at 692–93 ("In an era when federal regulations are frequently outdated, substantively lax, or ineffectually enforced by an underfunded agency, compliance with only the federal regulations may provide distinct short-term economic benefits to regulated industry."); *id.* at 693 ("With a 'friendly' regulatory apparatus on the national capital, elimination of the increasingly active, and arguably more public-oriented, state regulatory power appears to be sound business strategy.").

352. *See id.* at 721 ("While evaluating the social costs of eliminating dual regulation via federal preemption, we should recognize the substantive import of many of the laws challenged as preempted."); *see also* Zellmer, *supra* note 217, at 1703 ("As the states become more aggressive in filling gaps left by lax federal regulatory schemes and federal enforcement failures, for-profit corporations, developers, and other antiregulatory forces have become equally aggressive—and quite effective—in wielding preemption as an obstacle to the implementation of protective state regulations.").

353. *See* Hoke, *supra* note 172, at 719.

354. *See id.* at 693 ("When an industry has achieved a federal regulatory regime that is conducive to its self-determined interests, known in the literature as 'agency capture,' a parallel system of state regulatory law may threaten to dilute or to vitiate the advantages amassed on the federal level.")

355. *Id.* at 719.

356. *See* Buzbee, *Interaction's Promise*, *supra* note 311, at 161 ("Industry will not want such change, nor will regulators. Citizens will be outgunned, and even issue-based not-for-profits will often lack the resources to stick with the ongoing process of adjustment."); *see also* Adelman & Engel, *supra* note 218, at 294 ("[P]ublic-choice theory predicts which interest groups are likely to prevail. Concentrated industry interest groups negatively impacted by environmental regulation will have a competitive advantage over the diffuse, poorly organized public threatened by regulatory inaction.").

357. Adelman & Engel, *supra* note 218, at 295. For a discussion of complex, dynamic adaptive system and feedback loops, see Hope M. Babcock, *Democracy's Discontent in a Complex World: Can*

"game," they will disproportionately gain from these feedback loops,[358] reaping the benefits from preemption.

Refraining from preempting state regulation preserves states as laboratories;[359] while investing sole regulatory authority in the national government eliminates the effects of local conditions providing support for strong regulation.[360] Federal regulators learn from state experimentation and states often improve on federal laws,[361] creating "room for pragmatic adjustment."[362] States are more likely to innovate and experiment than the federal government, which is reluctant to change regulatory standards because of the time-consuming, resource-intensive nature of the rulemaking process, followed by the uncertainty of hard-look judicial review.[363] Moreover, regulators may better assess regulatory choices when states go beyond the federal government or are willing to step into a regulatory gap.[364] Taking authority away from the states limits their capacity to innovate and thwarts possible state "solutions to social problems that may later be adopted at a

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Avalanches, Sandpiles, and Finches Optimize Michael Sandel's Civic Republican Community?, 85 GEO. L.J. 2085 (1997).

358. *See* Adelman & Engel, *supra* note 218, at 295.

359. *See* Pierce, *supra* note 288, at 609 ("'Denial of the right to experiment may be fraught with serious consequences to the Nation. It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.'" (quoting New State Ice Co. v. Liebmann, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting))).; Adelman & Engel, *supra* note 218, at 293 ("The value of innovation is one of the oldest justifications for a federalist system, encouraging, as it does, the role of states as 'laboratories of democracy.'").

360. *See* Adelman & Engel, *supra* note 218, at 294–95 ("The benefits of greater predictive stability and full cost internalization that come with elevating an issue to the federal level sacrifices other factors as well," such as attenuating the feedback loop "between the benefits and costs of individual variation," which are "strong and swift . . . at a small scale . . . [because] individual species are inherently more vulnerable than ecosystems collectively. These tight feedbacks are essential to adaptive change, as buffering mechanisms, by their very nature, diminish sensitivity to exogenous pressures. Accordingly, although aggregation promotes stability and resiliency, it increases the inertia of a system and its ability to respond to changing environmental conditions.").

361. *See* Pierce, *supra* note 288, at 656 ("Federal regulation is not inconsistent with regulatory experimentation; it is inconsistent only with regulatory experimentation initiated on a decentralized basis by states. Still, decentralized regulatory experimentation probably does have advantages, simply because regulatory wisdom does not reside exclusively in federal agencies.").

362. *See* Buzbee, *Hard Look*, *supra* note 228, at 1544 ("Federal actors have learned from state innovations. At other times, states have modeled law on federal law, but then improved on it. Most areas of social and environmental policy reveal federal leadership but then ongoing interaction and improvement that is fostered by the latitude left for political and legal contributions of state and local governments and courts. This reality of regulatory interaction has been critical to regulatory progress.").

363. *See id.* at 1569–70.

364. *See* Glicksman, *supra* note 194, at 183 (arguing that when a state "takes a more precautionary approach to a health and environmental risk than the federal government, and is willing to regulate despite uncertainties," not only will this not thwart federal purposes, but "[s]uch state experimentation may help all levels of government, as well as targets of regulation and those seeking its protections, by allowing more informed assessment of regulatory options").

national level."[365]

States are also in a better position to respond to and care for the needs of their citizens than the national government.[366] Indeed, states are often in the forefront in terms of enacting protective laws and regulations[367] and state regulators may be more protective than their federal counterparts.[368] Concentrating too much power in the hands of federal regulators can also have "perverse" consequences, such as preventing states from regulating an area that the federal government avoids addressing, like climate change,[369] perpetuating a regulatory gap.[370] Since it is the states and not the federal government that regulate the intra-state generation, sale, and transmission of electrical power,[371]

365. Stabile, *supra* note 177, at 10 ("[I]mproper preemption decisions give insufficient regard to the purposes and goals of Congress in passing federal legislation."). Professor Adelman claims that limiting environmental regulation to the federal government undermines the competition dynamic that is essential to the survival of complex adaptive systems, like our federal system. *See* Adelman & Engel, *supra* note 218, at 294 ("A defining characteristic of adaptive systems and ecosystems, in particular, is the variation in competition for resources that occurs over time and space. Without this variability, much of the diversity in an ecosystem would be lost to natural selection—the fittest species would win out in the absence of localized disturbances and ecological niches. Limiting environmental policy making to the federal government through the doctrine of preemption undermines this essential dynamic.").

366. *See, e.g.*, Martin, *supra* note 296, at 994 ("Three principal arguments favor a strong, independent state power . . . states can better respond to the diverse interests and preferences of their citizens . . . [they] can compete against one another for citizens and economic growth through innovation in government . . . [and] states are often thought to be better protectors of private rights than either the larger national Congress of the President."); *see also* Schapiro, *Polyphony*, *supra* note 228, at 43 ("People in different states can experiment with different legal solutions to common problems. . . . Federalism allows different states to try out different possibilities. The states and federal government can operate as 'laboratories,' experimenting with divergent regulatory regimes. . . . No single best solution will dominate. In other areas, the states and the national government will converge on a single, preferred outcome.").

367. *See* Hoke, *supra* note 172, at 721.

368. *See id.* at 694–95 ("[T]he power transferred or confirmed to exist only in national political institutions may remain unexercised, thus creating a regulatory vacuum if the question has not yet been addressed by national legislation or agency regulations and is not on the current national political agenda.").

369. *See* Schroeder, *supra* note 179, at 141 ("The most perverse consequences of allocating too much authority to the federal government through doctrines governing congressional and agency preemption creates a similar problem of 'states who can't and federal authorities who won't.'" (discussing Judge Henry Friendly, *The Gap in Lawmaking—Judges Who Can't and Legislators Who Won't*, 63 COLUM. L. REV. 787 (1963))); *id.* at 142 ("If attacks grounded in preemption are successful in stifling the initiatives states are taking with respect to [greenhouse gases] and global warming, while Congress and the Environmental Protection Agency (EPA) remain stalemated and silent, global warming will become a poster child for the perverse effects of states who can't and federal authorities who won't.").

370. *See id.* at 142–43 (identifying as one of "four problem areas" that arise when state law is preempted "the 'regulatory vacuum' that can result from concentrating too much authority at the federal level"); *see also* Glicksman, *supra* note 194, at 178 ("[P]reemption in the face of federal inaction leaves the state whose law is preempted at the mercy of the market failure that prompted it to regulate in the first place because no substitute federal regulatory regime exists."). On the topic of regulatory gaps generally, see William W. Buzbee, *Recognizing the Regulatory Commons: A Theory of Regulatory Gaps*, 89 IOWA L. REV. 1 (2003).

371. Tribe, *supra* note 19, at 702 ("It is therefore clear that the states retain the right to regulate nuclear energy activities at least for non-radiation purposes that relate to the generation, sale, or

preempting state authority in this area is an example of how a "regulatory gap" might arise and not be filled.[372] The result of this particularl regulatory gap would then be fewer checks against "utility discretion" to choose nuclear power, even though Vermont might consider the nuclear option to be imprudent and harmful to its citizens.[373]

Additionally, federal bureaucracies can be less efficient than local ones, requiring more time and resources to make decisions.[374] This inefficiency can increase the social cost of regulation[375] and discourage the resolution of federalism controversies through national regulations.[376] In contrast, state agencies must make decisions quickly because they lack the resources and expertise to conduct a thorough regulatory analysis; however, quick decisions can have their own social cost if states make mistakes.[377] As in the case of preemption's benefits, which are often offset by negative consequences, there are negative consequences from placing regulatory burdens on states when their laws are not preempted.

Thus, there are several persuasive reasons to oppose preemption, such as the importance of promoting democratic experimentalism by preserving states as robust centers of alternative regulation and experimentation. States may also act as regulatory gap fillers when federal regulators hesitate to act, and prevent errors and bureaucratic stasis.

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transmission of electric power generally."); *see also* Borchers & Dauer, *supra* note 123, at 104 ("Congress 'underscored the distinction drawn in 1954' between regulation of nuclear power plants for safety reasons, and elemental decisions of state governments as to whether nuclear power plants are desirable from other perspectives."); Wiggins, *supra* note 83, at 72 ("Section 274 was concerned solely with allocating responsibility for protecting against radiation hazards between the federal and state governments. Such matters as zoning, land use, and arguably, the required authorization to commence a nuclear power project—'matters on the fringe of the preempted area'—were left to state authority.").

372. *See* Pac. Gas & Elec. Co. v. Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 208, 225 (1983) ("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. . . . It is 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.").

373. *See* Wiggins, *supra* note 83, at 64 (Unless state utility commissions are allowed to make "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. So long as a reactor's design specifications meet NRC requirements, there could be no public check whatsoever on utility discretion.").

374. *See* Pierce, *supra* note 288, at 655 ("[M]ost observers of the regulatory process would accept Boyden Gray's assertion that federal agencies tend to require more time to make regulatory decisions than state agencies. This phenomenon is probably attributable to some combination of bureaucratic diseconomies of scale, crowded agendas, and the increased number and nature of parties affected when a regulatory decision is made on a national level.").

375. *Id.* at 655–56.

376. *Id.* at 655.

377. *Id.* at 656.

V. APPLYING THE PREEMPTION DOCTRINE AND ITS UNDERLYING POLICY CONCERNS TO VERMONT ACT 160

Two principal legal arguments demonstrate why the AEA does not preempt Vermont Act 160: (1) the absence of an express or implied preemption of laws like Act 160 in the AEA; and, (2) the call for the application of a presumption against preemption to protect the exercise of traditional state police powers and maintain states as strong alternative centers of governance. Although the NRC's jurisdiction over nuclear power plants is broad, it is not all-encompassing. A combination of statutory language, other environmental laws, and Supreme Court opinions, as well as the development that commercial nuclear power is no longer a national imperative, have cabined the NRC's authority, leaving room for states to act within increasingly wide jurisdictional borders.[378] Lastly, a finding that the AEA does not preempt Vermont Act 160 is consistent with recognized federalism principles.

A. Vermont Act 160 Neither Expressly nor Impliedly Conflicts with the AEA

Because the AEA contains only a limited express preemption of state regulation of nuclear power plants and specifically preserves traditional state authority over the generation, transmission, and sale of power, as well as nonradiological matters at the plants, there is no express or field preemption of Vermont Act 160. While there may be tension between the two levels of regulation because their application may lead to different results, as applied here, there is no conflict between them. Thus, there is also no implied preemption of Vermont Act 160.

1. There Is No Express or Implied Field Preemption of Vermont Act 160

The AEA does not expressly give the federal government exclusive power over nuclear reactors.[379] In fact, Congress carved out a sphere of state

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378. *See* Borchers & Dauer, *supra* note 123, at 103 (The *Pacific Gas* Court noted that "although the AEA is broad in its regulation of nuclear power plants, it is not all-encompassing, and substantial room exists for state regulation of nuclear power," since section 271 "provides that '[n]othing in this chapter shall be construed to affect the authority . . . of any Federal, State or local agency with respect to the generation, sale of transmission of electrical power produced through the use of nuclear facilities . . . .'" (quoting *Pacific Gas*, 461 U.S. at 208)).

379. *See* Baum, *supra* note 77, at 669 (noting despite the 1959 AEA amendment adding Section 271, "the AEA still fails to state expressly that the federal government has sole and exclusive authority to regulate radiation hazards" (citing N. States Power Co. v. Minnesota, 447 F.2d 1143, 1147 (8th Cir. 1971), *aff'd mem.*, 405 U.S. 1035 (1972))). *But see* Murphy & La Pierre, *supra* note 44, at 446–47 ("[T]he congressional declaration in the Atomic Energy Act that federal regulation was to be exclusive was made in the context of total, existing federal control and regulation. Thus, the determination by Congress that exclusive federal regulation was to be continued gives to the preemption provision a degree of precision absent in other cases. In this context, the determination that exclusive federal regulation was to be continued constitutes an explicit statement of broad supersession of all state regulation of the construction and operation of nuclear power plants for purposes of controlling radiation

regulation of nuclear reactors in the AEA.[380] By assuring states that nothing in the AEA circumscribed their traditional authority over power generation and transmission within a state,[381] and by allowing states to regulate certain types of nuclear materials and nonradiological hazards,[382] Congress made clear that states had a defined space in the nuclear regulatory orbit[383]; it certainly did not expressly preempt that authority. Therefore, the AEA does not expressly preempt Vermont Act 160 and, in fact, the Act functions in an area expressly reserved to the states.

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hazards."). Having failed to find express preemption in the AEA, Professors Murphy and La Pierre find implied or obstacle preemption. *See id.* at 447–48 ("Even if courts do not find in section 274 an unambiguous declaration of express preemption, the conclusion that state bills imposing a prohibition or moratorium on the construction of nuclear power plants are impliedly inescapable. . . . They are in irreconcilable conflict with the federal law in a number of respects. . . . [for example] the conflict between these bills and the federal policy of developing nuclear energy for the production of electric power.").

380. Atomic Energy Act § 271, 42 U.S.C. § 2018 (2006).

381. *Id.*; *see also* Tribe, *supra* note 19, at 701 n.112 (quoting section 271 and explaining that Congress added the proviso clause "to prevent the section being construed to achieve" an "'intolerable' result," namely that local ordinances and regulations having to do with the generation, sale, or transmission of electric energy might place "an unacceptable burden" on the Commission); Murphy & La Pierre, *supra* note 44, at 453 ("Unlike other possible state regulation for purposes other than protection against radiation hazards, state public utility regulation is expressly contemplated by the Atomic Energy Act of 1954. In providing in section 271 for the preservation of state public utility regulation, Congress considered that the states would retain the authority to regulate the rates and services of electric power produced in nuclear power plants. When Congress amended this section in 1965, it did so precisely to confirm that state regulation is to be confined to rates and services.").

382. 42 U.S.C. § 2021. *See* Cavers, *supra* note 19, at 31 ("In adopting section 274, the Congress has opened the door part way to compatible state regulation; perhaps it should go further."); *id.* at 35 n.7 ("'[T]he Commission has exclusive authority to regulate for protection against radiation hazards until such time as the State enters into an agreement with the Commission to assume such responsibility.'" (quoting S. REP. NO. 870, 86th Cong., 1st Sess., at 12 (1959))); Borchers & Dauer, *supra* note 123, at 103–04 (discussing the Court's reliance in *Pacific Gas* on section 274(k) and concluding this section was "not an affirmative grant of power to the states; rather, Congress added section 274(k) to make clear that the 1959 amendments had not drawn any more authority from the states than the original act passed in 1946, as amended in 1954"); Tribe, *supra* note 19, at 701 ("[S]ubsection K is intended to make it clear that the bill does not impair the State[s'] authority to regulate activities of AEC licensees for the manifold health, safety, and economic purposes other than radiation protection." (quoting S. REP. NO. 870, 86th Cong., 1st Sess., at 12 (1959))); Zellmer, *supra* note 217, at 1704 (While section 274(k) was "narrowly circumscribed to apply only to the particular topic addressed in that section . . . certain federal-state agreements," the Court recognized that "Congress, by permitting regulation for 'purposes other than protection against radiation hazards' underscored the distinction . . . between the spheres of activity left respectively to the Federal Government and the States." (quoting Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 210 (1983))); Baum, *supra* note 77, at 674 ("Section 2021(g) [requiring NRC 'to cooperate with the states to be sure that "State and Commission programs for protection against hazards of radiation will be coordinated and compatible'], therefore, must contemplate some cooperation between the NRC and the state before the state enters such an agreement. . . . Yet, if some cooperation is anticipated before the state enters into an agreement with the NRC, arguably the AEA contemplates some state regulatory authority." (quoting 42 U.S.C. § 2021(g) (1976))). Anticipating the enactment of section 274, some states prior to 1959 had begun to promulgate nuclear safety regulations. *See id.* at 676.

383. Interestingly, in 1957, the AEC proposed legislation that would have allowed states to establish concurrent state radiation standards so long as they those standards did not conflict with federal ones; the proposal never got out of committee. Wiggins, *supra* note 83, at 69.

That the AEA contemplates some form of state regulation of nuclear power plants also means that the federal government has not exclusively occupied the field of regulating nuclear power plants. While the AEA makes clear that the federal government has occupied the field of *how* nuclear power plants should be constructed and operated, it "has not even entered the field" of determining *whether* such plants should be constructed at all.[384] Determining *whether* a nuclear plant should be built, or in this case continue to operate, involves the state in a wide array of non-radiological matters,[385] such as the need for the plant, its relative costs and benefits, its environmental and economic impacts, and an assessment of alternatives. In contrast, the NRC is concerned with a single factor—protecting the public from radiation harm. It does not consider, let alone attempt to regulate, other factors relevant to the selection of a particular source of power for a community.[386]

But, drawing a line between nuclear reactor safety and a state's interest in protecting the welfare of its citizens is not easy.[387] Nor is it simple to determine what qualifies as a radiation hazard.[388] The line between an economic and radiological safety effect of a nuclear reactor's operation may

384. *Id.* at 61.

385. *Id. But see Recent Developments in Utah Law*, 2005 UTAH L. REV. 215, 299 ("Finding that the Utah statutes were intended to regulate nuclear safety, the court held that 'in the matter of nuclear safety, Congress has determined that it is the federal government, and not the states, that must address the problem.'" (citing Skull Valley Band of Goshute Indians v. Nielson, 376 F.3d 1223, 1254 (10th Cir. 2004))).

386. *See* Wiggins, *supra* note 83, at 61–62 ("This 'whether' decision involves a broad range of economic, social, safety, environmental, and ideological factors. By contrast, the NRC concerns itself almost exclusively with only one such factor—protection against 'radiation hazards'—and does not attempt to deal with all the other influences bearing on the selection of a type of power source to meet the energy needs of a particular community."); *id.* at 70–71 (citing New Hampshire v. AEC, 406 F.2d 170 (1st Cir. 1969) (upholding the AEC's position that its jurisdiction did not include thermal pollution because its jurisdiction was limited to radiation hazards)).

387. *See* Borchers & Dauer, *supra* note 123, at 100 (*Northern States* held "that the AEA preempted a Minnesota law regulating radioactive emissions of nuclear power plants more strictly than federal laws" and noted that the "AEA is a complex and pervasive scheme." (citing N. States Power Co. v. Minnesota, 447 F.2d 1143 (8th Cir. 1971), *aff'd mem.*, 405 U.S. 1035 (1972))); *see also Recent Developments in Utah Law*, *supra* note 385, at 292–99 (2005) (discussing *Nielson*, which preempted various state laws, including "laws requiring counties to pass ordinances rejecting all spent nuclear fuel repositories" or, alternatively, to create "detailed plans" allowing for their regulation and requiring compensation for unfunded potential liabilities created by those storage facilities).

388. *See* Tribe, *supra* note 19, at 680 ("Defining the state and federal roles—both unraveling that design and subjecting it to constitutional review—is a delicate task inasmuch as both sovereignties have important interests in exercising authority over the activity in question. With respect to nuclear power plants, Congress has declared that national regulation is necessary to provide for the common defense and to assure the safe operation of such facilities. Yet the states also have an interest in the safety of nuclear power plants as well as an important interest in the economic, environmental, and social implications of using nuclear fuel to generate electricity for their citizens."); *see also* Baum, *supra* note 77, at 680 n.113 (citing Illinois v. Kerr-McGee Chem. Corp., 677 F.2d 571, 581 (7th Cir. 1982), as an example of a federal court recognizing "the difficulty in distinguishing what is or is not a regulation of a radiation hazard").

also be blurry.[389] In fact, there is no way that a state can regulate a nuclear power plant's rates and services without at least some consideration of the "radiation safety aspects" of the plant's operation.[390] Utility rates reflect the safety of the plant's operation to some degree.[391] For example, if a plant is shutdown or its power output is reduced to correct a safety problem "the level of services and rates charged to consumers will be affected."[392] Indeed, a public utility commission could decide to block construction of a new nuclear plant because safety problems may cause it to shut down frequently, resulting in an expensive, unpredictable supply of power.[393] Alternatively, a public utility commission may decide to prevent a nuclear power plant's construction because the commission decides it is unwise to rely on nuclear power when alternative, more reliable, or cheaper forms of power are available.[394] Thus,

389. *See* Izhakoff, *supra* note 122, at 673 ("The *Pacific Gas* Court drew an ambiguous distinction between safety and economic concerns. In adhering to the distinction, the Court significantly affected nuclear energy policymaking by allowing the states to enter a regulatory sphere earlier reserved for the federal government. The Court failed to recognize, however, that safety and economics are not separate questions."); *see also* Murphy, *supra* note 96, at 885 ("[T]he line between environmental protection and safety issues is often blurry both legally and physically." (citing Brown v. Kerr-McGee Chem. Corp., 767 F.2d 1234, 1241 (7th Cir. 1985) (authorizing private parties to sue chemical companies under state laws governing pollution standards, building codes, and public nuisance, as long as radiological matters were not involved))).

390. Murphy & La Pierre, *supra* note 44, at 453. The authors find various state laws that would impose conditions on authorizing the construction of new nuclear power plants susceptible to preemption by section 274 because they reflect the states' concern about radiological safety and would result in delaying or prohibition of the construction of nuclear plants. *See id.* at 447 (commenting on pending bills in California, Maine, Minnesota, Montana, and Wisconsin). *But see* TOMAIN, *supra* note 21, at 15 ("Safety and finances are not discrete topics. Waste disposal is a radiological hazard as much as it is an accounting entry on the utility's books.").

391. *See* Reilly, *supra* note 43, at 691–93 (discussing the NRC's Individual Plant Examinations policy and how, under the *Pacific Gas* decision, state agencies can "disallow the utility from recovering the implementation costs by increasing rates to energy consumers," calling these disallowances "prudence disallowances," reviewing how these disallowances can prevent utilities from "recouping safety maintenance costs," and saying how courts will only prevent states from using prudent disallowances "if the end results are not just and reasonable" (citing Duquesne Light Co. v. Barasch, 488 US. 299 (1989))).

392. Murphy & La Pierre, *supra* note 44, at 453.

393. *Id.* at 454.

394. *See id.* ("Even if nuclear power reactors and conventional power plants were determined to have comparable records of service, a state agency might still decide to prohibit the construction of an additional nuclear facility on the ground that it was unwise for the state 'to put all its eggs in one basket' and that there should be an equal development of a variety of power sources within the state."). According to Professor Reilly, a state might even be able to override federal authority over nuclear safety "simply by claiming that some aspect of nuclear power generation is too costly." Reilly, *supra* note 43, at 685. *See also* Goxem, *supra* note 10, at 443 ("Such nonparticipation by state or local governments has the potential effect of delaying or even halting the licensing of a nuclear power plant. Even though nonparticipation conflicts with the concept that the federal government has exclusive control over safety regulation, the court allowed this result."). *But see* Murphy & La Pierre, *supra* note 44, at 454 ("There is no easy answer to . . . whether such state public utility regulation would be preempted. The command of section 274 of the 1954 Act that the NRC have exclusive control over the construction and operation of nuclear power plants cannot be reconciled in all cases with the authority of state and local governments under the Act to regulate the rates and services of electric power."); *id.* at 448–49 (*First Iowa* "strongly indicates that the states cannot bar a federal licensee from constructing and

safety concerns can infuse a public utility commission's economic decisions about a nuclear power plant's rates and services.

Vermont Act 160 did not stray into a field exclusively occupied by the federal government—the radiological safety of nuclear power plants. Quite the contrary, the Vermont Act focused on the socio-economic impacts on Vermont citizens from the plant's continued operation. For example, the Act required the PSB to identify and analyze the continuing need for Vermont Yankee; the costs, benefits, and risks of its continued operation; alternatives that might better promote the welfare of Vermont citizens; long-term accountability and financial responsibility issues; and long-term environmental, economic, and public health issues.[395] None of these topics relates to radiological safety, let alone the design or operation of the plant—the focus of federal legislation. The legitimacy of Vermont Act 160's considerations and the difficulty of separating safety from economic concerns lessen the likelihood that Vermont's law is a "subterfuge" to block the continuing operation of a nuclear plant.[396] Even if Vermont Act 160 is an outgrowth of legislative concern about the safe operation of Vermont Yankee, it is "unrealistic" to assume that a state that looks at the economics of a nuclear power plant's operation can at the same time ignore its operational risks, given the economic consequences of those risks.[397] To suggest that a state must ignore the risks that attend the selection of the nuclear option is to blindfold the state to nuclear power's very real economic risks.[398] Thus, there is no implied field preemption of Vermont Act

operating a nuclear power plant producing electric power for interstate commerce" and state bills imposing prohibitions on constructing nuclear power plants or other conflicting requirements "would seriously disrupt the national plan and policy of Congress for the development of nuclear energy to produce electric power for interstate commerce." (citing First Iowa Hydro-Elec. Coop. v. Fed. Power Comm'n, 328 U.S. 152 (1946))).

395. *See* 2006 Vt. Acts & Resolves No. 160; *see also* Tribe, *supra* note 19, at 718 ("The placement of California's nuclear provisions within a comprehensive administrative scheme to achieve such purposes as ensuring a reliable supply of electrical energy, conserving energy resources, and assuring attainment of statewide environmental, public safety, and land use goals, is a further indication of California's pursuit of legitimate interests in enacting these provisions.") The California Act established siting procedures and criteria for non-nuclear plants. *See* Tribe, *supra* note 19, at 718.

396. *See* Murphy & La Pierre, *supra* note 44, at 454 ("In the final analysis, the validity of state public utility regulation will rest on a determination whether its actual purpose is one other than a concern about radiation hazards and the degree of conflict which the state restriction imposes on the national plan for the development of nuclear energy."); *id.* at 455 ("Although the proposed [state moratoria] bills are sometimes justified as state regulation, in most cases the claim of regulation is patently a subterfuge for the real objective—prohibition. Although the bills are phrased in terms of 'conditions' to be met before further construction, the conditions are, as a practical matter, incapable of fulfillment").

397. Reilly, *supra* note 43, at 701 ("[I]t is unrealistic to assume that states consider nuclear energy solely in terms of 'economics' and ignore the fact that nuclear energy presents safety risks. Such restraint would require an inordinate amount of willpower. Instead, states almost certainly evaluate the advantages of nuclear power based on their own estimation of nuclear safety.").

398. *Id.* at 701 n.126 ("'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.'" (quoting Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 225 (1983) (Blackmun, J., concurring))).

160.

Moreover, as long as Vermont Act 160 is directed at a different problem than the AEA, a federal court is unlikely to find it field preempted because any overlap is "incidental" to the field of nuclear regulation rather than essential to it.[399] Here, the purposes of the federal and state law are quite different and there is no overlap. [400] Vermont's law is directed at protecting the citizens of Vermont from unnecessary expenditures, from potential environmental harm, and from anxiety caused by an aging nuclear power plant; the AEA is directed at improving the safety of plant operations and preventing the release of radiological substances. Vermont has not entered the field of radiological safety standards—nothing about the reactor's design would need to be changed for the plant to comply with Vermont Act 160. Nor has the state entered the field of regulating the reactor's routine operation. Therefore, any impermissible overlap between Vermont Act 160 and the AEA is incidental and not fatal to the state law.

Vermont's law empowering the PSB to deny a certificate of public good to Vermont Yankee is an exercise of its reserved authority under the AEA to protect its ratepayers from unwarranted and unwanted economic costs and anxiety.[401] As such, it has not intruded into an exclusive field of federal regulation. Therefore, Vermont Act 160 is safe from express or implied field preemption.

2. There Is No Implied Conflict or Obstacle Preemption of Vermont Act 160

Although there may be tension between the two levels of regulatory authority,[402] no actual conflict between state and federal law exists here that

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399. *See* Wiggins, *supra* note 83, at 56 (When "state and national power is utilized to solve different problems, the state's actions should be encouraged if the degree of overlap between the two provisions is found to be incidental to the operation of both.").

400. *See id.* ("The state-supportive presumption will require those advocating preemption to establish that a conflict with some federal enactment '*will necessarily* arise' because California has postponed granting land use to proposed nuclear facilities. Furthermore, the *Huron* principle will militate against preemption if the objective [of] the California Nuclear Law is found to differ significantly from the purposes of applicable federal law.").

401. *See* Tribe, *supra* note 19, at 712 ("A state's rejection of an electric power source that reasonably appears to create a source of indefinitely growing back-charges to ratepayers no more than exercises the authority recognized by section 271."); *see also supra* notes 7–9 and accompanying text (discussing the costs of building and operating a nuclear power plant).

402. *See* Murphy, *supra* note 96, at 881 (The Supreme Court in *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238 (1984), "emphasized the point that Congress expected tension between state and federal law. . . . Accordingly, this tension implies coexistence."); *see also* Izhakoff, *supra* note 122, at 675 ("The *Silkwood* Court also recognized that punitive damage awards could force utilities to conform to safety standards determined at the state level. . . . [T]he Court admitted that allowing state law punitive damage awards, which have the effect of regulating safety standards, was inconsistent with the notion of exclusive federal jurisdiction over radiological safety. Nevertheless, the majority found that Congress intended to recognize *both* concepts—the NRC's exclusive authority to set safety standards *and* the ability of states to award punitive damages if a jury decided that a plant's safety standards were not

makes it impossible for a regulated entity to comply with applicable federal and state laws.[403] Vermont has not enacted a law that conflicts with any NRC regulation. Since the NRC's decision to authorize Vermont Yankee's continued operation was safety-based, Vermont's decision to deny the plant a certificate for non-safety reasons did not conflict with the federal agency's safety rationale for its decision. Nor was the state's impact on the basis for the NRC's decision direct or substantial.[404] Vermont's law authorized the PSB to deny Entergy a certificate of public good to continue to operate Vermont Yankee based on an assessment of the plant's economic and social risks, while the AEA authorizes the NRC to extend the operating life of the plant based solely on safety considerations.[405] There is also no impossibility problem; Entergy could take steps to lessen the risk of economic surprises from the plant's operation and demonstrate that the concerns raised in association with Act 160 are groundless.

Moreover, Vermont Act 160 does not create an obstacle to the fulfillment of any legislative purposes of the AEA. There is no mandate in the AEA that nuclear power be the preferred future source of energy.[406] Nor is there any indication that Congress intended to prevent state public service commissions from choosing to not certify nuclear power plants.[407] There is nothing in the statute or its legislative history directing states to choose the nuclear option; instead, Professor Wiggins finds a clear statement of legislative intent to make nuclear power an option a state might choose.[408]

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reasonable. The Court paused over the potential conflict between these two policies, yet ultimately concluded that Congress intended to 'tolerate whatever tension there was between them.'" (quoting *Silkwood*, 464 U.S. at 256)).

403. *See supra* notes 196–210 and accompanying text (discussing implied conflict and obstacle preemption).

404. *See* English v. Gen. Elec. Co., 496 U.S. 72, 85 (1990) ("[F]for a state law to fall within the pre-empted zone, it must have some *direct and substantial* effect on the decisions made by those who build or operate nuclear facilities concerning radiological safety levels," and the intentional infliction of emotional distress claim "may have some effect" on safety concerns, but that the effect was "neither direct nor substantial." (emphasis added)). *But see* Scott S. Smith, *Federal Preemption and the AEA: How Federal Preemption Law "Nukes" State Law that Affects Nuclear Waste*, 9 MO. ENVTL. L. & POL'Y REV. 111, 119–20 (2002) (discussing Brown v. Kerr-McGee, 767 F.2d 1134, 1240–41 (7th Cir. 1985), and saying that even though radioactive and nonradioactive materials were "'inextricably mixed,'" Congress did not intend to preempt applicable state laws, and the state law "did not fall within a specific field occupied by the federal government," the district court injunction ordering Kerr-McGee to remove byproduct material from the site "would substitute the judgment of the district court for that of the NRC as to the best method of storing the waste material" and, therefore, the state law was preempted).

405. *See* Wildermuth, *supra* note 3, at 529 ("[G]iven the danger associated with fission reactions and the radioactive waste generated by the process as well as the potential national security threat it poses, nuclear energy is regulated under a strict legal regime that gives the Nuclear Regulatory Commission exclusive jurisdiction over the safety of nuclear power plants.").

406. *See* Wiggins, *supra* note 83, at 65.

407. *See id.* at 78 ("[T]here is simply no room for the conclusion that Congress 'unmistakably' intended to prohibit states from disfavoring nuclear plants when certifying public utility applications.").

408. *See id.* (The AEA "inaugurated the very beginning of the private nonmilitary use of nuclear energy. . . . In this setting, it would be surprising indeed to find Congress intending to eliminate states'

Regardless of whether the AEA's initial primary purpose was the safe development of commercial nuclear power, the passage of time has made any such legislative directive less clear as alternative forms of energy have become available and, in some cases, more appealing.[409] Indeed, the Court in *Pacific Gas* specifically stated that the pro-development bias of the AEA did not require that nuclear power plants should be built regardless of their costs.[410] Absent a manifest directive in the AEA to construct nuclear power plants,[411] states like Vermont, that choose to conserve energy or develop alternative energy production technologies like wind or solar power, should not be bound by what Professor Wiggins calls a "nationally standardized selection of nuclear

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discretion to utilize nonnuclear energy facilities. Far more likely, what was to be 'promoted' was not nuclear power *at the expense* of alternatives but the development of the technology that would permit nuclear power plants *to be* one of the alternatives"). *But see* Baum, *supra* note 77, at 668 ("The primary purpose of the Atomic Energy Act of 1954 (AEA) is to foster the safe development of nuclear energy as a power source." (citing Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 221 (1983))).

409. *See* Tribe, *supra* note 19, at 721 ("Since [California's] nuclear provisions may result in an indefinite exclusion of nuclear power plants from California, it may be argued that the state is interfering with activity that Congress set out to promote through the Atomic Energy Act. Congress, however, has neither made a judgment nor enacted any requirement that the nation as a whole must 'go nuclear.' On the contrary, by separating promotional from regulatory activities in the nuclear field, and by recently permitting states to subject nuclear power plants to state health regulations no less stringent than those applicable to other energy sources [in Clean Air Act § 122], Congress has clearly indicated its intent to provide the states with a nuclear option, not a nuclear mandate."); *see also* Wiggins, *supra* note 83, at 80 (saying the enactment of the 1974 Energy Reorganization Act, "which completely restructured federal regulation of atomic energy," indicated Congress's unwillingness "to give nuclear power a legislative preference, and instead provided for a balanced system of meeting national energy demands").

410. *See Pacific Gas*, 461 U.S. at 221–23 (saying the AEA's primary purpose of developing commercial use nuclear power did not imply congressional intent to do so "at all costs" and states retained "sufficient authority . . . to allow the development of nuclear power to be slowed or even stopped for economic reasons"); *see also* Borchers & Dauer, *supra* note 123, at 104 ("The Court noted that while a basic purpose of the AEA is to promote nuclear power, the objective of promoting nuclear power is to be achieved economically" and, thus, the California law, which the Court "construed as a guarantor of economically viable nuclear development, was not at cross-purposes with the AEA . . . ."); Li, *supra* note 44, at 1203–04 (Local nuclear free zones "do not conflict with federal statutes or obstruct federal purposes. Because the AEA does not require the manufacture of nuclear weapons 'at all costs,' and because nuclear free zones do not impose unacceptable costs on the production of nuclear weapons, their impact on federal defense policy does not require invalidation."). *But see* Martin, *supra* note 296, at 996 ("[I]f Congress does not act, and the courts are precluded from reviewing local enactments, 'the effective final decision weighing state and federal interests would . . . rest with . . . state and local lawmaking bodies' likely to emphasize local concerns and discount the federal interest in an unobstructed foreign policy."); Izhakoff, *supra* note 122, at 674 ("This result in *Pacific Gas* undercuts Congress's promotional objectives for nuclear power as set forth in the AEA and gave individual states a means to exercise leverage over the safer development and use of nuclear power.").

411. Even the granting of a construction permit is not a mandate to build and operate a plant. *See* Izhakoff, *supra* note 122, at 672 ("NRC licensing permits the construction of a nuclear power plant without compelling it . . . ."); *see also* Tribe, *supra* note 19, at 703 ("'[T]he license granted by the AEC is merely a permit to construct a power plant, not a Federal order to do so.' Therefore, if legitimate state interests lead a state to delay, relocate, or even reject a proposed nuclear power plant, the 1954 Act as amended cannot be treated as mandating a contrary choice." (quoting Marshall v. Consumers Power Co., 237 N.W.2d 266, 280 (1975))).

energy."[412] Thus, Vermont Act 160 presents no threat of obstacle preemption.[413]

B. Vermont Act 160 Is Protected by the Presumption Against Preemption

The presumption against preemption is particularly strong when the basis for state action is its traditional police powers, as is the case with Vermont Act 160, and where there is no expression of contrary intent in the federal law, as with the AEA.[414] One sacrosanct area of state regulation is determining electric utility rates,[415] including electricity from nuclear power plants;[416] another is determining whether a particular power plant is necessary.[417] "[T]o require that commercial electric power shall not be generated until it is clear that the economic burden of using such power can be fully discharged in a finite time[] is only to impose a rational economic constraint on the generation and sale of electricity."[418] This authority to require a utility to demonstrate the need for the power a plant will generate fits squarely within a state's traditional power to regulate utilities that operate within its borders[419] and to protect its ratepayers from unsound investments, even if the exercise of that authority enables the public utility commission to exclude an investment in a nuclear plant from the

412. *See* Wiggins, *supra* note 83, at 66–67 (highlighting "California's unique position" as a reason why "states should be free to establish their own priorities and guidelines for meeting energy needs," listing among these features California's leadership in environmental consciousness resulting in a public "debate over the desirability of nuclear power" and that it is "geographically and geologically well situated" to use nonnuclear energy, mentioning "solar, wind, geothermal and tidal sources," and stating that the argument that "California cannot choose to develop alternative energy technologies, but that it must be bound by some nationally standardized selection of nuclear power, makes very little sense in the absence of an unambiguous showing of congressional intent"); *see also supra* notes 244–45 and accompanying text (discussing the clear statement rule).

413. *Cf.* Nishimura-Paige, *supra* note 81, at 1032 ("In *Commonwealth Edison Co. v. Montana*, [453 U.S. 609 (1981),] the Court rejected a claim that congressional policy favoring the use of coal as a fuel source preempted state legislation that may have had an adverse effect on the use of coal.").

414. *See supra* notes 234–55 and accompanying text (discussing the judicial presumption against preemption).

415. *See* Wiggins, *supra* note 83, at 67.

416. *See* Tribe, *supra* note 19, at 686 (The nuclear provisions of the California Public Resources Code "are not preempted by federal law. On the contrary, they properly serve the vital interests of the people of California in providing California citizens with a plan of maximal accountability for the development of a responsible and economical state energy program within the framework of national energy policy and federal law."); *see also* Pac. Gas & Elec. Co. v. Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 208 (1983) (holding that the statutory language and history of section 271 "confirm[ed] 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" (citing 100 CONG. REC. 12015, 12196-202 (remarks of Sen. Hickenlooper)). For a general discussion of the rate-setting process, see Tomain, *supra* note 16.

417. *See* Vt. Yankee Nuclear Power Corp. v. NRDC, 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.").

418. Tribe, *supra* note 19, at 712.

419. *See id.* ("[S]uch an economic preference would fall within the traditional state function of regulating public utilities—insuring that they provide adequate services at reasonable rates.").

rate base, making the nuclear plant a financially unattractive investment for the utility.[420] Thus, to the extent that Vermont Act 160 represented a determination by the state that the safety problems at the plant created untenable economic uncertainties for the company's ratepayers and citizens of Vermont, then the state's decision not to extend its operating lifetime until a complete cost-benefit evaluation had been done for the plant should be protected by the presumption against preemption.

It is hard to imagine a more "frontal assault" on state authority than a federal directive dictating to states what form of energy source they must invest in.[421] If a court construed the AEA to preempt Act 160, it would be telling Vermont that the state must continue to rely on nuclear power as its preferred energy source and dedicate the plant site to that use. Surely, after forty years of fraught experience with Vermont Yankee, Vermont should be able to change its mind. Indeed, if Vermont were not allowed to protect its citizens from the risk considerations of Act 160, there would be a regulatory vacuum leaving the state exposed to those risks.[422]

Another police power is a state's ability to determine land uses within its borders, which has long been considered a matter of exclusive state control.[423] This power remains plenary even when it might be used to block construction

420. *Id.* at 712 n.157 ("[A] state under its regulatory authority could inquire into the prudence of investments by public utility companies into nuclear power reactors, and could exclude such investments from the rate base if they were determined to be imprudent," even if that resulted in "prevent[ing] the development of nuclear energy within the state . . . . [I]t is not clear that the federal government could compel a state to invest its resources in a losing venture."); *see also* Izhakoff, *supra* note 122, at 673 ("By employing economic considerations to justify state laws that block the operation of nuclear power plants, even though safety is the genuine but undisclosed goal of such laws, state legislatures effectively can prevent the further development of nuclear energy within their jurisdictions."); Guastella, *supra* note 10,, at 759 ("Two tests have traditionally been used by regulatory commissions for implementing this allocation of risk policy [between investors and ratepayers]. The prudent investment test disallows the use of plant costs in determining rates if the investment was imprudent in light of information that was reasonably available to management at the time the investment decision was made.").

421. *See* Tribe, *supra* note 19, at 722 ("If, as the Court held in *National League of Cities v. Usery*, a congressional command that the states pay their public health and recreation employees a minimum wage must be struck down as a forbidden attempt to 'devour the essentials of state sovereignty,' then what is one to say of a congressional command that states invest their resources in nuclear energy rather than rely on a combination of fossil fuels, solar power, geothermal power and energy sources?" (quoting Nat'l League of Cities v. Usery, 426 U.S. 833, 855 (1976))); *id.* ("If Congress requires California to open its gates to nuclear reactors, however, it is exercising a far more delicate power that, under *National League of Cities*, appears to call for extraordinary justification, such as a showing of 'an extremely serious problem which endanger[s] the well-being of all the component parts of our federal system and which only collective action by the National Government might forestall.'" (quoting *Nat'l League of Cities*, 426 U.S. at 852–53)).

422. *See id.* at 714 ("[S]tate requirements not directed at radiation safety would not be duplicative of federal efforts, and a holding of preemption in such a case would create a legal vacuum."); *see also supra* notes 59–66 and accompanying text for an example of a regulatory gap.

423. *See supra* note 95 and accompanying text (discussing a state's traditional authority to regulate land use).

of a nuclear power plant.[424] Additionally, a state has a legitimate interest in shielding its environment from harm and protecting its citizens from anxiety caused by the operation of a nuclear power plant.[425] To the extent it may be difficult to tease apart radiological impacts from other forms or causes of environmental harm and public anxiety, courts should give deference to a state's determination of where the dividing line should fall.[426] Therefore, the determination by Vermont in Act 160 that the continuing use of land within the state's borders for the use of Vermont Yankee is unwarranted because of potential harm to its citizens is an exercise of the state's traditional police powers.

However, since a contrary federal interest can overcome the exercise of a state's police power authority,[427] an argument might be made that Vermont Act 160 should be preempted because it could start a landslide of similar attempts by states to block the extension of their nuclear power plants' operating licenses.[428] This might undermine important national goals like achieving energy independence, maintaining a strong electric power grid, and avoiding the short-term need to build new coal-fired power plants.[429] But even in the wake of Fukushima Daichii, several states have reiterated their

424. *See* Baum, *supra* note 77, at 679 (noting many ways states can "prevent the development of nuclear power plants by means of stringent land use requirements, or by using the authority granted the states under the Clean Air Act Amendments of 1977").

425. *See* Tribe, *supra* note 19, at 703–04 ("In order to meet its responsibilities towards its citizens for regulating public utilities, managing public resources, and maintaining public tranquility, and also its responsibilities towards future generations, a state has a duty and a right to: (1) require economy and efficiency in the generation of electricity, (2) minimize the economic and social burdens of nuclear reactor failure or catastrophe, (3) guarantee its citizens maximum peace of mind concerning nuclear energy activity, and (4) avoid irreconcilable conflict with sound principles of ecological management."); *id.* at 708 ("Other problems flow from the public anxiety inevitably associated with the manifest difficulties of this [nuclear waste] containment, and from the many tangible and troubling symptoms of social unrest to which such unrelieved anxiety can contribute."); *see also* Cavers, *supra* note 19, at 51 (arguing that a state law banning construction of nuclear reactors near major population centers because of the anxiety this might cause city residents, regardless of the objective safety of a reactor "seems . . . a purpose distinct from 'protection against radiation hazards,' . . . [and] would be sheltered by subsection k against attack based on a theory of pre-emption").

426. *See* Murphy, *supra* note 96, at 877 (arguing that the court in Me. Yankee Atomic Power Co. v. Bonsey, 107 F. Supp. 2d 47, 55–56 (D. Me. 2000), held "deference must be given to the state assertions that the state did not intend to regulate radiological areas, and, therefore, federal law did not preempt the state investigation").

427. *See* Wiggins, *supra* note 83, at 55–56 ("Of course the asserted purpose must first be found an appropriate use of the state's police power . . . . Next, this state interest must be balanced against the equally justifiable federal interest in regulating the same subject.").

428. *See* Murphy & La Pierre, *supra* note 44, at 450.

429. *See* Tribe, *supra* note 19, at 679 ("The extent to which the federal Atomic Energy Act of 1954 (AEA) allows the states to regulate the siting, construction, and operation of nuclear power plants is a question of great significance to the entire nation at a time when the rising costs of traditional fuels have caused suppliers and consumers alike to search for safe, economical, and reliable alternative sources of energy."); *see also* Izhakoff, *supra* note 122, at 665 (*Pacific Gas* and *Silkwood* allow "all the states to circumvent federal policy favoring continued development of nuclear energy by clearing the way for the enactment of stringent safety regulations, which can be used to block the operation of privately owned nuclear power plants.").

continuing commitment to nuclear power,[430] in part because of the difficulty of building new coal-fired plants given Clean Air Act restrictions. Moreover, taking existing power plants offline has a cost: replacement power must be purchased, power failures may increase, and electricity prices will likely rise.[431] In the short term, only Vermont will bear the costs of its action, as it will need to find replacement power to assure uninterrupted service to Vermont Yankee's customers and will have to shoulder the cost of lost jobs and revenue.[432] These costs make it doubtful that many states will rush to follow Vermont's lead. Therefore, little disruption to the national grid would occur if only one state, Vermont, prevails in its attempt to close its nuclear plant.

In the absence of a conflicting national policy requiring Vermont Yankee's continued operation, the presumption against preemption protects Vermont's decision to abandon what is becoming an unreliable and risky source of power. This presumption protects state laws enacted under a state's traditional police powers and can only be overcome by clear evidence of contrary congressional intent.[433] A reliable supply of electric energy for its citizens falls within a state's traditional police power and is a matter of state, not federal, concern.[434] Vermont Act 160, which authorizes the state to exercise that power to assure its citizens of a reliable source of electric energy and, thus, protect their general welfare, is a legitimate use of the state's police power and, therefore, should not be preempted.

Strong policy reasons underlying the presumption against preemption also support this conclusion, particularly the importance of maintaining states as robust centers of independent authority in our federal structures. Vermont's law reflects the state's interest in being an active player in the fate of its only nuclear reactor, and as the state's recent denial of a Clean Water Act section 401 certification for plant discharges illustrates,[435] Vermont offers its citizens the prospect of greater environmental protection than the national government.[436] Given Vermont Yankee's accident record, the history of lax

430. *See* Christa Marshall, *Nuclear Revival Plans Continue in Some States*, CLIMATEWIRE (March 21, 2011), http://www.eenews.net/climatewire/2011/03/21/archive/4 (citing Wisconsin, Minnesota, Iowa, Utah, and Missouri as states considering the nuclear option).

431. *See generally* Matthew L. Wald, *If Indian Point Closes, Plenty of Challenges*, N.Y. TIMES, July 14, 2011, at A21; *see also* Patrick McGeehan, *Dirtier Air and Higher Costs Possible if Indian Point Closes, Report Says*, N.Y. TIMES, July 7, 2011, at A19.

432. *See* RICHARD W. HEAPS, NORTHERN ECONOMIC CONSULTING, INC., THE ECONOMIC IMPACT OF THE VY STATION (2010), *available at* http://www.vtep.org%2Fstudies%2FIBEW%2520Heaps%2520VY%2520Economic%2520Report.pdf (discussing the economic benefits of Vermont Yankee, which presumably would be lost if the plant ceases operation).

433. *See supra* notes 234–46 and accompanying text (describing the basic elements of the judicial presumption against preemption).

434. *See supra* notes 93–105 and accompanying text (discussing the division of authority over nuclear power plants between the federal and state governments).

435. *See supra* note 161.

436. Cavers objects to a Minnesota law authorizing the state Board of Health to reject nuclear reactors that endanger public health because:

NRC oversight of its operation, and Entergy's dissembling information about the plant's problems, additional oversight by the state provides an overlapping layer of regulation and the chance to avoid re-experiencing the NRC's errors.[437] Indeed, the state's denial of the section 401 certification corrected an error that the NRC made when it authorized the license extension without complying with section 401.[438] Therefore, protecting Vermont Act 160 from federal preemption assures Vermont citizens a higher level of protection from potential environmental harm.

Vermont Act 160 also promotes deliberative democracy.[439] The law requires a "public engagement process," including at least three public meetings to discuss the issues raised by the public review of the plant.[440] This kind of public engagement in a governmental decision-making process can happen more easily and effectively at the state or local level, where access for citizens is more direct and immediate, and there is less likelihood of agency capture by large economic interests than at the federal level.[441] Preempting the state law would foreclose such participation with the attendant risks of federal agency capture and the loss of public input into the decision-making process.

Furthermore, the Supreme Court has largely settled the question of whether states should be robust centers of nuclear power plant regulation.[442] In *Pacific Gas* and *Silkwood*, the Court effectively decentralized nuclear regulation.[443] Subsequent Supreme Court decisions affirmed that result despite

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> unless Minnesota were prepared to rubber-stamp the AEC's decisions, its exercise of concurrent licensing power might actually result in the imposition of stricter controls than those imposed by the Federal agency" and would require a "parallel process be conducted before a state agency [that] would add to the already serious costs of the licensing process in terms of the applicant's time and man-power and might readily lead to expensive delays in getting the reactor built and into operation.

Cavers, *supra* note 19, at 33–34.

437. *See supra* notes 327–44 and accompanying text (discussing the benefits of, and problems with, regulatory overlap).

438. *See supra* note 161 (citing a GREENWIRE article discussing the state's lawsuit against the NRC for extending the plant's operating license without a water quality certificate or a waiver of the statutory requirement).

439. *See supra* notes 351–58 and accompanying text (discussing how preemption squashes citizen participation in the process of governing).

440. 2006 Vt. Acts & Resolves No. 160 § 4(b).

441. *See supra* notes 345–57 and accompanying text (discussing the importance of public participation at the local level); *supra* notes 324–26 and accompanying text (noting the role of public participation in avoiding agency capture).

442. *See* Reilly, *supra* note 43, at 684 ("The Court agreed that the Federal Government 'has occupied the entire field of nuclear safety concerns' . . . . Consequently, state regulation of nuclear power plant construction based on public health and safety concerns '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—and would be pre-empted for that reason.'" (quoting Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 212–13 (1983))).

443. *See* Izhakoff, *supra* note 122, at 673–74 ("[B]ecause the Supreme Court sanctioned direct state regulation of all 'non-safety' matters, it effectively decentralized government decisionmaking over the nuclear power industry."); *id.* at 677 ("In *Pacific Gas* and *Silkwood*, the Court reassessed the extent of federal preemption under the AEA and interpreted the Act to permit greater state authority over the

the strong federal interest in assuring nuclear reactor safety, achieving national energy independence and an uninterrupted supply of power for the country, and reducing the country's carbon footprint.[444] The Court may have done this in response to increasing public concern about nuclear safety[445] or, perhaps, because it realized that concentrating nuclear regulation in the federal government might increase the likelihood of error and stifle regulatory creativity at the state level.

Because of the desirability of having states as robust centers of governance and the strong tradition of preserving a state's traditional governing authority, absent a clear statement of preemptive intent in the AEA and conditions favoring preemption, Vermont should be free to choose the source of energy for its citizens.[446]

C. Overcoming Collective Action Problems Created by Vermont Act 160

Since Vermont Act 160 affects a single nuclear power plant, and not state regulatory standards or other plants, many of the arguments set forth in Part IV supporting preemption of state laws are inapplicable to the argument in this Article, such as the need for uniformity, the ability to achieve economies of scale at the national level, the avoidance of burdens on interstate commerce, and the need to facilitate interstate markets and resource management.

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nuclear power industry. The Court thus cleared the way for joint regulation of nuclear power plants by both the states and the NRC, notwithstanding the potential future impact of this policy upon the congressional desire to promote nuclear energy."). *But see* Cavers, *supra* note 19, at 31 n.7 ("Licensing and regulation of more dangerous activities—such as nuclear reactors—will remain the exclusive responsibility of the Commission. It is not intended to leave room for the exercise of dual or concurrent jurisdiction by States to control radiation hazards by regulating by-product, source, or special nuclear materials. The intent is to have the material regulated and licensed by the Commission, or by the State and local governments, but not by both.'" (quoting S. REP. NO. 870, 86th Cong., 1st Sess., at 8–9 (1959))).

444. *See* Izhakoff, *supra* note 122, at 665 ("Despite its emphasis on the indirect effect of the regulations at issue, the *Goodyear Atomic* Court again provided specific precedent that allowed states to participate more significantly in the safety regulation of nuclear plants—an area inherently bound to national security and over which the states previously had been denied authority." (citing Goodyear Atomic Corp. v. Miller, 486 U.S. 174 (1988))); *see also* English v. Gen. Elec. Co., 496 U.S. 72, 90 (1990) (holding the state law action for intentional infliction of emotional distress did not "fall within the pre-empted field of nuclear safety as that field has been defined in prior cases").

445. *See* Izhakoff, *supra* note 122, at 689–90 ("The Court's somewhat inconsistent positions in *Pacific Gas*, *Silkwood*, and *Goodyear Atomic* might best be interpreted when viewed in their historical context. Since the early 1980s, the Supreme Court has faced increasing public sensitivity to inadequate regulation by the NRC and, after the Three Mile Island accident, growing doubts about the safety of nuclear power. Aware of this public sentiment and under mounting pressure from state legislatures seeking to involve themselves in regulating nuclear safety, the Court in *Silkwood* and *Goodyear Atomic* may have decided to adopt an analytical interpretation of the AEA which broadens the permissible scope of state control over the nuclear industry.").

446. *See* Wiggins, *supra* note 83, at 82 ("[I]n keeping with the state-supportive presumption in preemption cases generally, the states themselves may determine priorities for types of power plants to be constructed within their borders. Until Congress 'unmistakably' declares a preference for a specific fuel source, which it has not yet done, the states should retain responsibility to monitor choices made initially by a public utility. In this way their traditional police power authority can best be maintained.").

However, Vermont's enactment of Act 160 was clearly motivated by its self-interest. In all likelihood, the state based its assessment of its sole nuclear plant's costs, benefits, and risks on parochial concerns,[447] ignoring benefits and harms beyond its borders.[448] This motivation provides a strong justification for federal preemption.[449] Following Professors Glicksman and Levy's suggestion that a court should only find preemption when collective action problems could not be overcome, this Part examines whether Vermont Act 160 creates collective action problems and, if it does, whether those problems could be surmounted without the law's preemption.[450]

Collective action problems may arise if Act 160 vested negative externalities on adjacent states or on the states as a whole. Since Vermont is not closing its borders to an unwanted land use, which another state or the federal government wants to locate there, its law is not forcing that unwanted land use and its harms onto another state;[451] Vermont Yankee is not going to be relocated because the plant's only purpose is to provide power to local customers. Vermont's law will not have a direct impact on any other state's treatment of nuclear power plants. Nor will national regulations that might affect some regulatory threshold result from Vermont Act 160. Thus, allowing Vermont Act 160 to stay in effect will not create a barrier to the location of nuclear plants in other states or the location of non-nuclear plants in Vermont. So, no other state will suffer lost positive externalities and Vermont Act 160

447. *See* Reilly, *supra* note 43, at 701 ("States, observing nuclear power from a localized point of view, inevitably base their safety estimations on parochial concerns. They may very well overemphasize the risk of a severe nuclear accident, since this would profoundly affect the population within their borders.").

448. *See id.* ("While states overemphasize the likelihood of a nuclear disaster, they simultaneously de-emphasize the significant environmental benefits of nuclear energy. Many of these benefits would be external to state borders and thus apparent only from a national or global perspective."); *id.* at 702 (California's nuclear moratorium law "may have forced California to import electricity from states in the Northwest. Production of this electricity may severely pollute the Northwest, but leave the Californian environment untouched."); *id.* ("In *Northern States Power*, the Eight Circuit Court of Appeals anticipated state overregulation of nuclear power," and "enforced federal preemption of state nuclear regulation because '[states] might conceivably be so overprotective in the area of health and safety as to unnecessarily stultify the industrial development and use of atomic energy for the production of electric power.'" (quoting N. States Power Co. v. Minn., 447 F.2d 1143, 1154 (8th Cir. 1971), *aff'd per curiam*, 405 U.S. 1035 (1972))).

449. *See* Levy & Glicksman, *supra* note 207, at 930 ("[F]ederal action is necessary or justified when state regulation is unlikely to produce the optimal result, viewed from the perspective of the United States as a whole, because the incentives of individual states and the interests of the states as a collective run in different directions."); Cavers, *supra* note 19, at 51 ("If the reactor were simply a part of an electric power system, ministering to no special federal objectives in its particular location, I should not be surprised if the authority of the state were held to prevail."). *But see* Tribe, *supra* note 19, at 723 ("[E]ven if California's nuclear provisions were to result in the exclusion of nuclear reactors—a wholly speculative possibility—they should not, solely for that reason, be deemed preempted by federal law.").

450. *See* Glicksman & Levy, *supra* note 175, at 647–48.

451. Conceivably, as a seller of wholesale power to customers in other states, the loss of that power or any increase in its costs could hurt those out-of-state consumers. But it is assumed that Vermont would be able to produce or purchase replacement power, thus eliminating any such harm.

will not create any transboundary pollution. Indeed, shuttering Vermont Yankee eliminates that likelihood.[452] This is also not a situation involving resource pooling—creating incentives for other states to free ride on the efforts of Vermont—or resource hording—giving Vermont an unfair advantage. Therefore, Vermont Act 160 does not create any collective action problems for other states or the country as a whole.

While Vermont's citizens may benefit from the shutdown of Vermont Yankee to the extent that they are protected from unwanted future costs or health risks, the state will also suffer costs, such as the need to buy or develop replacement power, the loss of plant-related jobs, and the loss of state revenue from plant operation.[453] Vermont might even find itself subject to a takings claim should it deny a certificate of public good for the plant.[454]

Therefore, any collective action problems attributable to Vermont's law, on closer examination, disappear. Vermont alone will bear the costs and benefits of its action. There is no reason to expect other states to follow Vermont's lead by also blocking the extension of their nuclear plants' operating licenses. Even if they do, this dynamic may be a valuable communication tool causing the NRC to rethink its policy of automatically granting license extensions—a reason why Congress, in the AEA, preserved a sphere of state regulation of nuclear power plants when their operation directly affects a state's traditional police power concerns.

CONCLUSION

The AEA should not preempt Vermont Act 160. Vermont's law falls

452. The plant would be decommissioned and dismantled in accordance with NRC rules and the remaining fuel would be sent to a licensed waste repository or stored onsite.

453. *See generally* HEAPS, *supra* note 432. Vermont may also not be able to recoup these costs in the rate base. *See* Guastella, *supra* note 10, at 759 ("The second test is the used and useful test, which excludes from the rate base the costs of a plant that is not providing service. In reality, it is not a test at all. The principle strips the regulatory body of any discretion and denies recovery regardless of whether the investment was prudent, without regard to the potentially devastating effect such a decision might have on a utility.").

454. *See* Guastella, *supra* note 10, at 763 (discussing Appeal of Pub. Serv. Co. of N.H., 454 A.2d 435 (1982), which found a decision by the state public utility commission prohibiting the expenditure of capital received in "a routine stock issuance, on construction of Unit II of the Seabrook nuclear facility" a regulatory taking because it "effectively precluded completion of the project"); *id.* at 760–61 (New York's Used and Useful law when "combined with the state's new anti-Shoreham policies, appear[ed] to unreasonably defeat the investment expectations of LILCO. LILCO shareholders would be injured by receiving no return on their investment in an operational nuclear plant for which the state, through past participation and support, was partly responsible. Management and investors relied on this government cooperation and the prudent investment rule. It now appears they were misled by the state and county, which have embarked on policies of active opposition to Shoreham."); *see also* Shattuck, *supra* note 17, at 267 ("To saddle a utility with the costs of a political change of mind by a state or local government, and to allow their consequent nonparticipation in emergency planning to become a de facto veto after hundreds of millions of dollars have already been spent, makes no more sense than telling people with a rector in their backyard that they must not think the unthinkable and must not worry over how to get out.").

squarely within the state's traditional police power preserved in the AEA and is consistent with federalism principles. State participation in the regulation of nuclear plants has not been expressly preempted by the AEA, nor has the NRC totally occupied the field of nuclear power plant regulation. Absent a statutory mandate supporting the national development of commercial nuclear power plants, the AEA creates no obstacle to a state wishing to pursue alternative forms of power. The conflation of economic and radiological safety concerns that underlie the AEA underlie nuclear power itself—radiological safety cannot easily be separated from a state's concerns about the economic wellbeing of its citizens, nor should it be. Preserving Vermont's capacity to say no to the continued operation of Vermont Yankee protects the state's exercise of its traditional police power authorities and preserves it as a robust center of governance—a useful check on federal excesses and errors and a source of new ideas for solving regulatory problems. The only valid justification for preemption of state authority in a circumstance such as this is to prevent collective action problems, but there are none here that would harm other states or the nation.

Vermont should be allowed to protect its citizens from what it perceives as a potential economic and environmental harm. Vermont Yankee is no different from any other type of plant a state public service commission determines is imprudent. Indeed, in an era where there are many power generation choices, to saddle Vermont with a plant that has been accident prone, poorly managed, and costly, based upon decisions made nearly half a century ago, would be unwise and unfortunate. This is certainly not what the Framers intended when establishing the federalism balance that envisioned states as coequal partners with the federal government in the business of governing.

We welcome responses to this Article. If you are interested in submitting a response for our online companion journal, *Ecology Law Currents*, please contact ecologylawcurrents@boalt.org. Responses to articles may be viewed at our website, http://www.boalt.org/elq.