Unstable Elements: What the Fractured Decision in *Virginia Uranium* Means for the Future of Atomic Energy Act Preemption

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In Virginia Uranium v. Warren*, the Supreme Court wrestled with the question of whether Virginia was preempted from banning uranium mining with the goal of preventing milling and tailings disposal, activities that can only be regulated by the Federal Nuclear Regulatory Commission. While the Court upheld Virginia's ban, it did so in a fractured decision that reveals divisions about obstacle preemption, a category of preemption that posits state laws that interfere with the objectives of federal statutes are preempted. This doctrine has been criticized for its vagueness and has created unlikely alliances between conservative and liberal Justices, who are unlikely to accept obstacle preemption claims. The outcome in* Virginia Uranium *suggests that the current Court is particularly unlikely to be receptive to obstacle preemption claims. This Note concludes that this reticence provides an opportunity for states to pass environmentally protective policies beyond what was previously thought possible in the field of nuclear energy.*

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INTRODUCTION

Nuclear technology has been controversial, powerful, and secretive from its inception. Association with catastrophe has long been its hallmark, and the battles over its continued use for both civilian and military purposes have been hard fought. This Note focuses on the State of Virginia's battle to prevent uranium mining and how this battle played out in the U.S. Supreme Court under the divisive obstacle preemption doctrine and the Atomic Energy Act (AEA), the federal law passed after World War II to promote peaceful use of nuclear

technology.[1] This case has both hyperlocal and global ramifications. Locally, nuclear facilities risk serious health and environmental effects that can last millennia.[2] Globally, governments must weigh the value of relying on nuclear technology in the search for clean power alternatives in the fight against climate change.[3]

The question of how local power can be exercised to decide whether to use nuclear technology is central to if and how this technology will be deployed. At stake for communities is the ability to decide whether they want to play host to activities that have historically been associated with dangerous long-term ramifications. Nuclear technology's destructive potential is hard to overestimate, and the widespread destruction that occurred in Hiroshima and Nagasaki after the deployment of the first nuclear weapons is well documented.[4] However, the destructive potential of nuclear technology is not limited to wartime use. The most destructive civilian nuclear disaster was the 1986 meltdown at the Chernobyl nuclear reactor in Ukraine.[5] Attempts to manage the thousand square mile, uninhabitable "exclusion zone" surrounding the former plant are still active decades later, and the area surrounding the plant is not expected to be able to sustain human life for thousands of years.[6]

The U.S. federal government has been a particular offender in causing unmitigated harm through its nuclear activities. The Marshall Islands, the proving ground for American nuclear technology until 1958, have suffered widespread forced relocation, birth defects, and cancer at the hands of the U.S. nuclear program.[7] They have been largely abandoned by the United States as they navigate the challenges these tests left and the disappearance of remaining habitable land as climate-change-fueled sea level rise shrinks their islands.[8] Domestically, U.S. nuclear testing at the Nevada Test Site caused nuclear fallout to land on Western Shoshone and Western Paiute Lands, but none of the calculations of maximum safe dosages were done with either of these Native

1. Atomic Energy Act of 1946, 42 U.S.C. §§ 2011–2021, 2022–2286i, 2296a–2297h-13 (2018) (renamed the Atomic Energy Act of 1954).

2. Alan Taylor, *Still Cleaning Up 30 Years After the Chernobyl Nuclear Disaster*, THE ATLANTIC (Apr. 4, 2016), https://www.theatlantic.com/photo/2016/04/still-cleaning-up-30-years-after-the-chernobyl-disaster/476748/.

3. Union of Concerned Scientists, *Nuclear Power and Global Warming* (May 22, 2015), https://www.ucsusa.org/resources/nuclear-power-global-warming.

4. The detonation of the first atomic bomb is estimated to have killed between 90,000 and 166,000 people on immediate impact, and the long-term health effects on the people of Hiroshima have been enormous and well documented. Dan Listwa, *Hiroshima and Nagasaki The Long Term Health Effects*, COLUMBIA: CTR. FOR NUCLEAR STUDIES (Aug. 9, 2012), https://k1project.columbia.edu/news/hiroshima-and-nagasaki. Those exposed to the initial radiation had exponentially higher rates of cancer than baseline rates, and children in utero suffered similar health consequences. *Id.*

5. Taylor, *supra* note 2.

6. *Id.*

7. Dan Zak, *A Ground Zero Forgotten The Marshall Islands, Once a U.S. Nuclear Test Site, Face Oblivion Again*, WASH. POST (Nov. 27, 2015), https://www.washingtonpost.com/sf/national/2015/11/27/a-ground-zero-forgotten/.

8. *Id.*

Groups in mind.[9] As a result of this lack of consideration, Native Populations suffered substantial radiation exposure from these tests.[10]

Virginia's ongoing struggle with whether or not to develop its nuclear resources began with the discovery of the United States' largest uranium deposit in Coles Hill, Virginia in the 1970s.[11] Mining companies quickly bought up mineral rights in the area, but the State of Virginia temporarily banned uranium extraction, pending the creation of a statutory scheme for permitting uranium mining.[12] What began as a one-year uranium mining moratorium extended to a decades-long policy.[13] After failing to successfully lobby the state to lift this moratorium, the owner of the land where the deposit is located sued the State of Virginia on a theory of obstacle preemption under the AEA.[14] The owner argued that the AEA granted exclusive authority to the federal government to regulate the uranium refining process and thus preempted the Virginia law, which was enacted with the intent of preventing these activities from taking place in the state.[15] This litigation ended in a 2019 Supreme Court decision upholding the law in *Virginia Uranium v. Warren*.[16]

The Supreme Court upheld Virginia's ban on uranium mining, with six Justices siding with the State in two divergent opinions and the remaining three Justices dissenting.[17] The three opinions suggest a shift in the Supreme Court's approach to obstacle preemption under the AEA that creates more flexibility for states to control policy related to nuclear extraction, processing, and generation. In *Virginia Uranium*, the Court established a high bar for proving an obstacle preemption claim and narrowed the existing, widely applied test for preemption from a 1980s case addressing a similar issue.[18] This outcome suggests that states and localities will be able to play a large role in the future development of nuclear resources.

In this Note, I will first lay out the basics of preemption law and the most essential preemption decisions under the AEA. I will next discuss the three opinions in *Virginia Uranium* and lay out guiding principles for evaluating obstacle preemption claims under the AEA moving forward. Finally, I will discuss how *Virginia Uranium* might change the outcome of previous AEA

9. *See* Eric Frohmberg et al., *The Assessment of Radiation Exposures in Native American Communities from Nuclear Weapons Testing in Nevada*, 20 RISK ANALYSIS 101, 102–03 (2000).

10. *Id.*

11. Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1909–10 (2019) (Ginsburg, J., concurring).

12. *Id.* at 1910–11.

13. *Id.* at 1911.

14. *Id.*

15. *See id.*

16. *Id.* (noting the Supreme Court granted certiorari "[g]iven the importance of the issue").

17. *Id.* at 1909 (lead opinion); *id.* at 1916 (Ginsburg, J., concurring) (joined by Justices Sotomayor and Kagan); *id.* at 1920 (Roberts, C.J., dissenting) (joined by Justices Breyer and Alito).

18. Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 212 (1983).

obstacle preemption cases, should similar cases arise, and explore whether this holding will have an impact beyond nuclear technology cases.

I. OBSTACLE PREEMPTION JURISPRUDENCE

State laws are federally preempted when they conflict with a federal law, treaty, or the U.S. Constitution.[19] When a court finds that a state law is federally preempted, that law is invalidated and may not be enforced.[20] Federal preemption of state laws has its basis in the Supremacy Clause of the U.S. Constitution,[21] which establishes that the Federal Constitution and laws made under its authority are "the supreme law of the land."[22] This clause resolves questions about the division of authority between states and the federal government in favor of the federal government so long as federal laws are made pursuant to the federal government's enumerated powers.[23] In any preemption case, the Court's "ultimate task" is "to determine whether state regulation is consistent with the structure and purpose of the statute as a whole."[24]

While courts may rely on express statutory language to determine a statute's preemptive effect,[25] the much more challenging task is when courts must determine whether and to what extent federal law impliedly preempts state laws. Typically, courts recognize three types of implied preemption: field preemption, conflict preemption, and obstacle preemption.[26] However, these categories are not mutually exclusive, and both categorical overlap and a lack of clarity as to which doctrine courts are invoking to invalidate state laws in preemption cases make implied preemption a messy and unpredictable area of law.[27] Moreover, certain Justices have entirely rejected the legitimacy of certain types of preemption altogether.[28]

First, a law may be invalid under a field preemption theory if a federal statutory scheme is "so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it."[29] While the Supreme Court has suggested that the field of laws regulating nuclear safety is preempted

19. ERWIN CHEMERINSKY, CONSTITUTIONAL LAW 420 (5th ed., 2019).
20. *Id.*
21. *See* U.S. CONST. art. VI, cl. 2.
22. *Id.*; CHEMERINSKY, *supra* note 19, at 420.
23. CHEMERINSKY, *supra* note 19, at 422.
24. Gade v. Nat'l Solid Wastes Mgmt. Ass'n, 505 U.S. 88, 99 (1992).
25. CHEMERINSKY, *supra* note 19, at 420.
26. *Id.* at 420–21.
27. *Id.*
28. *See* Wyeth v. Levine, 555 U.S. 555, 582–83 (2009) (Thomas, J., concurring) (rejecting the notion of "purposes and objectives" preemption entirely in a pharmaceutical labeling case).
29. Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947).

under the AEA based on a theory of field preemption,[30] later cases have tempered this general rule significantly and have carved out multiple exceptions.[31]

Second, a court may find conflict preemption where "compliance with both federal and state regulations is a physical impossibility."[32] This particular type of conflict preemption ought to be fairly straightforward. Where a regulated body cannot possibly comply with both federal and state law, the state law is preempted.[33] But challenges still often arise in determining whether there is a conflict. In some cases, courts have treated federal regulations as a floor,[34] and in others, as a ceiling.[35] However, many of these questions spill over into the last category of implied preemption: obstacle preemption.

If a state law impedes achievement of a federal objective, then a court may find it is invalid under a theory of obstacle preemption.[36] Obstacle preemption is possibly the most sweeping type of preemption: Even without express statutory language preempting state laws, and even where the federal and state laws are not mutually exclusive, a court may find preemption where a state law interferes with a federal statute's broader purpose.[37] The central challenge for courts assessing obstacle preemption claims is determining the objective of the federal law at issue and then ascertaining whether the state law is so inconsistent with these aims that it is preempted.[38] Obstacle preemption and the question of the AEA's central purpose are at the center of the Court's disagreement in *Virginia Uranium*.[39]

Questions about obstacle preemption require judges to answer difficult questions about congressional intent and have significant implications for the division of power between state and federal governments.[40] Congressional intent

30. Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 212 (1983) (noting "[s]tate safety regulation is not preempted only when it conflicts with federal law. Rather, the federal government has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the states.").

31. English v. Gen. Elec. Co., 496 U.S. 72, 82–90 (1990). In *English*, the Supreme Court noted that the burden for showing field preemption is high, emphasizing the requirement that congressional intent to preempt state law must be "clear and manifest." *Id.* at 79 (internal quotations omitted). The Court went on to hold that the AEA did not preempt state tort law claims where an employee sought damages for intentional infliction of emotional distress after being terminated for reporting nuclear safety concerns. *Id.* at 76, 86. Because the state laws at issue were not passed to regulate nuclear safety, the Court concluded they were not preempted by the AEA. *Id.* at 84–85.

32. Fla. Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132, 142–43 (1963).

33. CHEMERINSKY, *supra* note 19, at 429.

34. *Fla. Lime & Avocado Growers*, 373 U.S. at 146 (holding federal regulations on avocado fat content were setting a floor and that states may legislate more stringent requirements).

35. Geier v. Am. Honda Motor Co., Inc., 529 U.S. 861, 877 (1991) (holding the National Traffic and Motor Vehicle Safety Act and the safety regulations promulgated under it preempted state tort law claims that the failure to include airbags in a car was a product design defect).

36. *See* CHEMERINSKY, supra note 19, at 430.

37. *Id.*; Hines v. Davidowitz, 312 U.S. 52, 67 (1941).

38. *See* Gade v. Nat'l Solid Wastes Mgmt. Ass'n, 505 U.S. 88, 108–09 (1992) (holding state workplace safety regulations were preempted by the Occupational Safety and Health Act).

39. *See* 139 S. Ct. 1894, 1897 (2019).

40. *See* CHEMERINSKY, supra note 19, at 430; *Gade*, 505 U.S. at 96.

is particularly central to decision making in implied preemption cases, where courts must determine whether a federal statute was meant to preempt state law in a certain area without the aid of explicit statutory language.[41] Not only does this create conflict among judges over the proper mode of statutory interpretation to apply,[42] but it prompts judges to lean on their understanding of what constitutes an appropriate balance of power between the states and the federal government.[43] While the Supreme Court has consistently reaffirmed the principle that Congress's intent to preempt state law must be clear for a preemption finding and that "[t]he exercise of federal supremacy is not lightly presumed[,]"[44] judges still disagree about the proper threshold for finding implied preemption.[45]

Obstacle preemption in particular has made strange bedfellows of Justices that regularly disagree elsewhere. Data from a 2011 study found that conservative Justice Thomas's opposition to invoking obstacle preemption to preempt state laws often resulted in him siding with the four liberal Justices—Justices Souter, Breyer, Ginsburg, and Stevens.[46] On the other hand, centrist Justices Kennedy and Roberts and conservative Justice Scalia were reliable votes in favor of preemption.[47]

The opinions in *Virginia Uranium* suggest that judicial opposition to the concept of obstacle preemption is increasing. While the Justices in *Virginia Uranium* take three different approaches—revealing disagreement about when and how to find obstacle preemption—six of the nine Justices rejected the plaintiff's obstacle preemption claim.[48] While preemption cases will likely continue to be difficult and somewhat unpredictable, *Virginia Uranium* holds lessons for how the current Court will approach this most flexible and wide-sweeping type of preemption—obstacle preemption. In the next Part, I will discuss the background and holding in *Virginia Uranium* and attempt to identify themes and lessons from its three separate opinions that illustrate how each opinion's proponents will approach obstacle preemption cases moving forward.

41. CHEMERINSKY, supra note 19, at 421; *Gade*, 505 U.S. at 103.

42. *See* 139 S. Ct. at 1905 (discussing the extent to which the Supreme Court should inquire into Virginia's motives in passing the uranium mining moratorium at issue and concluding that the Court should not inquire too far); *id.* at 1917 (Roberts, C.J., dissenting) (arguing that the Atomic Energy Act requires inquiry into legislative purpose to determine whether a state law is passed with the intent of regulating atomic energy production for safety purposes).

43. CHEMERINSKY, *supra* note 19, at 422.

44. Medtronic, Inc. v. Lohr, 518 U.S. 470, 485 (1996) (internal quotations omitted).

45. *See* CHEMERINSKY, *supra* note 19, at 421.

46. Gregory M. Dickinson, *An Empirical Study of Obstacle Preemption in the Supreme Court*, 89 NEB. L. REV. 682, 696, tbl. 2 (2011).

47. *Id.* at 699–700.

48. Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1894 (2019).

II. THE ATOMIC ENERGY ACT AND THE DECISION IN *VIRGINIA URANIUM*

The Court in *Virginia Uranium* was tasked with determining whether Virginia's ban on uranium mining was preempted by the AEA.[49] Somewhat surprisingly, the Court upheld the ban, finding that Virginia's law was not preempted by the AEA, which does not cover mining, even though the effect of Virginia's law is to indirectly prevent milling and tailings storage, both federally regulated activities under the AEA.[50]

In the context of nuclear safety, courts have consistently held that certain areas of regulation are preempted.[51] The Court's holding in *Virginia Uranium* has significant implications for the future of preemption under the AEA and more broadly. The following Subparts will discuss the background of *Virginia Uranium* and then evaluate the significance of the Court's approach to obstacle preemption.

A. Uranium Processing: Overview & Explanation

The processes at the center of the *Virginia Uranium* litigation are mining, milling, and tailings storage of uranium.[52] Uranium mining is conducted through either conventional techniques (open pit digging or tunnel mining) or chemical extraction, called in situ leaching, where uranium is extracted from porous rocks by pumping chemicals into groundwater.[53] A 2012 National Academies of Sciences report was inconclusive as to which method would be appropriate at the site of the Coles Hill deposit—the largest in the country.[54] However, in its brief to the Supreme Court, Virginia Uranium described its planned extraction technique as similar to conventional mining.[55]

Once the ore has been extracted, the milling process begins. The uranium is separated from the ore by grinding it into powder and combining it with chemicals that dissolve the uranium.[56] At this point, the uranium is separated from the chemical solution so that it can be dried and packaged in a solid form

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49. *Id.*

50. *See id.*

51. Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 220–23 (1983); Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393, 433–34 (2d Cir. 2013); Skull Valley Band of Goshute Indians v. Nielson, 376 F.3d 1223, 1254 (10th Cir. 2004).

52. *Virginia Uranium*, 139 S. Ct. at 1901–02.

53. EPA, RADIOACTIVE WASTE FROM URANIUM MINING AND MILLING, https://www.epa.gov/radtown/radioactive-waste-uranium-mining-and-milling (last visited June 8, 2020).

54. PAUL A. LOCKE ET AL., COMMITTEE ON URANIUM MINING IN VIRGINIA, URANIUM MINING IN VIRGINIA: SCIENTIFIC, TECHNICAL, ENVIRONMENTAL, HUMAN HEALTH AND SAFETY, AND REGULATORY ASPECTS OF URANIUM MINING AND PROCESSING IN VIRGINIA 3 (Nat'l Acads. Press, 2012).

55. Brief for Petitioner at 9, Va. Uranium v. Warren, 139 S. Ct. 1894 (2019) (No. 16-1275) [hereinafter *Brief for Petitioner*]. While the National Academy of Sciences report was inconclusive, the Court appears to read Virginia Uranium's brief to suggest its plan was to use conventional mining techniques to extract rocks containing uranium ore. *Virginia Uranium*, 139 S. Ct. at 1900; LOCKE ET AL., *supra* note 54, at 3.

56. EPA, *supra* note 53.

for commercial sale.[57] Once uranium has been extracted from the ore, the remaining solid waste, called tailings, is still radioactive and must be stored carefully to avoid exposing the public to hazardous chemicals.[58] Typically, tailings are stored in specially designed impoundment ponds that are built to avoid any overflow into local water supplies.[59]

Mining, milling, and tailings facilities are typically colocated and have historically created health and safety risks.[60] For example, radon dust has contaminated water and air supplies.[61] Advocates for the uranium mining moratorium in Virginia emphasize these risks, which they contend are significantly worsened by the wet weather patterns in Virginia that pose a risk of flooding tailings ponds and contaminating local water.[62]

B. The History of Mining in Coles Hill

The impetus for uranium mining in Virginia began with the discovery of the largest deposit of uranium ore in the United States under Coles Hill in the 1970s.[63] If developed, the mine is estimated to contain 119 million pounds of nuclear fuel—"yellowcake"[64] —in total.[65] Mining companies quickly started buying mineral rights and preparing to extract and process the uranium ore.[66] This initial enthusiasm from industry was met with resistance from local environmental groups that worried about the effects of postextraction activities on the state's water supply and environmental quality.[67]

In 1982, Virginia's State Legislature enacted a one-year moratorium in response to concerns about whether uranium extraction was properly regulated and could be done safely.[68] The next year, the state legislature then extended this ban "'until a program for permitting uranium mining is established by statute.'"[69]

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57. *Id.*

58. *Id.*

59. *Id.*

60. *See* World Nuclear Ass'n, *The Nuclear Fuel Cycle* (Mar. 2017), https://www.world-nuclear.org/information-library/nuclear-fuel-cycle/introduction/nuclear-fuel-cycle-overview.aspx.

61. EPA, *supra* note 53.

62. S. ENVTL. LAW CTR.: URANIUM MINING – A RISKY EXPERIMENT, https://www.southernenvironment.org/cases-and-projects/uranium-mining-a-risky-experiment (last visited June 9, 2020).

63. Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1910–11 (2019) (Ginsburg, J., concurring).

64. Yellowcake is "[t]he solid form of mixed uranium oxide, which is produced form uranium ore in the . . . milling process" and is an intermediate form of refined uranium that is typically further refined to be suitable as fuel for uranium mining. U.S. Nuclear Reg. Comm'n, *Yellowcake* (Mar. 21, 2019), https://www.nrc.gov/reading-rm/basic-ref/glossary/yellowcake.html.

65. Theo Emery, *A Big Uranium Deposit, and a Big Debate on Mining It*, N.Y. TIMES (Dec. 1, 2011), https://www.nytimes.com/2011/12/02/business/energy-environment/coles-hill-uranium-mine-proposal-divides-virginia-residents html.

66. *Id.*

67. Associated Press, *Proposed East Coast Uranium Mine Dividing Va.*, USA TODAY (Jan. 26, 2013, 11:37 AM), https://www.usatoday.com/story/news/nation/2013/01/26/virginia-uranimum-mine/1866489/.

68. *Virginia Uranium*, 139 S. Ct. at 1910–11 (Ginsburg, J., concurring).

69. *Id.* at 1911 (quoting 1983 Va. Acts ch. 3).

For many years, development plans for Coles Hill did not progress.[70] The longtime property owner, Walter Coles, refused offers from mining companies to develop the uranium deposit.[71] However, in 2006 he reached an agreement with the neighboring property owners, whose land encompassed part of the deposit, to form a company and develop the uranium reserves.[72] In 2007, the official formation of that joint company—Virginia Uranium[73]—and the announcement of plans to develop the uranium deposit beneath its property kicked off the Cole family's battle with the State of Virginia and local environmental groups.[74]

Environmental groups have long worried about the potential environmental ramifications of allowing uranium mining in Coles Hill.[75] The Southern Environmental Law Center's website discusses uranium mining and highlights the increased risks posed by extreme weather in Coles Hill, including hurricanes and tornadoes, which are regular occurrences in Virginia.[76] Environmentalists worry that extreme weather could lead to tailings contaminating Virginia's water. They emphasize results of a National Academy of Sciences study[77] suggesting that federal regulations are insufficient to avoid negative public health outcomes and that Virginia currently lacks the regulatory infrastructure to effectively regulate uranium mining.[78]

Despite opposition from environmental groups, the Cole family kept moving forward with its plan to develop the Coles Hill uranium deposit.[79] After unsuccessfully attempting to lobby the state legislature in 2012 and 2013 to establish a statutory scheme that would allow them to begin extraction at Coles Hill, Virginia Uranium challenged the legality of the moratorium in hopes of securing an avenue to develop the deposit through the courts.[80]

C. The Atomic Energy Act

Virginia Uranium argued that the AEA preempted the State of Virginia's moratorium on uranium mining.[81] Congress passed the first Atomic Energy Act in 1946,[82] establishing the Atomic Energy Commission to oversee the peacetime

70. VIRGINIA URANIUM INC.: HISTORY OF VUI AND COLES HILL, https://www.virginiauranium.com/who-we-are/history-of-coles-hill/ (last visited June 9, 2020).
71. *Id.*
72. *Id.*
73. *Id.*
74. S. ENVTL. LAW CTR., *supra* note 62.
75. *Id.*
76. *Id.*
77. *Id.* (citing LOCKE ET AL., *supra* note 54, at 7).
78. *See* LOCKE ET AL., *supra* note 54, at 6–7; S. ENVTL. LAW CTR., *supra* note 62.
79. Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1911 (2019) (Ginsburg, J., concurring).
80. *Id.* at 1911; S. ENVTL. LAW CTR , *supra* note 62.
81. *Virginia Uranium*, 139 S. Ct. at 1900.
82. Atomic Energy Act of 1946, 42 U.S.C. §§ 2011–2021, 2022–2286i, 2296a–2297h-13 (2018) (renamed the Atomic Energy Act of 1954).

development of nuclear technology.[83] Eight years later, it passed the Atomic Energy Act of 1954[84] to further promote the use of nuclear technology for peaceful purposes in the private sector by expanding technology licensing provisions, improving access to data, and allowing private reactor ownership.[85] The passage of the 1954 AEA ended the federal monopoly on nuclear technology.[86] In its current form, the AEA still aims to promote the peaceful use of nuclear power.[87] Regulatory and licensing authority has been entrusted in the Nuclear Regulatory Commission (NRC) since 1975, when the Energy Reorganization Act of 1974 came into effect, separating administrative responsibility for licensing and research oversight.[88]

While the NRC is vested with significant regulatory authority, the AEA does not contain any explicit preemptive language. As the Supreme Court notes in *Virginia Uranium*, "The AEA contains no provision preempting state law in so many words. Even more pointedly, the statute grants the NRC extensive and sometimes exclusive authority to regulate nearly every aspect of the nuclear fuel lifecycle *except* mining."[89] This makes questions of preemption under the AEA—particularly about mining—difficult to answer since preemption cases must be determined by applying the ambiguous and difficult test for implied preemption.[90]

Because there is no express statutory language preempting state laws in the AEA, the next Subpart of this Note will provide an overview of the cases adjudicating federal preemption questions relevant to AEA preemption. These cases demonstrate a hesitance by federal courts to interfere with states' exercise of control over nuclear power. But this hesitation is inconsistent, and the case law leaves significant questions about the extent of the AEA's preemptive power, particularly over activities that are not explicitly covered by the statute.

D. Deciding Issues of Obstacle Preemption under the Atomic Energy Act

Because the AEA has no explicit clause preempting state law,[91] the body of case law adjudicating preemption questions is essential to understanding whether

83. ALICE L. BUCK, U.S. DEP'T OF ENERGY, DOE/ES-0003/1, HISTORY OF THE ATOMIC ENERGY COMMISSION 1 (1983); *see* Byron S. Miller, *A Law Is Passed—The Atomic Energy Act of 1946*, 15 U. CHI. L. REV. 799, 810–12 (1948).

84. Atomic Energy Act of 1946, 42 U.S.C. §§ 2011–2021, 2022–2286i, 2296a–2297h-13 (2018) (renamed the Atomic Energy Act of 1954).

85. BUCK, *supra* note 83, at 3.

86. English v. Gen. Elec. Co., 496 U.S. 72, 79 (1990).

87. *See* Sonja Larsen et al., *Commercial and Industrial Licenses for Production and Utilization Facilities, Generally*, *in* AM. JURIS. 2D, ENERGY AND POWER SOURCES § 72 (2020).

88. BUCK, *supra* note 83, at 8.

89. Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1902 (2019) (emphasis in original).

90. *See* CHEMERINSKY, *supra* note 19, at 421–22 (discussing the challenges of applying the test for implied preemption and the inconsistent body of law adjudicating questions of AEA preemption).

91. *Virginia Uranium*, 139 S. Ct. at 1902.

and how *Virginia Uranium* will change the adjudication of obstacle preemption questions moving forward.

At first glance, it appears that *Virginia Uranium* is well aligned with precedent on the issue of AEA preemption. The three most central Supreme Court cases on preemption and nuclear safety have all declined to find AEA preemption when parties challenged the legitimacy of state laws related to nuclear safety,[92] and courts have even noted explicitly that AEA preemption findings are rare.[93] Supreme Court case law suggests that *Virginia Uranium* is, if anything, consistent with the Court's past approach to AEA preemption.

But a look at two circuit court cases calls this conclusion into question. In *Skull Valley* and *Entergy Nuclear*, the Tenth and Second Circuits concluded that state laws indirectly regulating nuclear safety were preempted.[94] In both cases, the courts applied the test articulated in the central Supreme Court case in the field—*Pacific Gas & Electric Company v. State Energy Resources and Conservation & Development Commission* (*PG&E*)[95]—to justify searching inquiries into legislative purpose, leading them to conclude that the challenged laws interfered with the AEA's statutory purpose.[96] Both cases are difficult to reconcile with the approach taken by the lead opinion in *Virginia Uranium*, but they are consistent with the approach taken by the dissent and are arguably compatible with the Ginsburg concurrence.

This Subpart will discuss the relevant cases beginning with the three major Supreme Court cases on AEA preemption and then discuss the cases where the circuit courts applied the *PG&E* test to find that various state laws were indeed preempted. Finally, this Subpart will provide an overview of one non-AEA case that nonetheless has a central role in the *Virginia Uranium* decision: *National Meat Association v. Harris*.[97]

1. Supreme Court Cases

The case the Court most heavily discusses in *Virginia Uranium* is *PG&E*,[98] in which the Supreme Court upheld a California law preventing the construction of new nuclear plants until the state government determined there was sufficient storage for spent nuclear fuel.[99] While the Court confirmed that the "Federal

92. Skull Valley Band of Goshute Indians v. Nielson, 376 F.3d 1223, 1254 (10th Cir. 2004); English v. Gen. Elec. Co., 496 U.S. 72, 90 (1990); Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 220–23 (1983).

93. *Skull Valley*, 376 F.3d at 1242.

94. *See id.* at 1227; Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393, 398 (2d Cir. 2013).

95. *See infra* notes 98–105 and accompanying text.

96. *See Skull Valley*, 376 F.3d at 1238; *Entergy*, 733 F.3d at 409–11.

97. *See* Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1914 (2019) (Ginsburg, J., concurring) (citing Nat'l Meat Ass'n v. Harris, 565 U.S. 452 (2012) and noting it as "[t]he case on which the Solicitor General primarily relies").

98. *See Virginia Uranium*, 139 S. Ct. at 1903–05 (discussing Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190 (1983)).

99. *Pac. Gas & Elec. Co.*, 461 U.S. at 196–98.

Government has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the States[,]" it upheld the state law after determining that the AEA does not seek to regulate states' decisions about what kind of energy generating facilities to construct and whether to construct them in the first place.[100] The Court arrived at this conclusion after asking "whether 'the matter on which the State asserts the right to act is in any way regulated by the Federal Act.'"[101] The Court concluded that there was a nonsafety rationale for California's law: Concerns about the prices of storing spent fuel were at least likely motivated by concerns about the effect of fuel storage on economic viability.[102]

In applying the test for preemption in *PG&E*, the Court first determined that safety requirements for the construction of nuclear facilities fall under NRC authority and then conducted an inquiry into whether California's policy was motivated by safety concerns.[103] It concluded that it was not and was thus permissible.[104] The Court considered several potential avenues for finding preemption, including a theory of field preemption for safety-related regulation and one of obstacle preemption because California's policy frustrated the statutory goal of nuclear energy development.[105]

First, the Court determined that a "moratorium on nuclear construction grounded in safety concerns" would, in fact, violate the AEA.[106] However, the Court affirmed the state's ability to make decisions about what kind of power sources it wishes to license for economic purposes and accepted the lower courts' determination that California passed the law for economic purposes, based on a California Assembly Committee report in the legislative history.[107] Moreover, while the Court confirmed that the purpose of the AEA is to promote the use of nuclear power,[108] it quickly concluded that the AEA does not compel states to construct nuclear power plants.[109] In its consideration of this point, the Court emphasized that the promotion of nuclear power is not "to be accomplished 'at

100. *Id.* at 211–12.
101. *Id.* at 213.
102. *Id.* at 213–16.
103. *Id.*
104. *Id.*
105. *Id.* at 204.
106. *Id.* at 213.
107. *Id.*; *see also* Frost v. Corp. Comm'n of Okla., 278 U.S. 515, 534 (1929) (noting that states have traditionally had authority over what kind of new power facilities to build based on their economic feasibility). The importance of storage to the economic feasibility of nuclear power at the time of *PG&E*'s litigation is discussed in *Entergy Nuclear Vt. Yankee, LLC v. Shumlin*, 733 F.3d 393, 412 (2d Cir. 2013). Because there was only an emergent national marketplace for power, the availability of storage for spent fuel had a direct impact on operating costs for local utilities and was much more directly related to the cost of power. *Id.*
108. *Pac. Gas & Elec. Co.*, 461 U.S. at 220–21; *see also* Duke Power Co. v. Carolina Envtl. Study Grp., Inc., 438 U.S. 59, 63–67 (1978) (confirming the statutory purpose of the AEA was both public safety and the encouragement of "development of the atomic energy industry").
109. *Pac. Gas & Elec. Co.*, 461 U.S. at 205.

all costs'" and concluded that California is well within its authority to pursue alternative sources of energy generation for economic reasons.[110]

The two other key Supreme Court cases on AEA preemption are *Silkwood v. Kerr-McGee Corporation*[111] and *English v. General Electric Corporation*.[112] In *Silkwood*, the Court identified at least one area of tort law not preempted by the AEA: punitive damages arising out of individual exposure to nuclear materials.[113] The Court arrived at this conclusion after examining the purpose of vesting authority over safety standards in the NRC—which was the technical complexity of the task—and determining that the Act was not intended to preclude individuals harmed in safety lapses from collecting damage awards.[114] The absence of any provision for providing individual remedies in the Act reinforced this conclusion, as did legislative history implying that the AEA's authors assumed such remedies would remain available to the states to develop.[115] The Court held that the application of state laws to damages for radiation injuries neither created an irreconcilable conflict with the AEA nor frustrated its objectives.[116]

In *English*, the Court concluded that an intentional infliction of emotional distress claim filed by an employee of a nuclear fuel production facility after her employer retaliated against her for reporting safety violations to the NRC was not preempted for similar reasons.[117] The Court rejected the broad understanding of *PG&E* offered by the defendants that would have meant the federal statute protecting employees from retaliation preempted state tort law for all remaining claims.[118] Instead, the Court determined that the state tort law—though it might have some attenuated effect on safety—was not sufficiently motivated by or related to safety concerns to be preempted.[119]

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110. *Id.* at 222–23.

111. 464 U.S. 238, 258 (1984). *Silkwood* attracted significant attention at the time it was decided because of the mystery surrounding Karen Silkwood's death and speculation that it was related to her whistleblower activity after she reported workplace safety violations at Kerr-McGee, where she worked. Maureen Wurtz, *44 Years Later, the Death of Karen Silkwood is Still a Mystery*, ABC TULSA (Oct. 29, 2018), https://ktul.com/news/investigations/44-years-later-the-death-of-karen-silkwood-is-still-a-mystery. I will leave the question of whether frustration about the strange circumstances of her death (or cinematic depiction of the story starring Meryl Streep and Cher) influenced the Court's holding for another paper. However, I will note that the holdings in *English* and *PG&E* suggest that the hesitation to find preemption here was not exclusively due to the mystery surrounding Karen Silkwood's death. *See* SILKWOOD (20th Century Fox 1983); *Pac. Gas & Elec. Co.*, 461 U.S. at 190; English v. Gen. Elec. Co., 496 U.S. 72, 90 (1990).

112. 496 U.S. at 72.

113. *Silkwood*, 464 U.S. at 256.

114. *Id.* at 250–51.

115. *Id.* at 251.

116. *Id.* at 257.

117. 496 U.S. at 82.

118. *Id.* at 84.

119. *Id.* at 85.

2. Circuit Court Cases

The first circuit court preemption case essential to assessing the decision in *Virginia Uranium* is the Tenth Circuit decision in *Skull Valley Band of Goshute Indians v. Nielson*,[120] where the court held that a Utah law was preempted by the Nuclear Waste and Power Act.[121] Significantly, the Tenth Circuit in *Skull Valley* concluded—as few other courts have—that the AEA preempted Utah state laws by imposing targeted legislation on companies transporting and storing spent nuclear fuel.[122]

The three laws at issue (1) required that city governments impose regulations and restrictions on spent fuel storage through extensive planning and remediation requirements; (2) set high licensing fees and revoked limited liability for companies that store spent fuel; and (3) vested the state government with regulatory power over road construction and regulation near the proposed storage facility on Skull Valley Band tribal land.[123] The content of these laws is significant because while the Tenth Circuit ultimately found that they were based on the safety concerns of the state government, they were—for the most part—not facially related to safety concerns. This case is in many ways difficult to reconcile with the outcome in *Virginia Uranium*.

The Tenth Circuit discussed each of the three provisions separately in its preemption analysis. First, it found that the county safety and remediation planning provision addressed "matters of radiological safety that are addressed in federal law and that are the exclusive province of the federal government" because it required county land use plans to address "'health and safety'" concerns with spent fuel storage sites—a duty that falls directly under the umbrella of nuclear safety concerns.[124] The court distinguished this state law from the law at issue in *PG&E* by noting that Utah had failed to provide a nonsafety rationale for the requirement.[125]

Next, the court reviewed the limited liability revocation and statutory requirement that spent nuclear fuel facilities pay high licensing fees, including an amount equal to at least 75 percent of its unfunded potential liability.[126] First, it determined that NRC regulations had already filled the gaps in AEA statutory provisions governing liability and that the law interfered with the NRC's authority to determine whether and "under what conditions to license" a storage

120. 376 F.3d 1223 (10th Cir. 2004).

121. *Id.* at 1227–28.

122. *Id.* at 1227–28, 1242.

123. *Id.* at 1228. Two other Utah state laws regulating areas related to nuclear waste disposal were also at issue in this litigation. *Id.* But the district court's finding that they were not preempted was not challenged, so they were not discussed in this appeal. *Id.* The laws included requirements that employees at spent nuclear fuel facilities be tested for alcohol and drug use and authorized litigation for determinations regarding who owned water rights under spent nuclear fuel storage facilities. *Id.*

124. *Id.* at 1246.

125. *Id.*

126. *Id.* at 1229, 1250.

facility.[127] Moreover, the court found that state licensing provisions were grounded in radiological safety concerns, a field preempted by the AEA.[128] The court also determined that the abolition of limited liability removed a well-established stockholder protection based on safety concerns, hindering the AEA's goal of "remov[ing] economic impediments" and "stimulat[ing] the private development" of nuclear energy by increasing the cost of doing business for spent fuel storage facilities.[129] Instead of focusing on specific statutory provisions, the court grounded its decision in the AEA's larger goal of promoting the development of nuclear power for civilian use and the general principle that limited liability is the "rule not the exception," ultimately finding that Utah's law upset the balance that the AEA tried to achieve.[130]

Finally, the court reviewed the road-construction-related laws and found that these laws were "enacted in order to prevent the transportation and storage of [spent nuclear fuel] in Utah."[131] Specifically, the court cited the sponsoring state legislator's own description of the bill as creating a "moat" around the proposed storage site and the governor's explicit reference to the law's significance to health and safety.[132] Moreover, the governor announced in a statewide address that he "would deny permission for the rail crossings needed to provide access" to the Skull Valley facility.[133] The court read this background as conclusive of the governor's and the legislature's intent to prevent the construction of a facility and interfere with federally regulated activities.

The second essential circuit court case for assessing the significance and understanding the outcome in *Virginia Uranium* was decided in 2013 in a dispute over the future of the Vermont Yankee nuclear power plant in *Entergy Nuclear Vermont Yankee, LLC v. Shumlin*.[134] There, the Second Circuit found that the Vermont law in question was preempted after the company that owned and operated the plant sued over the passage of a law that transferred the power to issue a Certificate of Public Good, which is required to operate the plant, from a state administrative board—subject to judicial review—to the state legislature.[135] The Second Circuit conceded that the law and asserted policy goals of the statute were not necessarily radiological safety, but it explained that analysis beyond the text of the statute was necessary to prevent state legislatures from frustrating federal objectives through opportunistically framed laws that in fact address radiological safety concerns.[136]

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127. *Id.* at 1229, 1250, 1253–54.
128. *Id.* at 1254.
129. *Id.* at 1251 (quoting Duke Power Co. v. Carolina Envtl. Study Grp., Inc., 438 U.S. 59, 83 (1978)).
130. *Id.*at 1251.
131. *Id.* at 1252.
132. *Id.*
133. *Id.*
134. Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393, 398–406 (2d Cir. 2013).
135. *Id.* at 416.
136. *Id.* at 416–17.

In its analysis, the Second Circuit denied the state's request to apply a rational basis standard of review to determine whether the law at issue was federally preempted and instead applied a "more searching review[,]" inquiring carefully into the law's stated economic motives to determine if it was "enacted based upon radiological safety concerns."[137] In an analysis that most closely resembled strict scrutiny, the court painstakingly broke down the energy supply in Vermont and concluded that since Vermont Yankee only provided one-third of Vermont's power, the state could easily diversify its sources of electricity by ordering that the utilities purchase the remainder from renewable sources.[138] It did the same for Vermont's argument about cost effectiveness, noting that if Vermont Yankee's power was not cost effective, there was no requirement that Vermont's utilities buy it.[139]

Finally, the court reviewed the history of the Vermont law and concluded that the district court's finding that safety was the "primary purpose in enacting the statute" was correct, and therefore the law was passed for the impermissible purpose of addressing radiological safety concerns.[140] The circuit court was particularly focused on deliberations about the bill that included conversations among legislators about finding creative ways to avoid federal preemption by using alternative language to describe the legislature's safety concerns.[141] The court went so far as to say that the "legislators repeatedly demonstrated awareness of the potential for a preemption problem and disguised their comments accordingly."[142] The Second Circuit determined that the district court's finding that the law was primarily motivated by safety concerns was well supported in the legislative history.[143]

These two circuit court cases are difficult to reconcile with *Virginia Uranium*. While the Justices in their three opinions attempt to address how the three cases are (or are not) reconcilable, they do not come to any certain conclusion or articulate a bright-line rule. The next Part will discuss how the three opinions in *Virginia Uranium* incorporate and interpret these cases and what they might mean for similar lawsuits in the future.

3. Other Preemption Cases: National Meat Association v. Harris

National Meat Association v. Harris, despite its basis in a very different statutory scheme, is the final case that gets significant attention in *Virginia*

137. *Id.*
138. *Id.* at 417–19. This follows an extensive discussion of the changes in the national market for electricity that had occurred since the Court's decision in *PG&E*. *Id.*
139. *Id.*
140. *Id.* at 420.
141. *Id.*
142. *Id.* at 421.
143. *Id.*

Uranium.[144] In this unanimous decision by Justice Kagan, the Court struck down California's attempt to ban the sale of meat from nonambulatory pigs because the state law was preempted by the Federal Meat Inspection Act's (FMIA)[145] "'elaborate system of inspect[ing]' live animals and carcasses in order to 'prevent the shipment of impure, unwholesome, and unfit meat-food products.'"[146] The FMIA, the Court found, expressly preempts any state laws "with respect to premises, facilities, and operations of any [slaughterhouse]."[147]

While the section of the California law[148] at issue regulated the sale of meat—an activity typically outside FMIA jurisdiction—the Court reasoned that it was preempted under the FMIA's express preemption clause because the meat regulation section was "calculated to help implement and enforce each of the other section's regulations[,]" which were expressly preempted because they directly regulated inspection facilities.[149] Kagan explained that "[t]he sales ban is a criminal proscription calculated to implement and enforce" portions of the law directly aimed at slaughterhouse operations.[150] In other words, the sales ban was part and parcel of the preempted law's implementation.[151] Justice Kagan went on to note that the "inevitable effect" of the sales ban was to force slaughterhouses to remove nonambulatory pigs from production because they may not sell them and that upholding the ban "would make a mockery of the FMIA's preemption provision."[152] Kagan's analysis here was grounded in the observation that California's sales ban completely extinguished the possibility of conducting a federally regulated activity.

Finally, Kagan distinguished the law at issue in *National Meat* from state-level bans on horse slaughter, which had been regularly upheld by circuit courts.[153] While the opinion did not expressly affirm the validity of these laws,[154] Kagan explained that laws preventing the sale of horses for slaughter differed from those preventing the later sale of meat from nonambulatory pigs because they prevent horses from ever being delivered to slaughterhouses in the first place.[155] Because the slaughterhouses never receive horses, the laws, by their nature, do not tell slaughterhouses what to do with them.[156]

144. Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1914 (2019) (Ginsburg, J., concurring) (discussing Nat'l Meat Ass'n v. Harris, 565 U.S. 452 (2012)).

145. 21 U.S.C. § 601 (2018).

146. Nat'l Meat Ass'n v. Harris, 565 U.S.452, 455–56 (2012) (quoting Pittsburgh Melting Co. v. Totten, 248 U.S. 1, 4–5 (1918)).

147. 21 U.S.C. § 678 (2018).

148. CAL. PENAL CODE § 599f(b) (West 2020).

149. *National Meat*, 565 U.S. at 463–64.

150. *Id.*

151. *Id.*

152. *Id.* at 464.

153. *Id.* at 467.

154. *Id.*

155. *Id.*

156. *Id.*

This next Part will discuss the decision in *Virginia Uranium* generally and will then break down each of the three opinions, with a focus on how they differ from and apply the cases discussed above.

III. THE SUPREME COURT DECISION IN *VIRGINIA URANIUM*

Virginia Uranium is, at its core, about implied preemption—an issue which elicits significant disagreement about the divisive questions surrounding statutory interpretation and the division of power between states. In upholding Virginia's statute, the Court revealed significant differences in how the nine Justices believe preemption issues ought to be resolved, and their disagreement serves as a reminder of how thorny preemption issues can be. Moreover, *Virginia Uranium* provides useful insight into the effect that recent changes on the Court might have for future preemption cases. Most significantly, it now appears that the Court is open to state policies that a differently constituted Court would have found preempted. The following Subparts will discuss *Virginia Uranium* and each of the three opinions. From each opinion, I will attempt to extract useful guiding principles and draw distinctions with previous case law that can inform litigants and policy makers addressing issues related to preemption.

In its briefs to the Supreme Court, Virginia Uranium argued that the AEA reserves all authority to regulate uranium milling and tailings storage *for safety purposes* to NRC.[157] Virginia Uranium argued that the indirect effect of Virginia's law was regulation of milling and tailings for safety purposes and that it thus ought to be preempted.[158] At first glance, this position seems well supported by *PG&E*, which upheld a California moratorium on nuclear plant construction but noted that the Court only did so because California showed that its motivations for the ban were based on economic concerns, not safety issues.[159] Even though the Court upheld California's ban, it emphasized that NRC remains in "complete control" of safety-related regulation for nuclear energy generation.[160] Where, as here, Virginia's concerns were fairly transparently safety related, Virginia Uranium's argument appeared to have solid grounding even though the AEA doesn't cover mining.[161]

Because the Virginia law's motivation was fairly explicitly safety, and no other motivations are identified in the opinion, *PG&E* appeared to set up Virginia Uranium for a victory.[162] In fact, the regulation of uranium mining in Virginia was initiated through the creation of a subcommittee with the primary purpose

157. *Brief for Petitioner*, *supra* note 55, at 1.
158. *Id.*
159. Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 213–17 (1983).
160. *Id.* at 211.
161. *See id*; Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1901–02 (2019).
162. *See Virginia Uranium*, 139 S. Ct. at 1910–11 (Ginsburg, J., concurring).

of evaluating the "health, safety, and welfare" effects of uranium mining.[163] The committee was directed to look beyond just the potential risks of mining and to consider the effects that milling and tailings storage have as well.[164]

Together, the evidence that the state intended to regulate mining due to safety concerns with milling and tailings storage seemed insurmountable.[165] Success for Virginia Uranium seemed particularly likely if the Court used the searching standards applied in *Skull Valley* and *Entergy Nuclear* to find the ban an impermissible state law targeted at safety concerns.[166] Although prior Supreme Court cases had declined to find preemption,[167] the clarity of Virginia's motive and the strong language describing the extent of federal preemption in *PG&E* seemed sufficient to support a decision finding preemption.

However, a divided Court upheld the ban on uranium mining. Justice Gorsuch, joined by Justices Thomas and Kavanaugh, wrote a lead opinion upholding the ban.[168] Agreeing with the conclusion—but not his commentary on inquiries into legislative purpose, statutory interpretation, and States' authority over nuclear activities under the AEA—Justice Ginsburg concurred in an opinion joined by Justices Kagan and Sotomayor.[169] The most interesting combination of Justices, however, lies in the dissent written by Justice Roberts, joined by Justices Breyer and Alito.[170]

These three opinions represent three different approaches to preemption under the AEA. Justice Gorsuch's opinion reflects the addition of two Justices with an expansive view of states' rights and a strict, textual approach to statutory interpretation. Justice Ginsburg's approach is the narrowest, as she primarily relied on precedent and the concern that if Virginia was precluded from regulating mining, then neither states nor the federal government would have authority to do so because the NRC has never claimed authority over mining.[171] The absence of an alternative for regulatory oversight is the simplest and clearest reason for the outcome in *Virginia Uranium*. Finally, Justice Roberts disagreed with the majority's views of the ban and set out a broad view of obstacle preemption that allows for the kind of searching inquiry employed in *PG&E* to find preemption even where a state policy is not facially in conflict with the goals of a federal policy.

163. *See* Act of Feb. 20, 1981, H.J. Res. 324, 1981 Va. Acts 1404; *Brief for Petitioner*, *supra* note 55, at 27–28.

164. *Brief for Petitioner*, *supra* note 55, at 28–30.

165. *See id.* at 26–32.

166. Skull Valley Band of Goshute Indians v. Nielson, 376 F.3d 1223, 1243 (10th Cir. 2004); Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393, 417 (2d Cir. 2013).

167. *See, e.g.*, Pac. Gas & Elec. Co. v. State Energy Resources Conservation & Dev. Comm'n, 461 U.S. 190, 222–23 (1983); Silkwood v. Kerr-McGee Corp., 464 U.S. 238, 258 (1984).

168. Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1900 (2019).

169. *Id.* at 1909 (Ginsburg, J., concurring).

170. *Id.* at 1910.

171. *Id.* at 1916.

Because the six Justices who voted to uphold Virginia's moratorium on uranium mining could not agree to a single rationale, it is difficult to tell how this case will be applied. It seemed fairly clear to all the Justices that the Virginia legislators' real animating concern with uranium mining was not simply the extraction process but was instead the milling process and local storage of radioactive tailings that typically occur onsite at mines.[172] Both tailings storage and milling are activities over which the NRC does have authority.[173] So, at the very least, this decision provides a back door for other states that wish to avoid safety concerns about milling and tailings storage by banning mining in a more outright fashion.[174] But this decision could mean much more for preemption in general, and it comes at a time when states are pushing back against rollbacks in federal legislation and regulation, particularly in the context of environmental protection.[175]

In the next Subparts of this Note, I will outline each opinion, attempt to identify the animating beliefs behind each of the three opinions' proponents, and then apply these ideas to previous preemption cases decided under the AEA.

A. Justice Gorsuch's Opinion: Strict Statutory Interpretation and States' Rights

Justice Gorsuch spent much of his opinion outlining the limits on the AEA's reach.[176] Specifically, he emphasized section 2092 of the Act, which grants the NRC authority to regulate nuclear material "after removal from its place of deposit in nature[.]"[177] Justice Gorsuch concluded that this language means that—aside from an exception for mining on federal lands in the AEA—uranium mining is outside the NRC's jurisdiction and rests with the states.[178] He repeatedly emphasized that "Congress conspicuously chose to leave untouched the States' historic authority over the regulation of mining activities on private lands" and treated the absence of statutory authorization for this kind of

172. *See id.* at 1900–01 (lead opinion); *id.* at 1916 (Ginsburg, J., concurring).

173. *Virginia Uranium*, 139 S. Ct. at 1900–01.

174. *Id.*

175. *See, e.g.*, Lisa Friedman, *U.S. Significantly Weakens Endangered Species Act*, N.Y. TIMES (Aug. 12, 2019), https://www.nytimes.com/2019/08/12/climate/endangered-species-act-changes.html (describing a recent proposal to modify EPA regulations to make it easier to remove species from the endangered list and reduce protections for threatened species); Eric Watkins, *California Move to Ban Coal Exports from Bay Area Terminals*, LLOYD'S LIST (Jan. 3, 2019), https://lloydslist.maritimeintelligence.informa.com/LL1125728/California-move-to-ban-coal-exports-from-Bay-Area-terminals (describing attempts to ban coal exports from the San Francisco Bay Area); Joe Ryan, *Judge Strikes Down Oakland's Ban on Shipping Coal Through Port*, BLOOMBERG (May 15, 2018, 4:07 PM), https://www.bloomberg.com/news/articles/2018-05-15/oakland-port-ban-on-coal-shipments-blocked-by-u-s-judge (describing that a case struck down Oakland's coal export ban based on a violation of an agreement with a company building a new bulk loading terminal but left open a question of whether there is another path for such a ban).

176. *Virginia Uranium*, 139 S. Ct. at 1901–03.

177. *See id.* at 1902.

178. *Id.*

regulation as essentially dispositive of whether Virginia's statute was preempted.[179] Then, Gorsuch quickly dismissed the argument that Virginia's mining law interferes with the AEA because nothing in the statutory text gives the NRC authority over mining. This, according to Gorsuch, is the end of the analysis because "evidence of pre-emptive purpose . . . must . . . be sought in the text and structure of the statute[.]"[180]

Upon reaching this conclusion, however, Gorsuch continued to discuss the appropriate mode of preemption analysis under the AEA. He specifically proceeded to question the propriety of *PG&E*'s inquiry into California's motives for banning new plant construction, suggesting that the NRC should be limited to regulating how plants are constructed and operated, not whether they may be constructed in the first place.[181] He wrote that the Court's preemption analysis in *PG&E* was inappropriate because preemption analysis should turn on "*what* the state did, not *why* they did it."[182] Here, what the state "did" was ban mining, something well within its statutory right; *why* Virginia banned mining, according to Gorsuch, is immaterial.[183] Gorsuch used this argument as a platform to discourage judicial inquiries into legislative purpose, which he warns will lead to legislative "secrecy and subterfuge."[184]

Finally, Gorsuch dismissed Virginia Uranium's reliance on analogy to *National Meat Association v. Harris*[185] in a footnote, arguing that there is no analogous clause preempting state law intervention in the AEA.[186] This approach reflects a pattern for Justice Thomas, who joined Justice Gorsuch's opinion and is much more likely to find a state law federally preempted beyond its explicit provisions where the statutory scheme includes an express preemption provision.[187]

There are several key conclusions to be drawn from Gorsuch's approach. First, he and Kavanaugh are poised to join ranks with Thomas as Justices extremely skeptical of inquiry into legislative purpose when engaging in statutory interpretation.[188] It seems unlikely that these Justices would be willing to conduct the kind of searching inquiry into statutory purpose that was

179. *See id.* at 1900–02.

180. *Id.* at 1907 (internal quotation marks omitted) (quoting CSX Transp., Inc. v. Easterwood, 607 U.S. 658, 664 (1993).

181. *Id.* at 1904–05.

182. *Id.* at 1905.

183. *See id.*

184. *Id.* at 1906.

185. *Id.* at 1906 n.3 (stating that "[c]ertainly the dissent's case, *National Meat Assn. v. Harris* . . . doesn't command a different result").

186. *Id*.

187. Dickinson, *supra* note 46, at 702.

188. *See* Emily Hammond, *Argument Analysis Justices Express Skepticism Over Using Legislative Motive in Pre-Emption Analysis*, SCOTUSBLOG (Nov. 6, 2018, 11:22 AM), https://www.scotusblog.com/2018/11/argument-analysis-justices-express-skepticism-over-using-legislative-motive-in-pre-emption-analysis/; Gordon D. Todd, *The Sound of Silence*, THE REGULATORY REVIEW (July 12, 2019), https://www.theregreview.org/2019/07/12/todd-preemption-virginia-uranium/.

characteristic of *Skull Valley* and *Entergy Nuclear*.[189] Instead, advocates in the future should heed the warning of these Justices and focus their analysis on "*what* the state did, not *why* they did it" when analyzing if a law is federally preempted.[190] These Justices' willingness to question the outcome in *PG&E* and their skepticism toward any kind of inquiry into the legislative intent in preemption cases sends a strong message that they will engage only in very narrow statutory interpretation and will largely—if not exclusively—focus on statutory text.

Second, it appears that Justices Gorsuch and Kavanaugh may be prepared to join Justice Thomas in his rejection of obstacle preemption. Justice Thomas's views on obstacle preemption are outlined in his *Wyeth v. Levine* concurrence,[191] where he agreed with the Court's holding that FDA approval of a pharmaceutical warning label did not preempt a state law judgment against the company based on that label's inadequate warning about the drug's risk.[192] At the outset of his discussion of obstacle preemption, Thomas describes it as "inherently flawed"[193] and then goes on to confirm he "can no longer assent to a doctrine" that creates "freewheeling, extratextual, and broad" preemption analysis.[194]

Should Justices Gorsuch and Kavanaugh choose to join Thomas's rejection of obstacle preemption, they could create a three-Justice block on the Court that could reject the use of obstacle preemption altogether.[195] This is a development that states who wish to pursue policies that might have been preempted in former eras should be poised to exploit. While commentators thought Virginia's ban would be quickly overturned by conservative judges who support nuclear power,[196] the fact that the three most conservative Justices upheld a ban primarily advocated for by environmentalists should send a signal to other states considering similar policies. This development could create a significant rebalancing of priorities within the Court and may substantially limit the willingness of the Court to find implied preemption in coming years.[197]

Notably, Gorsuch and Thomas recommitted to the skepticism of the Court's current preemption analysis in October 2019. The two Justices concurred in the Supreme Court's decision to deny certiorari in *Lipschultz v. Charter Advanced*

189. Skull Valley Band of Goshute Indians v. Nielson, 376 F.3d 1223 (10th Cir. 2004); Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393 (2d Cir. 2013).

190. *Virginia Uranium*, 139 S. Ct. at 1905.

191. 555 U.S. 555, 582–83 (2009) (Thomas, J., concurring).

192. *Id.*

193. *Id.* at 593.

194. *Id.* at 604.

195. Dickinson, *supra* note 46, at 702.

196. *See* Hammond, *supra* note 188; Todd, *supra* note 188.

197. Catherine M. Sharkey, *Extratextual Obstacle Preemption Is Justice Clarence Thomas the Lone Principled Federalist?*, 5 N.Y.U. J.L. & LIBERTY 63, 65 (2010). *But see* John David Ohlendorf, *Textualism and Obstacle Preemption*, 47 GA. L. REV. 369, 442 (2012–13) (arguing that obstacle preemption "is not only compatible with textualism, but textualists are compelled to accept the doctrine because of the ways in which the foundations of their theory have developed").

Services (MN), LLC,[198] emphasizing that the Court should reconsider whether federal agency inaction constitutes policy that can preempt state laws regulating the same areas.[199] While Thomas agreed with the rest of the Court's conclusion that the petition for certiorari was properly denied,[200] he went on to suggest that the Court's current understanding of which policies have preemptive effects is too broad.[201] He argued that giving nonregulation preemptive effects expands the power of the executive and judiciary to make law and urged a return to a more limited reading of the Supremacy Clause.[202] His vision of the Supremacy Clause limits preemptive effects of federal law to "standards and policies that are set forth in, or necessarily follow from, the statutory text that was produced through the constitutionally required bicameral and presentment procedures."[203]

While Thomas's *Lipschultz* opinion is not about obstacle preemption specifically, it represents a much more narrow understanding of what constitutes federal policy with preemptive effect.[204] This is another area of implied preemption where Thomas has long been skeptical,[205] and the fact that Gorsuch was willing to join him again in this skepticism suggests that Thomas will have at least two votes (if not three, in cases where Kavanaugh joins them) in support of limited readings of the preemptive significance of federal statutes. Combined with the liberal wing of the Court,[206] this could create a six-vote coalition of Justices who are likely to consistently find against plaintiffs claiming obstacle preemption, which I will explore in Part IV of this Note.[207]

B. Justice Ginsburg's Opinion: Adhering to Precedent and Emphasizing Practical Concerns

Joined by Justices Kagan and Sotomayor, Justice Ginsburg came to the same conclusion as Justice Gorsuch, albeit with a much more limited analysis. Her opinion relied almost entirely on the absence of any alternative regulator for uranium mining and the language of *PG&E*.[208] Justice Ginsburg clearly understands the "boundaries of the preempted field" to be "state laws that apply to federally licensed activities and are driven by concerns about the radiological safety of those activities."[209] Ginsburg's approach set out a two-step analysis:

198. 140 S. Ct. 6, 6–7 (2019).
199. *See id.* at 7.
200. *Id.*
201. *Id.*
202. *Id.*
203. *Id.* at 6 (quoting Wyeth v. Levine, 555 U.S. 555, 586 (2009) (Thomas, J., concurring)).
204. *See id.* at 7.
205. Sharkey, *supra* note 197, at 63–70.
206. The liberal wing of the Court has long been skeptical in preemption claims, as discussed in the next Subpart and a 2013 empirical study of preemption in the Supreme Court. Dickinson, *supra* note 46, at 682.
207. *See id.* at 700–07.
208. Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1909 (2019) (Ginsburg, J., concurring).
209. *Id.* at 1914.

First, the Court should determine if an activity is covered by the AEA; if it is, the Court must determine whether the challenged state law is motivated by safety.[210] Thus, because mining on private lands is not federally licensed, Virginia's ban is not preempted—there is no need for the step two consideration of the state law's motivation. This conclusion is bolstered by her agreement with Justice Gorsuch's simple observation that if Virginia doesn't have authority to regulate uranium mining, no one does, leaving a major regulatory gap that is difficult to reconcile with the AEA's purpose of promoting the safe use of uranium.[211]

One additional portion of Ginsburg's analysis is worth discussing: her dismissal of *National Meat Association v. Harris*.[212] In her analysis, Ginsburg distinguished the slaughterhouse law at issue in *National Meat* from Virginia's ban because Virginia's mining ban was "upstream," rather than downstream, of the federally regulated activity.[213] However, *National Meat* is more specific on why the law at issue was preempted. There, the Court specifically took issue with the fact that the California sales regulations were part of the enforcement scheme for preempted laws.[214] Further, the opinion noted that the "inevitable effect" of the sales ban was to force slaughterhouses to remove nonambulatory pigs from production—thus preventing slaughterhouses from engaging in a federally regulated activity.[215] The analysis in *National Meat* is grounded in the observation that California's sales ban made regulated activities impossible.

Ginsburg's upstream/downstream distinction went beyond *National Meat* to announce a broader rule: that upstream and downstream regulations are fundamentally distinct.[216] Analogizing to state laws banning horse slaughter and setting emissions requirements under the Clean Air Act, she suggested that upstream regulations may go so far as to make a regulated activity impossible and remain unpreempted.[217] But she did not state this explicitly and noted that Virginia's mining ban does not entirely preclude the possibility of milling and tailings disposal.[218] She also distinguished the FMIA from the AEA based on FMIA's express preemption clause, though she did not expand on why this changes the outcome beyond noting that the absence of express preemptive language in the AEA renders *National Meat* nonbinding authority.[219]

Finally, Ginsburg's opinion dedicates significant time to rebutting Gorsuch's approach, particularly his conclusions about the impropriety of *PG&E*'s searching statutory analysis.[220] Ginsburg's opinion looks closely at

210. *See id.*
211. *See id.* at 1909.
212. *Id.* at 1914 (citing and dismissing Nat'l Meat Ass'n v. Harris, 565 U.S. 452 (2012)).
213. *Id.*
214. Nat'l Meat Ass'n v. Harris, 565 U.S. 452 463–64 (2012)..
215. *Id.* at 464.
216. *Virginia Uranium*, 139 S. Ct. at 1915 (Ginsburg, J., concurring).
217. *Id.*; *see also* Engine Mfrs. Ass'n v. S. Coast Air Quality Mgmt. Dist., 541 U.S. 246, 255 (2004).
218. *Virginia Uranium*, 139 S. Ct. at 1915 (Ginsburg, J., concurring).
219. *Id.* at 1909.
220. *Id.*

both the statutory language and legislative history to arrive at the conclusion that the AEA has never delegated authority over mining to the NRC.[221] Her analysis ends at the conclusion that regulatory authority over mining rests with the states, and she dismisses concerns about the effect that the ban has on the downstream activities of milling and tailings storage, noting the Court cannot expand the AEA's reach.[222]

Of all the opinions, Ginsburg's is the hardest from which to draw any conclusions. Her primary argument is to stick to the relevant, binding case law and to account for the practical considerations about the lack of another regulatory body for mining.[223] However, Ginsburg noted the Court's inquiry in *PG&E* was not an overstep, implying that she would not be nearly so quick to dismiss the propriety of the legislative purpose inquiries in *Skull Valley* and *Entergy Nuclear*.[224] But there are significant questions as to exactly how she would have addressed both these cases, since the activities at issue (state decisions about road construction and whether to run a powerplant) were not exclusively "federally licensed[,]" although some portions (facility licensing fees and liability rules) arguably are.[225]

While the exact conditions that would lead Ginsburg and those who joined her concurrence to find obstacle preemption are not entirely clear, her opinion holds some clues. The opinion suggests Justices Ginsburg, Sotomayor, and Kagan will be significantly more likely to side with Roberts and the dissenters to find preemption where the regulation at issue is "downstream" of the federally regulated activity. However, there are two open questions about this stance. First, what is the underlying policy justification of this rule, and how does this guide the Justices in applying it? Second, to what extent can this rule be generally applied? I will discuss these questions below.

First, while the underlying policy for the upstream/downstream distinction that Ginsburg draws is unclear, it seems tied to the notion of impossibility.[226] Her opinion distinguished the sale ban at issue in *National Meat* and the mining ban in *Virginia Uranium* primarily based on the observation that the sale ban worked with the rest of the California law to control slaughterhouse operations, whereas the law at issue in *Virginia Uranium* makes millings and tailings disposal unlikely—but not impossible—by preventing uranium mining in Virginia.[227]

There are three potential guiding principles to extract from this. One could be that laws that are integral to the implementation of a preempted state law are

221. *Id.* at 1912–13.
222. *Id.* at 1914–15.
223. *Id.*
224. *Id.* at 1909; Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393 (2d Cir. 2013); Skull Valley Band of Goshute Indians v. Nielson, 376 F.3d 1223 (10th Cir. 2004).
225. *See Virginia Uranium*, 139 S. Ct. at 1914 (Ginsburg, J., concurring).
226. *Id.* at 1914–15.
227. *Id.*

also preempted, particularly where a statute includes express preemptive language.[228] This seems possible considering the opinion's explicit reference to the FMIA's express preemptive language.[229] Second, Ginsburg may have instead intended to draw a line based on whether a state law makes a federally regulated activity possible.[230] While she alludes to this, it seems unwise to draw this conclusion, particularly because the horse slaughter ban Ginsburg favorably references has this same effect.[231] Finally, this opinion may be best understood as establishing a fundamental distinction between state statutes that control activities upstream and downstream of federally regulated activities because downstream statutes have the effect of reaching back to control upstream operations.[232] This is also a viable explanation, particularly considering Ginsburg's observations suggesting she believes regulating downstream activities much more effectively prevents federally regulated activities from ever happening.[233] Moving forward, litigants would be well suited to keep all three of these possibilities in mind.

Second, this rule may be broadly applicable to preemption questions outside of just the AEA. While the rule should be applied cautiously, the Court's citations to cases related to horse slaughtering bans and state emissions regulations suggest this approach is broadly applicable. However, Ginsburg was also careful to note that *National Meat* was not binding, indicating the upstream/downstream distinction is not necessarily outcome determinative.[234] This is also consistent with a study of the liberal wing of the Court, which found that although the Court is inclined to reject obstacle preemption claims, the reasons it chooses to do so are varied.[235] The liberal wing's opinions tend to be based on "legislative history and intent, availability of alternative remedies, and the presumption against infringing on areas of traditional state sovereignty."[236] Notably, Justice Breyer regularly joins the liberal wing in rejecting obstacle preemption claims but has been willing in the past to join the more conservative Justices in finding obstacle preemption.[237]

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228. *See id.* at 1914–15.

229. *See id.*

230. *See id.*

231. *See id.*

232. *See id.* Again, I would question the logic of this argument. While it is certainly true that the law at issue in *National Meat* had the effect of reaching back and controlling slaughterhouse operations, the same can be said for *Virginia Uranium* and the favorably referenced horse slaughter bans. Both have an extinguishing effect on the industries affected: They prevent them from being viable in the first place. While the regulations in *National Meat* had the effect of controlling slaughterhouse operations, the favorably referenced bans entirely prevent the federally regulated activity from occurring. It is hard to imagine that this can truly be understood as having less of an effect on the regulated industry.

233. *See id.*

234. *See id.*

235. Dickinson, *supra* note 46, at 704.

236. *Id.* at 703–05.

237. *Id.*; *see, e.g.*, Geier v. Am. Honda Motor Co., 529 U.S. 861 (2000) (where Justice Breyer joined the conservative Justices to find obstacle preemption under the National Traffic and Motor Vehicle Services Act).

Overall, it appears that any general rule drawn from Ginsburg's opinion should be applied cautiously. While the liberal Justices have historically been unlikely to find obstacle preemption, the reasoning for this unwillingness is variable. Any consideration of whether the liberal Justices will accept an obstacle preemption argument should be carefully tied to an analysis of all the factors that these Justices have historically weighed in making such a finding, and litigants should be careful not to assume a particular outcome.

C. Justice Roberts's Opinion: Expansive Atomic Energy Act Obstacle Preemption

In an unusual mix of Justices, Justice Roberts is joined by Justices Breyer and Alito in the conclusion that Virginia's uranium mining ban is federally preempted.[238] Roberts concluded that the other six Justices missed the mark on the question of whether banning the upstream activity of mining interfered with the NRC's authority over safety regulation for milling and tailings.[239] Roberts argued that state laws are preempted when they aim to regulate within a preempted field: here, nuclear safety.[240] He showed frustration that the remaining Justices do not see in the Virginia ban what he does. While the State is only banning mining, it is able to exercise authority over something that the Supreme Court said in *PG&E* was under the "complete control" of the NRC: milling and tailings storage.[241]

Specifically, Roberts took issue with the other Justices' failure to engage in careful analysis of the point at which state law so clearly infringes on a federally regulated activity that it ought to be preempted. Roberts argued that the distinction between the Virginia uranium ban and state laws at issue in *National Meat* is lacking.[242] He argued that distinguishing between upstream and downstream regulations is improper and that Virginia's indirect attempts to regulate nuclear safety through the mining ban must be preempted under the AEA.[243] He drew on the example of a state shutting down all state roads leading to a nuclear plant because the state disagrees with safety regulations.[244] This was a clear reference to the law at issue in *Skull Valley* and suggests that he endorses the Tenth Circuit's approach to finding that state law preempted.[245] Roberts found this possibility ridiculous and warned that these kinds of laws will almost certainly be passed in the wake of the *Virginia Uranium* decision.[246]

238. *Virginia Uranium*, 139 S. Ct. at 1916 (Roberts, C.J., dissenting).
239. *Id.* at 1917.
240. *Id.*
241. *Id.* at 1916.
242. *Id.* at 1920.
243. *Id.*
244. *Id.* at 1917–18.
245. *See* 376 F.3d 1223 (10th Cir. 2004).
246. *Virginia Uranium*, 139 S. Ct. at 1917–19 (Roberts, C.J., dissenting).

The analysis in the dissent provides the two key takeaways for understanding how Roberts approaches obstacle preemption. First, Roberts's view of obstacle preemption is broader and based less on statutory language than the underlying reality of what a policy does and why that policy was adopted.[247] He relied not only on real-world assessments of how policies are implemented but also the legislative histories of such laws so that he could better understand their bases.[248]

Second, Roberts was unwilling to accept the upstream/downstream distinction that the Ginsburg opinion adopted and argued that upstream and downstream regulations are in many ways materially the same.[249] They both represent different approaches to the same kind of goal: indirectly interfering with a field that is federally regulated.[250] Roberts is much more likely to find state laws that regulate upstream activities—even those outside federal regulatory reach—are preempted by federal law in cases where they have the downstream effect of interfering with federally regulated activities.

IV. GUIDING PRINCIPLES FROM *VIRGINIA URANIUM*: GUIDELINES FOR FUTURE ATOMIC ENERGY ACT OBSTACLE PREEMPTION CLAIMS

The three opinions in *Virginia Uranium* leave many questions about how the Court will address future obstacle preemption cases under the AEA and other laws. This Part seeks to distill guiding principles from these muddled opinions to understand where the Court may be headed in future obstacle preemption cases.

A. Varying Thresholds for Obstacle Preemption

Only two Justices—Alito and Roberts—are consistent supporters of obstacle preemption claims; the other Justices are unlikely to be particularly receptive. While Justice Kavanaugh is not as clearly opposed to broad preemption of state laws, Justices Gorsuch and Thomas appear likely to reject broad preemption claims absent a clear conflict or express preemption clause in the federal statute at issue.[251] This rejection of obstacle preemption appears to be largely grounded in a strict textualist approach to identifying preemptive intent as well as a broad view of states' rights.[252]

Three liberal Justices—Justices Kagan, Sotomayor, and Ginsburg—also appear unlikely to be receptive to obstacle preemption but approach the issue

247. *See id.* at 1916–17.
248. *Id.* at 1917.
249. *Id.* at 1920.
250. *Id.*
251. *See* Dickinson, *supra* note 46, at 701–02; *Virginia Uranium*, 139 S. Ct. at 1901; Lipschultz v. Charter Advanced Servs. (MN), LLC, 140 S. Ct. 6, 6–7 (2019).
252. *See* Dickinson, *supra* note 46, at 701–02.

differently.[253] Unlike Gorsuch and Thomas, the liberal Justices have historically deployed a wider variety of arguments to reject obstacle preemption claims.[254] Specifically, these Justices rely on a broader presumption against preemption, a presumption that Congress does not preempt state laws where doing so eliminates all judicial recourse, as well as legislative history.[255] Finally, Justice Breyer seems likely to join the liberal Justices in many cases, but his willingness to side with the dissenters in *Virginia Uranium* suggests that he will not always take that position.[256]

Overall, there are between five and seven Justices on the Court that are generally skeptical of obstacle preemption, and at least five of them seem very unlikely to find obstacle preemption without a clear federal/state conflict or an express preemption clause.

B. The Distinction between Upstream and Downstream Regulations

The importance of whether a regulation falls downstream or upstream of a regulated activity is largely unresolved. While three Justices dismissed this distinction as nonsensical, three others relied on it heavily without explicitly adopting it. [257] Another three Justices declined to discuss the issue entirely.[258] While no clear rule emerges from *Virginia Uranium*, such a distinction could be significant and there are several key takeaways to consider.

The first and most important is that Justices Ginsburg, Kagan, and Sotomayor might flip to join Roberts, Alito, and Breyer to strike down a state law under an obstacle preemption theory if the state law is a downstream regulation.[259] However, this rule may be limited to cases where there is an express preemption provision in the federal statute at issue.[260]

Second, Justice Gorsuch's failure to discuss the upstream/downstream distinction, despite the attention it received elsewhere from Roberts and Ginsburg, suggests that it has no impact on his reasoning.[261] This is consistent with the rest of his opinion: Gorsuch heavily emphasizes the importance of narrowly construing obstacle preemption to apply to activities explicitly included in federal statutes and discourages analysis that strays far from the statutory text.[262] It seems unlikely that conservative Justices would find the upstream/downstream distinction important in the future, but it is worth noting

253. *See id.* at 702–05; *Virginia Uranium*, 139 S. Ct. at 1909–10 (Ginsburg, J., concurring).
254. *See* Dickinson, *supra* note 46, at 703.
255. *Id.* at 703–04.
256. *See id.* at 702–05.
257. *See Virginia Uranium*, 139 S. Ct. at 1914–15 n.4 (Ginsburg, J., concurring); *id.* at 1920 (Roberts, C.J., dissenting).
258. *Id.* at 1906 n.3 (lead opinion).
259. *See id.* at 1913–15 (Ginsburg, J., concurring).
260. *Id.*
261. *See id.* at 1906 n.3 (lead opinion).
262. *Id.*

that Thomas joined the majority in *National Meat*.[263] However, this is fairly easily explained by the fact that FMIA includes an express preemption clause—the one condition under which Justice Thomas has regularly accepted obstacle preemption arguments.[264] Overall, it seems safe to conclude that at least Justice Thomas, and likely Justices Gorsuch and Kavanaugh, would not be swayed significantly by claims of obstacle preemption in cases where the federal legislation at issue does not include express preemptive language.

C. The Propriety of an Inquiry for Legislative Purpose and the PG&E *Test for the Atomic Energy Act*

The Court's conclusions about both the propriety of the test established in *PG&E*[265] and the inquiry into legislative purpose for preemption decisions are fairly clear. Justices Thomas, Gorsuch, and Kavanaugh generally rejected the use of legislative purpose for preemption analysis and questioned the validity of the *PG&E* test, emphasizing the difficulty of correctly answering the question of *why* legislators pass a particular law.[266] This position calls into question whether they would ever apply the *PG&E* test, which is only necessary in cases where a state statute does not facially conflict with the AEA but may interfere with its purpose.[267] Generally, we should not expect these three Justices to be willing to go far beyond explicit statutory command for preemption purposes under the AEA or more generally.

However, the six other Justices are more willing to engage in purposive statutory construction and affirm the validity and usefulness of the *PG&E* test—even if they do not apply it to the same result. Moving forward, I expect that only the two Justices that joined Gorsuch's opinion will decline to engage in purposive statutory interpretation when conducting preemption inquiries.

Justice Ginsburg declined to investigate statutory purposes under the *PG&E* test because she envisioned no scenario in which the federal government would regulate mining under the AEA, but she affirmed that in cases where a federally regulated activity is at issue, the test should apply.[268] Justice Roberts and those who joined him demonstrated an equal willingness to engage in an analysis of statutory purpose and to do so for activities that are not directly federally regulated where they interfere with those that are.[269] The three dissenting Justices demonstrated the broadest approach to purposive legislative inquiry and were willing to go beyond the statutory language to compare the on the ground effects of state legislation on federally regulated activities even where there was

263. *Id.*; Nat'l Meat Ass'n v. Harris, 565 U.S. 452 (2012).
264. *National Meat*, 565 U.S. at 452; Dickinson, *supra* note 46, at 702.
265. Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190 (1983).
266. *See Virginia Uranium*, 139 S. Ct. at 1906–07.
267. *See Pac. Gas & Elec. Co.*, 461 U.S. at 190; *Virginia Uranium*, 139 S. Ct. at 1906–07.
268. *Virginia Uranium*, 139 S. Ct. at 1913–14 (Ginsburg, J., concurring).
269. *Id.* at 1917–19 (Roberts, C.J., dissenting).

no explicit statutory basis for doing so.[270] Overall, six Justices will likely continue to engage in purposive statutory construction, and there is little risk of the Court adopting Gorsuch's strict approach.

D. The Importance of the Presence or Absence of an Express Preemption Provision in Legislation at Issue in a Case

The main effect of express preemption provisions in federal legislation is fairly intuitive: Such clauses make all the Justices more likely to find that a state law is preempted. Justice Thomas's willingness to join the majority to find the law at issue in *National Meat* preempted suggests that even the most conservative Justices are more likely to find preemption where the statute includes an express statement of preemptive intent.[271] Moreover, this appears to be true for Justices Ginsburg, Sotomayor, and Kagan, who are careful to distinguish the federal statutes at issue in *National Meat* from those in *Virginia Uranium* based on the presence of an express preemption provision.[272] Finally, Justices Alito and Roberts are receptive to obstacle preemption claims regardless of whether statutes include such a provision, so it does not seem likely that their decisions would shift much with an express preemption clause.[273]

V. RETHINKING *SKULL VALLEY* AND *ENTERGY NUCLEAR*: HOW *VIRGINIA URANIUM* MIGHT CHANGE THE OUTCOME OF FUTURE OBSTACLE PREEMPTION CASES UNDER THE ATOMIC ENERGY ACT

The new lines drawn in *Virginia Uranium* raise questions about the future of obstacle preemption under the AEA. While the Supreme Court has very rarely found that the AEA preempts state regulations, this has not been true in the lower courts, as demonstrated by *Skull Valley* and *Entergy Nuclear*.[274] In both cases, circuit courts applied the test set out in *PG&E*[275] to strike down state laws that they believed interfered with the AEA.[276] However, the outcome in *Virginia Uranium*, which signaled that the *PG&E* test's applicability is significantly more limited than previously thought, might well change the outcome in similar future cases.

This Part seeks to assess whether the outcome in *Virginia Uranium* is likely to affect future cases by reassessing the holdings in *Skull Valley* and *Entergy*

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270. *Id.*

271. *See id.* at 1907 (lead opinion) (stating "any evidence of pre-emptive purpose, whether express or implied, must therefore be sought in the text and structure of the statute at issue")(internal quotation marks omitted); Dickinson, *supra* note 46, at 702.

272. *See Virginia Uranium*, 139 S. Ct. at 1914 (Ginsburg, J., concurring).

273. *See id.* at 1916–18 (Roberts, C.J., dissenting); Dickinson, *supra* note 46, at 698–700.

274. Skull Valley Band of Goshute Indians v. Nielson, 376 F.3d 1223, 1227–28 (10th Cir. 2004) (noting that few courts have ever found that state regulation of nuclear energy-related activities are preempted under the AEA); Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393 (2d Cir. 2013).

275. Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190 (1983).

276. *Skull Valley*, 376 F.3d at 1227–28; *Entergy*, 733 F.3d at 413.

Nuclear through the rules set out in Part IV. I conclude that *Virginia Uranium* likely would materially change the circuit courts' analyses when assessing the issues in each of these cases, though not all of the outcomes would be significantly different. However, as the previous Part demonstrates, the patterns in obstacle preemption holdings under the AEA are very judge specific, and any change in the makeup of the Supreme Court has a strong possibility of affecting circuit courts' calculi. Moreover, because of the three-headed nature of *Virginia Uranium*, circuit judges may still feel liberated to pick and choose ideologies strategically to arrive at the conclusion they believe most obviously correct, so these conclusions should be understood to have critical limitations.

First, I will analyze *Skull Valley*, concluding that most of the Tenth Circuit's determinations that Utah's laws were preempted would likely be tenable after *Virginia Uranium*, but some questions might have been decided differently. Second, I will discuss *Entergy Nuclear*, the holding of which becomes significantly less tenable under *Virginia Uranium*.

A. Reassessing Skull Valley *after* Virginia Uranium

The relevant holdings in *Skull Valley* found three Utah state laws preempted.[277] These laws imposed safety planning and mitigation requirements on cities where nuclear waste facilities were sited, revoked limited liability status for spent nuclear fuel storage companies, and placed control over the construction and regulation of roads near storage facilities under state-level (instead of local-level) control.[278]

Even after *Virginia Uranium*, two of these three laws would seem very likely to be struck down. Most obviously, the city safety planning and mitigation requirements fall within the area of "safety-related regulation" that even the three liberal Justices identify as a central area of AEA coverage subject to the *PG&E* test.[279] Moreover, the court in *Skull Valley* found that unlike in *PG&E*, the State of Utah had no justification aside from safety for this regulation, meaning that the three liberal Justices that sided with the State in *Virginia Uranium* would likely side with the *Virginia Uranium* dissenters when faced with the local safety regulations at issue.[280] Because the safety regulations in *Skull Valley* go to the core of the AEA's safety regulation mandate, the holding on this issue likely would not change.

Second, while the decision to revoke limited liability for nuclear storage waste facilities presents a closer issue, it seems very possible that a court applying *Virginia Uranium* would uphold it. While the law suffers from the same underlying purposive problems, it does not go to the core issue of safety regulation in a way that is comparable to the planning law. Because state-

277. *Skull Valley*, 376 F.3d at 1227–28.
278. *Id.*
279. *Supra* Subpart IV.B; *infra* Subpart V.C.
280. *See supra* Subpart IV.B; *infra* Subpart V.C; *Skull Valley*, 376 F.3d at 1246.

determined corporate status is hardly a central part of the AEA, this law likely fails the test established by the liberal Justices for applying *PG&E* as it does not go to a core activity regulated under the AEA.[281] Again, it appears that the determinative factor is whether the regulation at issue is sufficiently facially related to subjects covered by the AEA to trigger the application of the *PG&E* test.

Here, the fact that the law covers corporate status makes it difficult to draw a clear line to licensing and safety. However, the court in *Skull Valley* did attempt to characterize the law this way.[282] Specifically, it treated corporate liability as a "licensing" requirement.[283] While this is a closer question, and ultimately will come down to a reviewing judge's view of how narrowly to read licensing requirements, I do not believe this argument would hold up under a careful application of the principles from *Virginia Uranium*. In *Skull Valley*, the Tenth Circuit primarily relied on the state law presumption that corporations are able to operate as limited liability entities.[284] But the court did not identify a specific part of the AEA with which this decision conflicts, instead relying on the AEA's general goal of removing economic obstacles to civilian nuclear power generation.[285] If this general analysis was sufficient, holdings such as those in *PG&E* and *Virginia Uranium* would not be possible. The liberal Justices almost certainly would not find a sufficient hook to justify application of the *PG&E* test because the AEA makes no prescription in relation to state laws governing liability.[286] This decision would likely be decided with the most liberal and conservative Justices aligned upholding the law.

Finally, the road provisions also raise questions about the applicability of the *PG&E* test but, for reasons that I describe below, are more likely to be subject to reversal. First, the road provisions contain four different elements but fundamentally relate to asserting state-level control over these roads.[287] Again, these regulations almost certainly do not directly interfere with federal safety regulation for nuclear facilities (though they do assert state control for safety purposes).[288] And again, the Tenth Circuit here relied on the *PG&E* test to find that they were improperly motivated by safety concerns.[289] However, despite this characterization, there are two reasons a court might still find that these regulations are preempted.

The first reason for this is the almost comical behavior of Utah's governor after the passage of this law. The governor made comments specifically

281. *Supra* Subpart IV.B; *infra* Subpart V.C.
282. *Skull Valley*, 376 F.3d at 1229, 1250, 1253–54.
283. *Id.*
284. *See id.* at 1251.
285. *Id.*
286. *Supra* Subpart IV.B; *infra* Subpart V.C.
287. *Skull Valley*, 376 F.3d at 1251–52.
288. *Id.*
289. *Id.* at 1252.

promising to use the state power over these roads to create a "moat" around the planned storage site.[290] Moreover, he went on to preemptively promise to deny all the necessary permits for the transportation of nuclear material on these roadways.[291] In *PG&E*, the Court noted that statutes targeted at rendering the daily operation of a licensed nuclear plant impossible are impermissible.[292] While the Court in *Virginia Uranium* construed this mandate narrowly, with Justice Ginsburg's opinion limiting this mandate's meaning to its most literal,[293] it would not be a major leap for a court to read the governor's comments as meeting that high burden.

Second, because of the odd nature of these regulations, it seems likely that a court wishing to find these laws preempted could treat them as downstream regulations and invoke the logic of *National Meat* to find them preempted.[294] While in his dissent Justice Roberts characterized Utah's road regulations as "out of the stream[,]"[295] a court could also classify the provisions as downstream because they prevent transportation of material from the facility to future storage facilities.[296] If so, a court could rely on the dicta about downstream regulations from Justice Ginsburg's opinion and rely on the dissenters to agree with the holding.[297]

B. Reassessing Entergy Nuclear *after* Virginia Uranium

The Vermont law in *Entergy Nuclear* presents the closest parallel to the law at issue in *Virginia Uranium*. The law in *Entergy Nuclear* transferred authority to issue Certificates of Public Good—which are required for the operation of power-generating facilities in Vermont—from an administrative body subject to judicial review, to the state legislature, whose decisions are not.[298] While the Second Circuit conceded that the alleged statutory motives were not grounded in safety concerns on their face, the court ultimately relied on district court findings to hold that state legislators' motives reflected a desire to dodge preemption concerns by concealing the safety-related motivations of the law.[299]

On one hand, if a court similarly concluded that the policy was motivated by safety concerns and rendered operation of a federally licensed nuclear

290. *Id.*
291. *Id.*
292. Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 212 (1983).
293. *See* Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1915 (2019) (Ginsburg, J., concurring) (suggesting that while difficult, uranium milling and tailings storage in Virginia was not rendered impossible by the mining ban).
294. Nat'l Meat Ass'n v. Harris, 565 U.S. 452, 455–56 (2012).
295. *Virginia Uranium*, 139 S. Ct. at 1920 (Roberts, C.J., dissenting).
296. A mirror argument could be made for categorizing them as upstream regulations as well because they prevent the transportation of nuclear waste to the facilities in the first place.
297. *See supra* Subpart IV.B; *supra* Subpart IV.C; *supra* Subpart V.B.
298. Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393 (2d Cir. 2013).
299. *Id.* at 416–17.

program impossible, the same logic for reversing the law discussed in the analysis of Utah's state road "moat" would apply here, and a court could fairly strike the law down.[300] However, *PG&E* also emphasized that states have traditional authority over their power generation choices, and if a court determined that the legislative history was not creative subterfuge, a different result is likely.[301] Here, the decision would almost certainly turn on the findings of the court after application of the *PG&E* test because licensing is a central activity of the AEA, so most courts would likely follow the six Justices that maintained that this test is applicable to licensing questions.[302] The outcome in future cases that mirror *Entergy Nuclear* are likely to turn entirely on the underlying facts.

C. Takeaways from Applying Virginia Uranium *to Previous AEA Preemption Cases*

Overall, the outcomes of applying this test suggest several key lessons about *Virginia Uranium*. The first is that the most flexible—and thus most powerful—Justices in preemption decisions are Justices Ginsburg, Kagan, and Sotomayor. While the conservative bloc and dissenters are likely to arrive at the same conclusions in future obstacle preemption cases, the liberal Justices are the most flexible. In my analysis, I repeatedly had to ask whether the liberal Justices were willing to flip, for example, because a regulation was upstream from a regulated activity. Areas where it appeared it might be, like the Utah moat or limited liability revocation for nuclear spent fuel storage companies, were also areas where it is most likely that the outcome of a decision might change under *Virginia Uranium*. Any litigator on either side of an AEA preemption case must make navigating their understanding of the AEA's preemptive reach a priority.

Second, the most significant factors were somewhat unsurprisingly those that made up the two-step test that the liberal Justices developed for applying *PG&E*: Is the law related to a core part of the AEA and, if so, does it have a nonsafety motivation? While different Justices have shown more varied tolerances for obstacle preemption than the three opinions in *Virginia Uranium* reflect—and these predilections are important for understanding the likely results of non-AEA cases—decisions under the AEA seem likely to come down to the application of that two-step test, particularly the liberal Justices' application.

Third, it appears that there is a more certain path than ever before for states to implement environmental regulations more stringent than those required by federal law without significant risk of preemption. While this is not particularly well illuminated by reassessing *Skull Valley* and *Entergy Nuclear*, there are now seven Justices on the Court that have a record of rejecting obstacle preemption

300. *Supra* Subpart IV.A.

301. Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 212 (1983).

302. *Supra* Subpart IV.B; *supra* Subpart IV.C.

claims: Justices Gorsuch, Kavanaugh, Thomas, Ginsburg, Kagan, Sotomayor, and Breyer.[303] While Justice Breyer sided with the dissenters in *Virginia Uranium*, he has historically sided with the liberal Justices. Moreover, the addition of Justices Kavanaugh and Gorsuch has provided Justice Thomas with two additional votes for his approach to obstacle preemption questions, while those they replaced—Justices Kennedy and Scalia—were both generally more aligned with Chief Justice Roberts's willingness to accept obstacle preemption claims.[304] The outcome in *Virginia Uranium* suggests that advocates for state law regulations that previous Supreme Courts might have found to be preempted have a more flexible path to these laws being upheld.

Finally, it is important to acknowledge the limits of my analysis here. Much of what I have written is based on the fairly limited AEA preemption jurisprudence available on obstacle preemption. Nuclear projects are big and expensive, and this is not an area of law where rules have been developed through frequent litigation. Moreover, the different outcomes are highly specific to the Justices that make up the Supreme Court. Any AEA preemption case should be approached cautiously and with attention to the particular tendencies of reviewing judges. With this in mind, the analysis here is designed to help identify the important inflection points in the AEA and identify broader trends for how members of the Court will address questions related to obstacle preemption under other federal statutes at a time when the federal government is seen as having largely abdicated its responsibility to regulate environmental and other essential issues, and many states want to fill that void.

CONCLUSION

The decision in *Virginia Uranium* revealed a Court deeply divided on questions of obstacle preemption. However, for environmentalists in Virginia, the holding meant clear victory. While the future of obstacle preemption decisions is uncertain, the decision in *Virginia Uranium* suggests that there is a wider opening than under the previous Court for states to regulate activities that might have previously been found to be preempted under federal statutes, particularly where the federal law at issue does not include an express preemption clause. As the federal government continues to stall remedies to climate change, species loss, and other environmental degradation, *Virginia Uranium* suggests the door is open for states to take the lead. If states choose to take up this mantle, they may well take advantage of the Court's new makeup to successfully defend environmental statutes.

However, the most important lesson from *Virginia Uranium* is not the door it opens for state regulation but the uncertainty and idiosyncratic nature of obstacle preemption decisions more generally. The addition of two Justices

303. *Supra* Subpart V.A.
304. Dickinson, *supra* note 46, at 697.

appears to have significantly shifted the playing field on this issue, which has widespread implications for all manner of state laws. Moving forward, advocates should be aware of the fickle, judge-dependent nature of obstacle preemption, and legislators should consider ways to create clarity in statutes to avoid the ambiguity that leads to decisions grounded in the personal approaches of judges instead of undisputed legislative intent. Without certainty, states are less able to pursue the kinds of aggressive regulation they would choose for fear of reversal, and it is hard to imagine one fractured decision will change that.