An Odd Way to Read a Preemption Statute: The Atomic Energy Act, *Virginia Uranium*, and the Diné Natural Resource Protection Act

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INTRODUCTION

On November 5, 2018, the United States Supreme Court heard arguments for *Virginia Uranium, Inc. v. Warren*,[1] in which a would-be uranium-mining company challenged Virginia's thirty-year-old uranium mining ban[2] as preempted under the Atomic Energy Act ("AEA").[3] The AEA, which governs federal regulation of nuclear materials and technology, expressly exempts uranium mining from control by the Nuclear Regulatory Commission ("NRC"), making the preemption argument unlikely on its face. The petitioners nonetheless advanced several variations of their preemption claim, all dependent on a purpose-driven view of the AEA, and all requiring a hunt for pretext not usually

1 Virginia Uranium, Inc. v. Warren, 139 S. Ct. 1894 (2019).

2 VA. CODE ANN. § 45.1-283 (2019).

3 42 U.S.C. §§ 2011–2296b (2018).

applied to natural resource management cases. It was, as Justice Sotomayor observed, "an odd way to read a preemption statute."[4]

The Court's rejection of this argument highlighted one of the most curious and contentious aspects of the AEA's regulatory scheme: the division of authority between federal and non-federal entities is partially defined by purpose. The NRC exercises exclusive authority to regulate specific, statutorily defined activities for the purpose of protection against radiation hazards, while states and tribes[5] retain the power to regulate activities for all other purposes, and non-activities for any purpose.[6]

The decision confirmed this first area of state control: states have authority to ban conventional uranium mining, which is not an AEA-regulated activity. A statutory-purpose inquiry was not triggered, because the AEA does not govern uranium mining for any reason. But this does not remove purpose from the regulatory picture. As both Justice Gorsuch's lead opinion and Justice Ginsburg's concurrence recognize, "the AEA preempts state laws enacted for certain purposes," and defines "the boundaries of the preempted field" as "state laws that apply to federally licensed activities and are driven by concerns about the radiological safety of those activities."[7] Where the opinions differ is to what extent the Court should delve "into hidden state legislative intentions without a clear statutory mandate."[8] The Chief Justice's dissent would place even greater emphasis on legislative purpose. All three approaches leave states and tribes the power to regulate for non-radiological purposes, however those purposes are determined.

The Navajo Nation has exercised that power in the Diné Natural Resource Protection Act ("DNRPA"),[9] which expressly prohibits all uranium mining and processing on Navajo land. Such a ban would be preempted by the AEA if imposed out of concerns about radiological safety. But unlike Virginia's mining ban, the DNRPA provides a thorough

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4 Transcript of Oral Argument at 7, *Virginia Uranium, Inc.*, 139 S. Ct. 1894 (2019), *available at* https://www.oyez.org/cases/2018/16-1275 [hereinafter Transcript].

5 Native American tribes, as sovereign dependent nations, *see Williams v. Lee*, 358 U.S. 217 (1959), stand on a different footing with the federal government than do the states. The principle of tribal sovereignty has played a significant role in natural-resource litigation. It is not the intent of this paper to downplay the importance of tribal sovereignty or ignore the distinction between states and tribes. However, as generally applicable federal laws apply on tribal lands, many of the same potential conflicts between federal and tribal law can arise. As this paper discusses federal preemption rather than tribal sovereignty, much of it is applicable to all non-federal governments.

6 42 U.S.C. § 2021.

7 *Virginia Uranium, Inc.*, 139 S. Ct. at 1914 (Ginsburg, J., concurring).

8 *Id.* at 1906.

9 NAVAJO NATION CODE ANN. tit. 18, § 1301 (2014).

explanation of its non-radiological purposes, which are grounded in the principle of tribal sovereignty, traditional and spiritual values, ecology, and economics. Given the Navajo Nation's experience with uranium mining and milling, the DNRPA stands under all three of the divided *Virginia Uranium* Court's opinions. Its use of concrete historical fact, precise language, and understanding of the AEA structure could make it a model for future non-federal regulation in this area.

This Note explores the history and evolution of the AEA in Part I, then delves into the arguments presented in *Virginia Uranium*, and the Court's rejection thereof, in Part II. Part III explores the DNRPA, analyzes its potential vulnerability to preemption claims, and suggests ways in which it could provide guidance for future regulation.

I. THE ATOMIC ENERGY ACT

An understanding of *Virginia Uranium* and the intricate regulatory scheme surrounding uranium mining and processing must start with the AEA, its purposes, and its limitations. The AEA's text and evolution reveal an intent to transfer increasing regulatory authority from the federal government to states, tribes, and private industry. The control retained by the NRC is over "the more novel aspects of nuclear power," and thus limited to radiation-hazard regulation.[10] States retain their traditional authority over land use, economic development, and public health.

A. The History and Structure of the Atomic Energy Act

The AEA regulates the processing, acquisition, transport, use, and disposal of nuclear materials—initially the sole province of the military.[11] The 1946 Act was part of a post-war push to expand private, commercial nuclear development which, combined with continued weapons research and testing, guaranteed a market for uranium.[12] Later amendments further encouraged commercial development, stating that "atomic energy is capable of application for peaceful as well as military purposes."[13] Strengthening "free competition in private enterprise" was among the

10 *See Virginia Uranium, Inc.*, 139 S. Ct. at 1908.

11 42 U.S.C. § 2011 (2018).

12 *See* Jesse Hicks, *Atoms for Peace: The Mixed Legacy of Eisenhower's Nuclear Gambit*, Science History Institute (Jan. 19, 2014), https://www.sciencehistory.org/distillations/magazine/atoms-for-peace-the-mixed-legacy-of-eisenhowers-nuclear-gambit; *The Plowshare Program*, Science and Technology, https://st.llnl.gov/news/look-back/plowshare-program (last visited Apr. 3, 2019).

13 42 U.S.C. § 2011.

1954 Amendment's stated purposes,[14] although the federal government remained the sole uranium purchaser until 1964, and continued to buy supplies at a guaranteed price until 1970.[15]

1. The Role of the Nuclear Regulatory Commission

Despite the expanded role of non-federal entities, the amended AEA left authority over radiation safety primarily with the NRC, although it allowed states to assume greater regulatory responsibility.[16] The 1946 amendments also defined the boundary between federal and state spheres with specific reference to statutory purpose.

Section 2021, "Cooperation with States," allows states to regulate "[b]yproduct materials . . . [s]ource materials [and] special nuclear materials . . . for the protection of the public health and safety from radiation hazards" under limited agreements with the NRC.[17] The NRC must retain exclusive regulatory authority over "certain activities": the export, import, and disposal at sea of these materials, as well as the "construction and operation of any production or utilization facility or any uranium enrichment facility."[18] States may not agree to regulate these activities.

However, this exclusively federal realm is narrowed significantly by a further clause. Section 2021(k) states that "[n]othing in this section shall be construed to affect the authority of any State or local agency to regulate activities for purposes other than protection against radiation hazards."[19] "Activities" is construed as a reference to the "certain activities" in § 2021(c): source material imports and exports, and nuclear-plant construction and operation.

The NRC may issue licenses and regulate nuclear source material "except . . . with respect to [ ] any source material prior to removal from its place of deposit in nature."[20] In short, the "NRC has literally no

14 *Id.* Other stated purposes included improving general welfare and promoting world peace.

15 Stephen Lauer & Sharon Horndeski, *An Analysis of Federal Preemption Issues as they Relate to Primary Production Activities in the Nuclear Fuel Cycle*, Uranium Exploration and Development, Apr. 2006, at 13B-1, 13B-5.

16 The Atomic Energy Commission (AEC) was originally tasked with both regulating and promoting the use of nuclear technology. *History, U.S.NRC (Sept. 25, 2017), https://www.nrc.gov/about-nrc/history.html#aec-to-nrc.* The Energy Reorganization Act of 1974, responding to concerns that these dual functions presented a conflict of interest, replaced the AEC with the NRC. *Id.*

17 42 U.S.C. § 2021(b) (2018).

18 *Id.* § 2021(c).

19 *Id.* § 2021(k).

20 42 U.S.C. § 2095 (2018) (emphasis added).

authority over source material until it leaves the ground."[21] Conventional uranium mining is governed on federal land by the General Mining Law of 1872[22] and by applicable state or local laws.[23] Elsewhere, uranium mining is regulated by states and tribes.

2. Uranium: Mining, Milling, and Environmental Impacts

The divide between what states may regulate and what remains under exclusively federal authority relates to uranium's radiological properties. Uranium in its unrefined state is only weakly radioactive, and most of the hazards associated with its mining and processing are non-radiological in nature.[24] The NRC retains exclusive authority only over radiation-safety regulation, while leaving the states free to regulate "for purposes other than protection against radiation hazards." A uranium mine is, in most respects, the same as any other mine; thus, the NRC does not regulate conventional uranium mining under any circumstances.[25]

Uranium extraction can take place through "conventional" mining in open-pit or underground mines, or through *in situ* leach operations ("ISL").[26] Processing (or "milling")[27] conventionally-mined uranium involves crushing and grinding the ore, followed by "heap leaching," in which sulfuric acid is run through ore to dissolve the uranium.[28] The leach solution is then separated and the liquids recycled. Unrefined uranium requires extensive processing: often only one percent of extracted ore is usable; most of the material is waste known as mill tailings.[29] *In situ*

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21 Transcript, *supra* note 4, at 34.

22 An Act to Promote the Development of the Mining Resources of the United States, 30 U.S.C §§ 22–43 (2018).

23 All mining is subject to broader environmental laws. Aspects of uranium-mine reclamation fall under a complex system of EPA regulation, which is thankfully beyond the scope of this paper.

24 *Uranium Conversion*, U.S.NRC (Apr. 15, 2019), https://www.nrc.gov/materials/fuel-cycle-fac/ur-conversion.html.

25 *Uranium Recovery*, U.S.NRC (Feb. 14, 2019), https://www.nrc.gov/materials/uranium-recovery.html.

26 Dana S. Ulmer-Scholle, *Uranium — How Is It Mined?*, N.M. BUREAU OF GEOLOGY & MIN. RESOURCES (Dec. 12, 2019), https://geoinfo.nmt.edu/resources/uranium/mining.html.

27 "Milling" may refer only to mechanically grinding ore before leaching out the usable uranium, while "processing" covers the multiple steps between ore and fissionable material. The terms may be used interchangeably.

28 OFFICE OF SOLID WASTE, SPECIAL WASTE BRANCH, EPA 530-R-94-032, EXTRACTION AND BENEFICIATION OF ORES AND MINERALS, 22 (1995), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=2000EET5.PDF.

29 *Uranium: Its Uses and Hazards*, INST. FOR ENERGY & ENVTL. RES. (May 2012), https://ieer.org/resource/factsheets/uranium-its-uses-and-hazards; *Fact Sheet on Uranium*

leaching combines mining and milling: liquids injected into the ground dissolve uranium deposits, and the uranium-rich solution moves into the groundwater, which is then pumped out and refined.[30] This process is considered "milling" for purposes of regulatory authority.[31]

All uranium production techniques present environmental and health concerns.[32] Conventional mining can create significant surface disturbance, irradiated waste rock, and potential acid drainage. Milling generates tailings and spent leach solution, which contain heavy metals including radon, arsenic, and copper.[33] *In situ* leaching does not produce solid tailings, but it does create larger amounts of used leaching solution and groundwater-contamination risks.[34]

Uranium processing creates further waste byproducts, both radioactive and chemically toxic, before a small percentage of the ore is processed into a fissionable material.[35] The primary risks throughout most of this process "are more chemical than radiological."[36] While this is true throughout most of the uranium mining and processing sequence, the radiation risks from conventional mining are so minor that the NRC simply does not regulate the area at all.

Indeed, the NRC has specifically disavowed any interest in regulating conventional mining.[37] The agency recently announced that even its air-quality standards apply only to facilities licensed under the AEA, and

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Recovery, N.R.C. (June 29, 2015), https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/fs-uranium-recovery.html.

30 *In Situ Recovery Facilities*, N.R.C. (Nov. 7, 2016), https://www.nrc.gov/materials/uranium-recovery/extraction-methods/isl-recovery-facilities.html [hereinafter "N.R.C"]. *See also* Office of Solid Waste, *supra* note 28, at 17. The process typically uses either water and sodium bicarbonate or sulfuric acid as a leaching solution. *Id.*

31 N.R.C., *supra* note 30, at 19.

32 OFFICE OF SOLID WASTE, *supra* note 28, at 32.

33 *Id.* at 33.

34 INT'L ATOMIC ENERGY AGENCY, GUIDEBOOK ON ENVIRONMENTAL IMPACT ASSESSMENT FOR IN SITU LEACH MINING PROJECTS 11 (2005), http://www-pub.iaea.org/MTCD/publications/PDF/te_1428_web.pdf.

35 N.R.C., *supra* note 30. During the multistep process, which is both beyond the scope of this paper and far beyond the technical competence of this writer, the "pregnant" leach fluid is concentrated into a solid (U3O8) known as "yellowcake." *Id.* This is then concentrated and reacted with fluorine to produce uranium hexafluoride (UF6) before being enriched to have a higher concentration of the fissionable U235 isotope: nuclear fuel. *Id.*

36 *Uranium Conversion*, N.R.C. (Apr. 15, 2019), https://www.nrc.gov/materials/fuel-cycle-fac/ur-conversion.html.

37 *See* Morris v. U.S. Nuclear Regulatory Comm'n, 598 F.3d 677, 691 (10th Cir. 2010); *See* Barnson v. United States, 816 F.2d 549 (10th Cir. 1987); *See* N.R.C., *supra* note 30.

could not consider radiation from conventional mines in determining overall radiation doses.[38] According to this interpretation, "even taking into account radiation that exists because of that previous mining would constitute impermissible NRC regulation of mining."[39] As the NRC's lack of involvement in conventional uranium mining is undisputed, litigation has generally focused on the blurrier division of authority over the "activities" listed in the AEA such as uranium processing and nuclear power plant construction.[40]

As previously noted, even after uranium leaves the ground, the NRC's regulatory authority is only over its radiological properties. This distinction appears in the text of the AEA, and leaves state and local governments free to regulate nuclear development "activities" for "purposes other than protection against radiation hazards."[41] As discussed, radiation safety covers only one aspect of uranium mining and processing issues.[42] States may still regulate AEA-defined activities for non-radiation-related purposes such as economic development, or as part of comprehensive utility regulation.[43] None of these purposes are radiation-specific, and so the NRC's authority does not properly extend over them.

3. The Role of the States in Nuclear Regulation

As initially conceived, the AEA vested all regulatory power over nuclear materials and facilities in the federal government.[44] Amendments in 1954 and 1959 expanded commercial and nonfederal access to nuclear technology, clarified the respective powers of the states and the federal government in regulating nuclear materials, and "generally . . . increase[d] the states' role."[45] Section 2021, "Cooperation with the States," allowed

38 *Morris*, 598 F.3d at 685.

39 Transcript, *supra* note 4, at 23.

40 *See* Skull Valley Band of Goshute Indians v. Nielson, 376 F.3d 1223 (10th Cir. 2004); United States v. Commonwealth of Kentucky, 252 F.3d 816, 823 (6th Cir. 2001); *See* Blue Circle Cement, Inc. v. Bd. of Cty. Comm'rs of Cty. of Rogers, 27 F.3d 1499, 1508–09 (10th Cir. 1994); English v. Gen. Elec. Co., 496 U.S. 72, 81 (U.S. 1990); *See* Pacific Gas & Electric Co. v. St. Energy Resources Conservation & Dev. Comm., 461 U.S. 190 (1983).

41 42 U.S.C. § 2021(k) (2018).

42 *See* N.R.C., *supra* note 30.

43 *See Pacific Gas & Electric*, 461 U.S at 208–10.

44 J. SAMUEL WALKER & THOMAS R. WELLOCK, A SHORT HISTORY OF NUCLEAR REGULATION, 1946–2009 1-2 (U.S. Nuclear Regulatory Commission, 2010), https://www.nrc.gov/docs/ML1029/ML102980443.pdf.

45 English v. Gen. Elec. Co., 496 U.S. 72, 81 (1990) (quoting 42 U.S.C § 2021 (1982)). The 1959 amendments created the framework for regulatory agreements between states and the NRC.

states to assume further authority through state-specific agreements with the NRC.[46] Under such agreements, states may regulate for radiation-safety purposes, otherwise the exclusive province of the NRC.[47] States cannot be granted power to regulate radiation safety in the construction and operation of nuclear power plants or uranium enrichment facilities or exports and imports of regulated material.

The 1959 Amendment defined the limits of exclusive AEA authority, expressly allowing states to regulate for non-radiation-safety purposes. Section 2021(k) states that "[n]othing in this section shall be construed to affect the authority of any State or local agency to *regulate activities for purposes other than protection against radiation hazards*."[48] This short provision has been the source of much litigation and regulatory wrangling as states, private parties, and the federal government attempt to define the boundaries of federal preemption under the AEA.

B. Preemption Under the Atomic Energy Act

Like all federal statutes, the AEA preempts conflicting state laws. It also reserves exclusive federal authority over radiation-safety issues, allowing states and tribes to regulate for other purposes.[49] As the scope of the AEA's preemptive power is defined in part by legislative purpose, most litigation has concerned the purpose of state laws regulating activities also subject to NRC authority.

1. Federal Preemption Doctrine: Conflicts, Obstacles, and Occupied Fields

Federal laws are "the supreme law of the land," and therefore may preempt state[50] and local laws.[51] Congress may give a statute preemptive power by specifically stating its intent to do so. In the absence of such express preemption, courts may still find that a federal law impliedly preempts state statutes. However, courts "start with the assumption that

46 *Id.*

47 *Id.*

48 42 U.S.C. § 2021(k) (2018) (emphasis added).

49 *See id.*

50 Although tribal governments stand in a different relation to the federal government than do the states, preemption doctrine broadly applies to tribal laws. While the principle of tribal sovereignty is fundamental to this relationship, an adequate discussion of this principle is beyond the scope of this paper.

51 *See* U.S. CONST. art. VI.

the historic police powers of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress."[52]

Courts have traditionally found that implied conflict, or "obstacle," preemption exists where compliance with both federal and state regulations is a physical impossibility, or when the state law "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress."[53] States may continue to regulate in the matter as long as no conflict arises: "The test . . . is whether both regulations can be enforced without impairing the federal superintendence of the field, not whether they are aimed at similar or different objectives."[54]

Field preemption, on the other hand, prevents states from regulating a given matter at all. "Where Congress occupies an entire field . . . even complementary state regulation is impermissible."[55] This occurs when there is a "scheme of federal regulation so pervasive as to make reasonable the inference that Congress left no room to supplement it."[56]

Courts are typically reluctant to find implied preemption, reasoning that if Congress *wanted* exclusive authority, it was capable of saying so in the statute. Exclusive federal authority over an entire field is quite rarely inferred, especially where it would limit traditional state police powers.[57] The regulatory scope of the AEA touches on many typical state interests: workplace safety, land use, waste disposal, transportation, air and water quality, and power generation. However, the congressional intent to occupy the field of radiation-hazard regulation of these activities is quite clear. It was not in controversy in *Virginia Uranium* or any other AEA-adjacent litigation; all parties agreed that the NRC "has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the states."[58]

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52 Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947).

53 *Pacific Gas*, 461 U.S. at 204.

54 *Id.*

55 Arizona v. U.S., 567 U.S. 387, 401 (2012).

56 *Pacific Gas*, 461 U.S. at 204.

57 "Although this Court has not hesitated to draw an inference of field pre-emption where it is supported by the federal statutory and regulatory schemes, it has emphasized [that] where . . . the field which Congress is said to have pre-empted includes areas that have been traditionally occupied by the States, congressional intent to supersede state laws must be clear and manifest." English v. Gen. Elec. Co., 496 U.S. 72, 79 (1990) (internal citations and quotation marks omitted).

58 *Pacific Gas*, 461 U.S. at 212.

2. Atomic Energy Act Preemption in the Courts

Given the complexity of the shared federal and state authority, preemption questions under the AEA arise with some regularity. Predictably, some doctrinal aspects remained unclear thirty-five years after the defining case on the subject was decided.[59]

In the landmark *Pacific Gas & Electric Co. v. State Energy Resources Conservation & Development Commission* ("*PG&E*"), the United States Supreme Court held that California could regulate nuclear power plant construction—an activity central to AEA authority—for economic reasons.[60] In 1974, after much public discussion of the economic, environmental, and safety concerns with nuclear waste storage,[61] the state passed legislation requiring state certification of all nuclear power plants.[62] It also imposed a moratorium on certification of new plants until the California Energy Commission determined that there was "a demonstrated technology or means for the disposal of high-level nuclear waste."[63] Pacific Gas & Electric Company challenged the regulation as preempted by the AEA,[64] claiming that the text of § 2021(c) reserved the field of nuclear-facility regulation to the NRC; that the state statute conflicted with the NRC's judgment that reactors were safe; and that the law frustrated the goal of encouraging commercial use of nuclear power, and therefore stood as an obstacle to the accomplishment of Congressional purpose.[65]

The Court rejected all three arguments, holding that California could regulate nuclear plants for non-safety reasons—in this case, economic concerns.[66] The AEA does not "affect the authority of any State or local agency to regulate activities *for purposes other than protection against radiation hazards*."[67] As the NRC regulates only for radiation-safety purposes, its decision to continue licensing nuclear facilities indicated only that it was "safe to proceed with such plants, not that it is economically wise to do so… because the NRC's regulations are aimed at insuring [sic] that plants are safe, not necessarily that they are economical, [the law] does

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59 Arguably they still do, even after Virginia Uranium, Inc. v. Warren, 139 S.Ct. 1894 (2019). *See id.* at 1916 (Roberts, C.J., dissenting).

60 *Pacific Gas*, 461 U.S. at 190.

61 *Id.* at 196-97.

62 Warren-Alquist State Energy Resources Conservation and Development Act, Cal. Pub. Res. Code §§ 25000 et seq. (1974).

63 *Id.* at § 25524.2 (a).

64 *Pacific Gas*, 461 U.S. at 190.

65 *Id.* at 204.

66 *Id.* at 210.

67 42 U.S.C. § 2021(k) (2018) (emphasis added).

not interfere with the objective of the federal regulation."[68] The Court further held that, while the AEA's primary purpose was to promote nuclear-power development, it was not to be accomplished at all costs.[69] California could decide whether a nuclear plant was appropriate.[70]

PG&E generally stands for the principle that courts are reluctant to find implied preemption. The case also gives us two further, related principles. First, it affirms the importance of statutory purpose in this field: the NRC's exclusive authority is solely over regulations for the purpose of radiation safety.[71] Statutes enacted for avowedly different purposes are not precluded. Second, it teaches that courts should avoid second-guessing express legislative purpose in the field of nuclear regulation. As the AEA allows states to regulate for some purposes but not others, it is "pointless" for courts to invalidate statutes that may then be reenacted with a different motive.[72] Even if the motive inquiry might be useful, legislative intent may be impossible to discern. In *PG&E*, the Court noted that much of the debate preceding the state moratorium concerned radiation safety as well as economic considerations, but concluded that:

> Although these specific indicia of California's intent… are subject to varying interpretation… we should not become embroiled in attempting to ascertain California's true motive. First, inquiry into legislative motive is often an unsatisfactory venture. What motivates one legislator to vote for a statute is not necessarily what motivates scores of others to enact it… [W]e accept California's avowed economic purpose … [T]he statute lies outside the occupied field of nuclear safety regulation.[73]

In short, the permissibility of nuclear regulation depends at least partially on its purpose, and a court should generally take the legislature's stated purpose at face value.

Had this been the Court's only pronouncement on preemption and pretext in nuclear regulation, the matter would be entirely closed; unsurprisingly, it was not. Between 1983 and 2019, both the Supreme Court and various circuit courts offered rulings that seemingly encouraged more inquiry into legislative motive, although to what extent remains unclear.

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68 *Pacific Gas*, 461 U.S. at 218-19.

69 *Id.* at 222.

70 *Id.*

71 *Id.* at 218–19.

72 *Id.* at 216.

73 *Id.*

The Supreme Court's next encounter with the AEA's preemptive scope came in 1990, when a nuclear-facility technician was dismissed from her job after complaining of safety violations.[74] Rather than suing under the AEA's whistleblower provisions, she sought damages through state law, which both the district and circuit courts found to be preempted.[75] The Court reversed, holding that the claim neither fell within the field preempted by the AEA nor conflicted with it.[76] However, the Court's dicta took a broader view of the AEA's preemptive scope than expressed in *PG&E*. After finding that the state tort law was not motivated by radiation-safety concerns, the Court announced that part of the preempted field was also defined by the law's "actual effect on nuclear safety."[77] While whistleblower statutes are related to and could have an effect upon radiation safety, the link was too attenuated.[78] For a state law to be field-preempted, "it must have some *direct and substantial effect* on the decisions made by those who build or operate nuclear facilities *concerning radiological safety levels*."[79] The radiological-safety aspect was retained, but its preemptive scope was potentially broadened.

While *English* may have added to the preemption analysis, it provided little guidance on practical application. To be preempted, a state law must either have an impermissible purpose or a "direct and substantial effect" on nuclear-facility operators' radiological-safety decisions.[80] How direct and substantial? More so than whistleblower protection in the preempted field, state labor laws, or torts stemming from radiation damage.[81] The Court has yet to find a law that failed the *English* test, although the circuit courts have explored the territory with mixed results. The resulting circuit split eventually led to *Virginia Uranium.*

In 2004, the Tenth Circuit struck down a series of Utah state statutes regulating the storage and transportation of spent nuclear fuel as preempted by the AEA.[82] The statutes allowed counties to either bar transportation and storage of spent nuclear fuel or to adopt a land use plan addressing "the effects of any proposed SNF site upon the health and general welfare of citizens of the State."[83] Counties could not provide

74 *English*, 496 U.S. at 72.

75 *Id.* at 77–78.

76 *Id.* at 90.

77 *Id.* at 84

78 *Id.* at 86.

79 *Id.* at 85 (emphasis added).

80 *Id.*

81 *See id.*; *See also* Silkwood v. Kerr-McGee Corp., 464 U.S. 238 (1984).

82 Skull Valley Band of Goshute Indians v. Nielson, 376 F.3d 1223 (10th Cir. 2004).

83 *Id.* at 1245.

"municipal-type services," such as fire protection, electricity, and law enforcement, to SNF-disposal and -transport sites.[84] The Tenth Circuit found the statutes grounded solely in radiation-safety concerns and preempted by federal law. It also held that increased operating costs from requiring private municipal-type services would have the "direct and substantial effect" on operator's safety decisions prohibited under *English*.[85]

In *Entergy Nuclear Vermont Yankee, LLC v. Shumlin*, the Second Circuit struck down a Vermont law requiring "explicit approval of the General Assembly" to operate a nuclear power plant within the state.[86] Applying the *PG&E* test, the court found that the law regulated an activity within the scope of the AEA for impermissible radiation-safety purposes.[87] Responding to this apparent lack of clarity in AEA-preemption doctrine, the Supreme Court granted certiorari to *Virginia Uranium, Inc. v. Warren* after the Fourth Circuit distinguished Virginia's uranium-mining ban from laws overturned by sister circuits.[88] In a three-three-three split, the Court upheld the state ban, reaffirming *PG&E* as guiding precedent.[89]

II. VIRGINIA URANIUM, INC. V. WARREN

Virginia Uranium, Inc. arose in response to the Commonwealth of Virginia's uranium-mining ban. Virginia bans conventional uranium mining on non-federal land,[90] and regulates some areas of nuclear development—not including uranium tailings management[91]—under an

84 *Id.*

85 *Id.* at 1246.

86 Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393 (2d Cir. 2013).

87 *Id.*

88 Va. Uranium, Inc. v. Warren, 848 F.3d 590 (4th Cir. 2017).

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

90 Va. Code Ann. § 45.1-283 (2018). Uranium mining permit applications are accepted when uranium mining is deemed to have significant effect on surface. The statute reads, in its entirety:

> Notwithstanding any other provision of law, permit applications for uranium mining shall not be accepted by any agency of the Commonwealth prior to July 1, 1984, and until a program for permitting uranium mining is established by statute. For the purpose of construing § 45.1-180 (a), uranium mining shall be deemed to have a significant effect on the surface.

91 *See* N.R.C., *supra* note 30.

agreement with the NRC.[92] While the mining ban does not include AEA-regulated activities, petitioners claimed that it was preempted due to a disguised, impermissible legislative purpose.[93] Virginia Uranium, Inc. argued that the mining ban is a *de facto* ban on uranium milling and tailings storage; that its purpose is to prohibit mining, milling, and waste storage for the purposes of radiation-hazard regulation; and that the AEA required the Court to determine Virginia's "true" legislative intent and strike the law if it was enacted for an impermissible purpose.[94]

The Court did not adopt this "odd way to read a preemption statute,"[95] finding that legislative purpose is only relevant where statutes directly regulate "activities" as defined by the AEA. All three opinions recognized the importance of purpose in defining the NRC's authority; only the dissent wished to expand the analysis to non-regulated activities.

A. The Coles Hill Uranium Deposit and the Virginia Uranium Ban

In 1978 the Coles Hill deposit, then the largest known uranium deposit in the United States,[96] was discovered in southern Virginia.[97] The prospect of its development sparked citizen concerns and led to a state-wide moratorium on uranium mining.[98] This ban was extended indefinitely the next year.[99] The ban does not apply to uranium milling, transportation, or storage; it only prohibits conventional uranium mining on non-federal lands.[100] No language about purpose or radiation hazards

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92 AGREEMENT BETWEEN THE UNITED STATES NUCLEAR REGULATORY COMMISSION AND THE COMMONWEALTH OF VIRGINIA FOR THE DISCONTINUANCE OF CERTAIN COMMISSION REGULATORY AUTHORITY AND RESPONSIBILITY WITHIN THE COMMONWEALTH (2009), https://scp.nrc.gov/special/regs/vaagreements.pdf.

93 Brief for Petitioners at 27, Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, (2019) (No. 16-1275).

94 *Id.*

95 Transcript, *supra* note 4, at 7.

96 A 2012 report put the estimated mineral resources at 132.93 million pounds. *Coles Hill, Virginia (Uranium)*, VA. ENERGY RES., http://www.virginiaenergyresources.com/s/ColesHill.asp (last visited Jan. 18, 2019).

97 Adam Liptak, *Justices Seem to Support Virginia's Uranium Mining Ban*, THE N.Y. TIMES (Nov. 5, 2018), https://www.nytimes.com/2018/11/05/us/politics/supreme-court-virginia-uranium-mining.html.

98 *See* Va. Code Ann. § 45.1-271 (2019); *see* Va. Code Ann. § 45.1-283 (2019).

99 Gregory S. Schneider & Robert Barnes, *Supreme Court to Consider Virginia Uranium Case that Divides a Rural County*, THE WASHINGTON POST (Nov. 4, 2018 11:20 A.M.), https://www.washingtonpost.com/local/virginia-politics/supreme-court-to-consider-virginia-uranium-case-that-divides-a-rural-county/2018/11/03/2a4e06f8-dea6-11e8-85df-7a6b4d25cfbb_story.html?utm_term=.8f852f860ef9.

100 *See* Va. Code Ann. § 45.1-283 (2019).

appears in the ban as currently published, which states that "permit applications for uranium mining shall not be accepted by any agency . . . until a program for permitting uranium mining is established."[101] Such a program has yet to be established.

After uranium prices spiked in 2007,[102] the owners of the deposit formed Virginia Uranium, Inc.[103] to explore development.[104] A 2012 legislative attempt to lift the moratorium was quickly withdrawn,[105] and in 2015, Virginia Uranium, Inc. went to court seeking a declaratory judgment that the ban was preempted by the AEA and invalid under the Supremacy Clause.[106] The district court was unpersuaded;[107] as was the Fourth Circuit on appeal.[108] On November 5, 2018, the Supreme Court heard arguments for *Virginia Uranium, Inc. v. Warren*.[109]

B. "An Odd Way to Read a Preemption Statute"

As discussed above, the NRC never regulates conventional uranium mining.[110] As the Virginia bill *only* regulates conventional mining, a preemption claim would seem misplaced, but petitioners challenged it as both obstacle- and field-preempted.[111] They argued that the statute stood as an obstacle to the execution of Congressional objectives—to promote commercial nuclear development—and is therefore obstacle-preempted.[112] They also argued that the legislation was truly enacted in an attempt to regulate radiation hazards—a field entirely occupied by the NRC[113]—and that the ban on uranium mining was intended to be, and

101 *Id.*

102 Uranium Price, CAMECO (Dec. 31, 2018), https://www.cameco.com/invest/markets/uranium-price.

103 Virginia Uranium, Inc. is wholly owned by "Virginia Energy Resources Inc," a parent company legally based in Vancouver, which has one project: the Coles Hill uranium deposit in Virginia. *Projects*, VA. ENERGY RES., http://www.virginiaenergyresources.com/s/Projects.asp (last visited Feb. 24 2019).

104 Schneider & Barnes, *supra* note 99.

105 *Coles Hill, Virginia (Uranium)*, *supra* note 96.

106 Va. Uranium, Inc. v. McAuliffe, 147 F. Supp. 3d 462 (W.D. Va. 2015).

107 *Id.*

108 Virginia Uranium, Inc. v. Warren, 848 F.3d 590 (4th Cir. 2017).

109 Virginia Uranium, Inc. v. Warren, 139 S. Ct. 1894 (2019).

110 42 U.S.C. § 2095 (2018).

111 Brief for Petitioners, *supra* note 93, at 1.

112 *Id.* at 54–55.

113 *Id.* at 31.

functions, as a ban on uranium milling and mill-tailings storage due to concerns about radiation safety.[114]

These arguments all rely on the slippery concept of legislative purpose, both that of the 1959 Congress in amending the AEA and of the 1983 Virginia legislature in passing the mining ban. In obstacle-preemption analysis, "[w]hat is a sufficient obstacle is a matter of judgment, to be informed by examining the federal statute as a whole and identifying its purpose and intended effects."[115] For the state ban to be field-preempted, the petitioners would have needed to show that the Virginia legislators acted for radiation-safety purposes, and that Congress intended to preempt all state laws with this purpose, regardless of whether the regulated activity was otherwise within the NRC's purview. A state law's purpose would matter more than its subject matter or effect. As Justice Gorsuch succinctly put it, "we're just stuck with purpose whether we like it or not."[116] That he did not like it became clear in his plurality opinion for the Court.[117]

1. Virginia Uranium's Obstacle-Preemption Argument

Obstacle preemption exists, regardless of state legislative purpose, where state law stands "as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress."[118] Petitioners claimed that Virginia Code section 45.1-283, by prohibiting uranium mining and thereby discouraging uranium milling and tailings storage, presented an obstacle to the achievement of one of Congress's primary purposes: the promotion of nuclear power.[119]

Virginia's ban was alleged to conflict with the AEA in three ways: first, by directly inhibiting the development of nuclear power, which would be hampered if all fifty states enacted such legislation.[120] Next, petitioners claimed that Virginia's alleged purpose was an obstacle itself; if the ban was enacted due to radiological-safety concerns, it would "subvert" the AEA "because a state judgment that nuclear power is not safe enough to be further developed would conflict directly with the countervailing judgment of the NRC."[121] Finally, the petitioners argued

114 Va. Uranium, Inc. v. McAuliffe, 147 F. Supp. 3d 462, 471–72 (W.D. Va. 2015).

115 Crosby v. Nat'l Foreign Trade Council, 530 U.S. 363, 373 (2000).

116 Transcript, *supra* note 4, at 3.

117 *See* Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, 1900–09 (2019).

118 Hines v. Davidowitz, 312 U.S. 52, 67 (1941).

119 Brief for Petitioners, *supra* note 93, at 56 (quoting *Pacific Gas*, 461 U.S. at 221).

120 *Id.* at 56–57.

121 Brief for the U.S. as Amicus Curiae Supporting Petitioners at 31, Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, (2019) (No. 16-1275) (quoting *Pacific Gas*, 461 U.S. at

that should the ban be more widely adopted, it would force the federal government to use eminent domain to access any domestic uranium, which would conflict with Congress's intent to encourage private-sector involvement in the nuclear development.[122]

Neither of the lower courts devoted much time to this argument, which the Fourth Circuit dismissed in under a page.[123] As the respondents observed, "Congress did not seek to develop nuclear power at all costs," the "comprehensive federal scheme for nuclear power has never covered uranium mining," and the relevant section of the AEA expands state participation in nuclear regulation rather than constricting it.[124] However, as discussed below obstacle preemption proved a major source of conflict between the lead opinion and the concurrence.

2. Field Preemption

Virginia Uranium's primary argument was that Virginia Code § 45.1-283 intrudes on a field of exclusive federal authority: protection against radiation hazards. The petitioners claimed that AEA occupied the entire field of radiological safety, barring all state efforts to legislate in this arena.[125] This argument was premised on a broad reading of 42 U.S.C. § 2021(k), which instructs that "nothing in this section shall be construed to affect the authority of any state or local agency *to regulate activities for purposes other than protection against radiation hazards*."[126] Petitioners read "activities" to mean *all* activities that could potentially be regulated for protection against radiation hazards, implying that *all* regulation for this purpose, regardless of its subject, is the NRC's exclusive responsibility.[127] It is irrelevant, according to petitioners, that the ban includes none of the § 2021(c) "activities," since only its statutory purpose matters.

213). Petitioners and the United States refer to the mining ban as a milling ban throughout, blurring the two preemption issues and presupposing a major point in controversy.

122 Brief for Petitioners, *supra* note 93 at 59.

123 Va. Uranium, Inc. v. Warren, 848 F.3d 590, 599 (4th Cir. 2017), *cert. granted*, 138 S. Ct. 2023 (2018).

124 Brief for Respondents at 51, Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, (2019) (No. 16-1275).

125 "[E]ven where a State purports to take an action unquestionably within its sphere, it remains necessary to determine the rationale for the law, and if it is grounded in safety concerns related to radiological materials within the exclusive jurisdiction of the NRC, then it falls squarely within the prohibited field. For the last half-century, the atomic energy industry has grown and developed based upon this division of regulatory turf." Brief for Petitioners, *supra* note 93 at 2.

126 42 U.S.C. § 2021(k) (2018) (emphasis added).

127 *See* Brief for Petitioners, *supra* note 93, at 27.

Further, petitioners argued, § 2021(c) creates a "purpose-based preemption standard" compelling the Court to determine the state legislature's "genuine purpose" for the ban,[128] because "courts can't accept simply as written what the state may say in terms of what the purpose is."[129] Virginia Uranium, Inc. wanted the Court to search for pretext when determining whether the statute has a permissible purpose, which would have been a striking departure from its previous preemption jurisprudence.

This reading of Section 2021(c) was also dismissed by the Fourth Circuit. The court interpreted the purpose-based limitations as applying only to activities and materials specifically regulated under the AEA and that conventional uranium mining is not a regulated activity.[130] The court also noted that, under this interpretation, "The states could not regulate and, on the NRC's (reasonable) view of the Act, it too would be a passive spectator. That cannot be the law."[131] Congress's stated purpose in enacting the 1959 AEA amendments was to "promote an orderly regulatory pattern between the [NRC] and State governments;"[132] leaving such regulatory "gaps" would comport with neither the text nor the purpose of the Act.

3. The Mining Ban as Pretext for a Tailings Ban

Both lower courts also rejected petitioners' claim that the ban on mining was an impermissible *de facto* ban on uranium milling and tailings disposal.[133] This argument merely adds a step to the analysis: even if uranium mining is not a regulated activity, uranium milling is, and the mining ban is *actually* an oblique ban on milling.[134] Petitioners argued that

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128 *Id*. at 4. Petitioners also claimed that Virginia admitted to an impermissible purpose and that no further inquiry was needed. Joint Appendix at 43, Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894, (2019) (No. 16-1275). In its motion to dismiss, Virginia stated that "[a]ssuming for purposes of the current motion the Plaintiffs are correct, and one of the purposes behind enacting 16 § 45.1-283 was to address potential radiological safety concerns, nothing in the AEA precludes such a consideration." *Id.* at 43-44. Petitioners relied heavily on this alleged concession, and much of the dissent hinges on it. *See* Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894 (2019) (Roberts, C.J., dissenting).

129 Transcript, *supra* note 4, at 6.

130 Va. Uranium, Inc. v. Warren, 848 F.3d 590, 596 (4th Cir. 2017), *cert. granted*, 138 S. Ct. 2023 (2018).

131 *Id.* at 597.

132 42 U.S.C. § 2021(a)(3) (2018).

133 Va. Uranium, Inc. v. Warren, 848 F.3d at 597; Va. Uranium, Inc. v. McAuliffe, 147 F. Supp. 3d 462, 476 – 77 ((W.D. Va. 2015)), *aff'd sub nom.* Va. Uranium, Inc, 848 F.3d 590 (4th Cir. 2017).

134 Brief for Petitioners, *supra* note 93, at 56.

the language of § 2021(k) compels courts to determine the "genuine purpose" of laws that may be pretext for regulating NRC-controlled activities for safety purposes.[135]

The district court found this pretextual argument "too attenuated."[136] The Fourth Circuit, citing *PG&E*, also declined the invitation to "examine why [Virginia] chose to ban uranium mining, which it was plainly allowed to do."[137] Petitioners, undeterred by precedent or good taste, drew an analogy to Jim Crow laws, observing that "literacy tests were not insulated from Equal Protection scrutiny even though they purported only to establish neutral rules governing the educational qualifications for voting."[138] This sort of analysis—as the analogy illustrates—is typically reserved for laws alleged to violate fundamental constitutional protections. The majority of the justices proved hesitant to adopt such a broad reading, expressing both theoretical and practical concerns. As Justice Kavanaugh eloquently put it, "the thing that concerns me about this is, how is this going to work? . . . what is the answer, for something workable that makes sense here? That's what's bothering me."[139]

In an attempt to answer this eminently practical question, Virginia Uranium, Inc. suggested a burden-shifting approach: if "the plaintiff challenging [ ] the statute can demonstrate that the prohibited purpose was a motivating factor, then the state has to come in and show that it would have been enacted even in the absence of the motivating factor."[140] Identifying the predominant legislative purpose would entail an analysis of both text and legislative history.[141] The Court would still be compelled to examine a regulation's underlying purposes to determine whether it actually targeted radiological risks.[142] Justice Sotomayor wondered aloud whether the petitioners' approach was "going to require deposing every single legislative member? Because what do you look at? . . . This is an odd way to read a preemption statute."[143]

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135 *See id.* at 4; Transcript, *supra* note 4, at 3.

136 Va. Uranium, Inc. v. McAuliffe, 147 F. Supp. 3d at 477.

137 Va. Uranium, Inc. v. Warren, 848 F.3d at 597–98.

138 Brief for Petitioners, *supra* note 93, at 43.

139 Transcript, *supra* note 4, at 8–9.

140 *Id.* at 9.

141 *Id.* at 7.

142 Brief for Nuclear Energy Institute as Amicus Curiae in Support of Petitioners at 6, Va. Uranium Inc. v. Warren, 139 S. Ct. 1894 (2019) (No. 16-1275).

143 Transcript, *supra* note 4, at 7.

4. Did the Mining Ban Have a Plausible, Non-Preempted Rationale?

The United States as *amicus curiae* advanced a slightly less sweeping theory of field preemption, arguing that Virginia needed only to articulate a plausible, non-preempted rationale for the ban but had failed to do so.[144] The extent to which "legislative history and historical context" should be scrutinized to determine the plausibility of the rationale was left unspecified. The United States' *amicus* brief simply concluded that the claim should not have been summarily dismissed and that if the state failed to put forth a plausible rationale supported by legislative history, the ban should fail.[145] Chief Justice Roberts' dissent seems to adopt much of this analysis without quite explaining what the correct test for plausibility or pretext should be.

An example of a plausible rationale was articulated by a group of regional business and community leaders writing to support the ban for economic reasons.[146] Virginia, they explained, "long ago chose an economic path . . . that includes building a stable economy focused on agriculture, tourism, motorsports, education, and other complimentary [sic] industries. This path does not include a large uranium mine."[147] The local chambers of commerce also objected to the boom and bust nature of the uranium market, pointing out that the 1983 moratorium extension focused on the "socioeconomic effects of the uranium development activity at the specific site" and the need for a more thorough cost-benefit analysis of a uranium mine.[148] "[*A*]*mici* . . . are wary of volatility in the uranium mining industry, which could leave behind a shuttered mine and a weakened local economy."[149] Petitioners dismissed the proffered rationales as pretextual.

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144 *Id.* at 15–16.

145 Brief for the United States as Amicus Curiae, *supra* note 121, at 30.

146 *See* Brief Amici Curiae in Support of Respondents for the Members of the Southern Virginia Delegation to the Virginia General Assembly, Local Chambers of Commerce, Civic, Trade, and Economic Development Associations, and Municipalities, Va. Uranium, Inc. v. Warren, 139 S. Ct. 1894 (2019) (No. 16-1275). [Hereinafter Brief Amici Curiae in Support of Respondents].

147 *Id.* at 19.

148 *Id.* at 3-4 (citing the Act of Feb. 24, 1983, ch. 3, 1983 Va. Acts 3 (codified at Va. Code Ann. § 45.1-283 (2018)).

149 *Id.* at 4.

B. Outcomes and Takeaways from the Court's Split

The Court's opinion did not bother to address the plausibility of the rationales: a plurality found that a legislative purpose inquiry would be unnecessary, a hunt for pretext inappropriate, and the legislature's motives irrelevant. It upheld the ban in a three-three-three split.[150]

Both Justices Gorsuch, writing for the Court, and Ginsburg, in a lengthy concurrence, agreed on the bottom line judgment and much of the core analysis—the AEA does not regulate conventional uranium mining for any reason, making *PG&E*'s legislative purpose analysis unnecessary. "To the degree the AEA preempts state laws enacted for certain purposes, § 2021(k) stakes out the boundaries of the preempted field, *i.e.*, state laws that apply to federally licensed activities and are driven by concerns about the radiological safety of those activities."[151] Both acknowledged the potential difficulties in defining subjective legislative intent, and both dismissed Virginia Uranium's conflict preemption arguments. However, the competing opinions reflect a deep theoretical divide on the soundness of current preemption doctrine.

1. The Lead Opinion: Legislative Purpose Stays, Pretextual Analysis Goes, and Obstacle Preemption is Limited

Justice Gorsuch's lead opinion, joined by Justices Kavanaugh and Thomas, takes a fairly standard textualist approach to the controversy, noting that "[i]nvoking some brooding federal interest or appealing to a judicial policy preference should never be enough to win preemption of a state law; a litigant must point specifically to 'a constitutional text or a federal statute' that does the displacing or conflicts with state law."[152] The AEA never granted the federal government regulatory authority over conventional uranium mining. When the 1959 Amendments devolved increased authority to the states, § 2021(k) was added to clarify that "the States remain free to regulate the activities discussed in §2021 for purposes *other than* nuclear safety without the NRC's consent. Indeed, if anything, subsection (k) might be described as a *non-preemption* clause."[153] Only state laws seeking to regulate these "activities" should be scrutinized for impermissible purposes. Virginia Uranium, Inc. had misread the statute.

Additionally, the company had misread relevant precedent. The *PG&E* Court had examined legislative purpose because, unlike uranium

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

151 *Id.* at 1914 (Ginsburg, J., concurring).

152 Virginia Uranium, Inc. v. Warren, 139 S. Ct 1901.

153 *Id.* at 1902 (emphasis in original).

mining, the activity being regulated—nuclear plant construction—was "one of the core remaining areas of special federal concern."[154]

Or was it? Having provided this concise explanation of *PG&E*, the lead opinion circles back to a "wrinkle" in the argument. As California argued at the time, the NRC controls *how* nuclear power plants are constructed and operated, not *whether* they ought to be in the first place.[155] Thus, the state law arguably did not concern an activity regulated under the AEA, but the Court inquired into legislative purpose anyway.

Without resolving what exactly *PG&E* had decided, the lead opinion declined to extend its approach. Regardless of whether the previous Court had overstepped its bounds by looking into purpose, it was unnecessary to do so with "an activity like mining far removed from the NRC's historic powers."[156] Mining was never part of the preempted field.

Up to this point, the lead opinion and the concurrence were in harmony. However, the lead opinion's ambitious discussion of preemption and purpose diverges both from the concurrence and, arguably, existing doctrine. Turning to preemption jurisprudence more broadly, the lead opinion delves into the "methodological, epistemological, and federalism questions"[157] raised by inquiring into state legislative purpose. Federal judicial inquiries of this sort would "stifle deliberation" and "encourage resort to secrecy and subterfuge."[158] State legislators would be hauled into court for cross-examination about their subjective motivation. Moreover,

> what legal rules should determine when and how to ascribe a particular intention to a particular legislator? What if an impermissible intention existed but wasn't necessary to her vote? And what percentage of the legislature must harbor the impermissible intention before we can impute it to the collective institution? . . . And if trying to peer inside legislators' skulls is too fraught an enterprise, shouldn't we limit ourselves to trying to glean legislative purposes from the statutory text where we began?[159]

The same concerns reappear in the lead opinion's dismissal of conflict preemption: "[t]rying to discern what motivates legislators individually and collectively invites speculation" and runs into "many of the same challenges as inquiries into state legislative intent."[160] Obstacles

154 *Id.* at 1904.

155 *Id.*

156 *Id.*

157 Transcript, *supra* note 4, at 3.

158 Virginia Uranium, Inc. v. Warren, 139 S.Ct. 1894, 1906 (2019).

159 *Id.* at 1907.

160 *Id.* at 1908.

to "unenacted purposes and objectives" not found in the statutory text are not preempted—indeed, the lead opinion seems doubtful that conflict preemption could ever be inferred.[161] To do so would be to engage in purpose-driven speculation.

In the context of the AEA, Congress may have wished to promote nuclear development, but gave no indication that this was to be done at all costs and failed to mention conventional mining's role in accomplishing the statutory purposes. The lead opinion recognizes the role of purpose in the AEA's preemptive scope but would constrict rather than expand it.[162]

2. The Concurrence: Legislative-Purpose Inquiries are Important, but Not Appropriate Here.

As Justice Ginsburg noted, her concurrence agrees with much of Justice Gorsuch's lead opinion. Indeed, the analysis of field preemption is virtually identical. It is the "discussion of the perils of inquiring into legislative motive" that "sweeps well beyond the confines of this case, and therefore seems . . . inappropriate in an opinion speaking for the Court."[163] Further, Justice Ginsburg finds that "Virginia Uranium's obstacle preemption arguments fail under existing doctrine, so there is little reason to question, as Justice Gorsuch does, whether that doctrine should be retained."[164] Given this pointed disagreement, the lead opinion's excursion into the merits of legislative purpose inquiries is of questionable precedential value.

The concurrence states that "without gainsaying that it sometimes may be appropriate to inquire into the purpose for which a state law was enacted," this case requires no such inquiry. Only AEA-regulated "activities" trigger a legislative purpose analysis:

> To the degree the AEA preempts state laws enacted for certain purposes, § 2021(k) stakes out the boundaries of the preempted field, *i.e.*, state laws that apply to federally licensed activities

161 *Id.* at 1907.

162 While the precedential value of dicta in a three-three-three split is questionable, it would be interesting to see this line of argument reemerge in the context of, say, the Clean Air Act or Clean Water Act. While Section III touches on related issues, an exploration of these potential arguments would be far beyond the scope of this paper. *See* Virginia Uranium, Inc. v. Warren, 139 S. Ct at 1901–02.

163 *Id.* at 1908 (Ginsburg, J., concurring).

164 *Id.* at 1909. The concurrence then ignores the lead opinion entirely, providing a separate explanation of uranium, the AEA, and preemption which does not so much respond to Justice Gorsuch's opinion as simply dismiss it.

> and are driven by concerns about the radiological safety of those activities. We have no license to expand those boundaries.[165]

The concurrence also dismisses Virginia Uranium's obstacle-preemption arguments without questioning the general validity of the preemption doctrine. Congress had no policy of promoting nuclear power at all costs, so its purpose could not have been to require uranium mining everywhere. Since Virginia has not regulated the radiological safety of tailings storage, it is not in conflict with the process for doing so laid out in §2021.[166] Finally, "preventing the occurrence of activities that Congress intended the Federal Government to regulate" could not conflict with the regulation of those activities.[167]

In sum, the concurrence recognizes the validity of legislative purpose inquiries, finds that they would be inappropriate here, and declines to hunt for pretext. The concurring and lead opinions differ only in how they might approach legislative purpose in future cases.

3. The Dissent: Virginia Failed to Provide a Plausible Legislative Rationale, Which is Also Required to Regulate "Non-Activities"

In contrast, Chief Justice Roberts' dissent, joined by Justices Breyer[168] and Alito, seems to adopt the arguments made by the Solicitor General:

> [A] state law is preempted not only when it conflicts with federal law, but also when its *purpose* is to regulate within a preempted field . . . because Virginia has not even disputed that its uranium mining ban was grounded in its nuclear safety concerns about uranium milling and tailings, the company's preemption claim should not have been dismissed.[169]

The dissent reads *PG&E* as compelling a legislative purpose inquiry for statutes that do not purport to regulate a preempted field, but only an

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165 *Id.* at 1914.

166 *Id.* at 1915–16.

167 *Id.*

168 Transcript, *supra* note 4, at 25 (Who had expressed deep discomfort with Virginia's apparent disinterest in legislative purpose during oral arguments: "So what's wrong with looking at purpose here? … When you say don't look at purpose, there I get off the boat because I think that's our job as a court in [ ] a relevant case to determine what the purpose of the statute is").

169 Virginia Uranium, Inc. v. Warren, 139 S. Ct at 1917–18 (Roberts, C.J., dissenting).

antecedent question—there, whether new nuclear power plants should be constructed, here, whether uranium should be mined.[170]

Finding the AEA's purpose inquiry "most useful precisely when the challenged state law does *not* purport to regulate a preempted field," the dissent argues that the courts cannot simply take "the label a State affixes to its regulations" at face value, but must determine the true legislative purpose.[171] What this inquiry should entail is not specified. Much emphasis is placed on Virginia's alleged failure to provide a "nonsafety rationale," as California did in *PG&E*, but the dissent strongly suggests that the inquiry should go beyond the legislature's stated purpose.[172]

All three opinions recognize the importance of legislative purpose in defining the AEA's preemptive scope. This potentially leaves nonfederal governments the authority to directly regulate activities covered by the AEA, as long as they did so for non-radiation-safety purposes. While there have been few successful examples of this since *PG&E*, one unique statute has taken up this challenge: the Diné Natural Resource Protection Act. The Act prohibits uranium mining and milling on the Navajo Nation, basing this prohibition squarely on history, economics, and traditional culture and belief.[173] It survives under any standard proposed by the divided Court.

While the Navajo history with uranium and status as a sovereign domestic nation differentiate the Nation from state and local governments, the DNRPA still provides some guidance for regulating extractive industries on a non-federal level, in addition to providing a sad example of the many non-radiation related reasons to oppose uranium development.

III. THE DINÉ NATURAL RESOURCE PROTECTION ACT

The history of uranium extraction and processing on Navajo land is long and fraught, extending back to the beginning of the atomic age. Uranium extraction continues to affect the land and people today. Thousands of Navajo men worked in the mines from 1944 until 1986,[174] and in 1979 the largest spill of radioactive material in American history

170 *Id.* at 1918.

171 *Id.* at 1919.

172 *See id.* at 1920.

173 *See* NAVAJO NATION CODE ANN. tit. 18, §§ 1301–1303.

174 GEOFFREY H. FETTUS & MATTHEW G. MCKINZIE, NAT. RES. DEF. COUNCIL, NUCLEAR FUEL'S DIRTY BEGINNINGS: ENVIRONMENTAL DAMAGE AND PUBLIC HEALTH RISKS FROM URANIUM MINING IN THE AMERICAN WEST 18 (2012), https://www.nrdc.org/sites/default/files/uranium-mining-report.pdf.

occurred on Navajo land.[175] Comprehensive federal reclamation of the mines did not begin until 2008, and hundreds of open pit mines still dot the landscape decades after the last mining jobs ended.[176]

This history is a stark reminder that there are many non-radiation safety-based reasons to oppose uranium development. More optimistically, the Diné Natural Resource Protection Act illustrates what durable, non-federal uranium regulation can look like. Although the Navajo Nation's position is unique, other state and local governments may be able to draw some useful lessons from its experience regulating extractive industries and from the structure of the DNRPA.

A. Uranium in Navajo Land

Hundreds of un-reclaimed uranium mines and tailing heaps still dot Navajo land.[177] Between 1944 and 1986, roughly 30 million tons of uranium ore were mined on or near Navajo land;[178] one report estimated that half of total U.S. uranium production came from the Colorado Plateau.[179] By 1978, an estimated 700,000 acres of Navajo land had been

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175 JERE MILLARD ET AL., N.M. ENVTL. IMPROVEMENT DIV., HEALTH & ENV'T DEPT., THE CHURCH ROCK URANIUM MILL TAILINGS SPILL: A HEALTH AND ENVIRONMENTAL ASSESSMENT at i (1983), https://semspub.epa.gov/work/06/1000720.pdf.

176 DOI, EPA, NRC, DOE & INDIAN HEALTH SERV., HEALTH & ENVIRONMENTAL IMPACTS OF URANIUM CONTAMINATION IN THE NAVAJO NATION, REP. TO THE HOUSE COMMITTEE ON OVERSIGHT & GOV'T REFORM 4–5 (June 9, 2008), https://www.epa.gov/sites/production/files/2016-06/documents/nn-5-year-plan-june-12.pdf [hereinafter 2008 REPORT TO THE HOUSE COMMITTEE].

177 Margot Perez-Sullivan, *EnPro Holdings, Inc. Agrees to Assess Eight Mines Near Cameron, Arizona*, EPA (Jan. 8, 2018), https://www.epa.gov/newsreleases/enpro-holdings-inc-agrees-assess-eight-mines-near-cameron-ariz.

178 EPA sources put the number at 30 million tons. S*ee, e.g.*, *Navajo Nation: Cleaning Up Abandoned Uranium Mines*, EPA, https://www.epa.gov/navajo-nation-uranium-cleanup (last updated Feb. 6, 2019). While multiple sources refer to four million tons having been extracted from Navajo Nation land, s*ee e.g.* 2008 REPORT TO THE HOUSE COMMITTEE, *supra* note 176, at 4; FETTUS & MCKINZIE, *supra* note 174, at 18; Laurel Morales, *For the Navajo Nation, Uranium Mining's Deadly Legacy Lingers*, NPR (Apr. 10, 2016, 5:07 AM), https://www.npr.org/sections/health-shots/2016/04/10/473547227/for-the-navajo-nation-uranium-minings-deadly-legacy-lingers; Judy Pasternik, *Blighted Homeland: A peril that dwelt among the Navajos*, LOS ANGELES TIMES (Nov. 19, 2006), http://articles.latimes.com/2006/nov/19/nation/na-navajo19, this may refer to the amount of processed uranium recovered. However, given a lack of precision in the use of terms, I cannot definitively resolve this discrepancy.

179 OFFICE OF SOLID WASTE, *supra* note 28, at 11.

leased for uranium exploration and development,[180] but in the 1980s prices fell and uranium mining on Navajo Nation ceased. The mining companies shut down, leaving "over 500 abandoned uranium mines . . . four inactive uranium milling sites, a former dump site, contaminated groundwater, structures that may contain elevated levels of radiation, and environmental and public health concerns."[181]

Only recently has action been taken to reclaim many of the contaminated areas: while uranium extraction on Navajo ended in 1986, the "first coordinated effort by the federal government to address uranium contamination on the Navajo Nation" did not occur until 2008.[182] It was not until 2018 that the EPA announced that it had obtained funds to "begin the assessment and cleanup process at 219 of the 523 abandoned uranium mines."[183]

In addition to uranium mining, extensive uranium-milling operations took place on and around the Navajo Nation, as most uranium processing takes place in close proximity to source mines.[184] This part of the nuclear fuel cycle left its own mark on the landscape. In addition to the growing number of un-reclaimed uranium mines, large piles of tailings—the waste products created during the first stages of uranium processing—can be found across the Navajo Nation.

In 1979, the largest spill of radioactive material in U.S. history occurred on Navajo land near Church Rock, New Mexico when United Nuclear Corporation's tailings storage pond failed, releasing 94 million gallons of liquid into the Rio Puerco.[185] The "acidic, saline, and radioactive waste" flowed through the town of Gallup and into Arizona.[186]

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180 Bruce E. Johansen, *The High Cost of Uranium in Navajoland*, 2 AKWESASNE NOTES NEWS SERIES 10, 10 (Spring 1997), https://ratical.org/radiation/UraniumInNavLand.html.

181 2008 REPORT TO THE HOUSE COMMITTEE, *supra* note 176, at 4.

182 *Federal Plans to Address Impacts of Uranium Contamination*, EPA, https://www.epa.gov/navajo-nation-uranium-cleanup/federal-plans-address-impacts-uranium-contamination (last updated Sept. 20, 2018). The EPA also released a comic book featuring an anthropomorphic goat to warn Navajo children not to play in abandoned uranium mines or swim in flooded mine pits, BONNIE ROBINSON LIPSCOMB, GAMMA GOAT IN DANGERS OF URANIUM (1999), https://www.epa.gov/sites/production/files/2016-06/documents/gamma_goat.pdf, which I cannot recommend highly enough if you have any duck-and-cover-era nostalgia and a very dark sense of humor.

183 *Abandoned Uranium Mine Settlements on the Navajo Nation*, EPA (Apr. 2018), https://www.epa.gov/sites/production/files/2018-05/documents/navajo_nation_settlement_fact_sheet-2018-04-18.pdf.

184 *Uranium Recovery (Extraction) Methods*, N.R.C., https://www.nrc.gov/materials/uranium-recovery/extraction-methods.html (last updated Mar. 29, 2018).

185 MILLARD ET AL., *supra* note 175, at i.

186 *Id.*

Response to the release was widely criticized as slow and inadequate.[187] While a state report concluded that the lasting impacts were "quite limited," it also recommended that ranchers avoid watering livestock in the Rio Puerco.[188] This posed a significant problem for the local rural population, many of whom depended on these animals for food and income.[189]

Mining tends to follow a "boom-and-bust" cycle. In the case of domestic uranium extraction, which has been barely to not-at-all profitable since the U.S. government ceased to guarantee a market, it has been mostly "bust."[190] The figure below depicts the uranium deposits present in the U.S.:

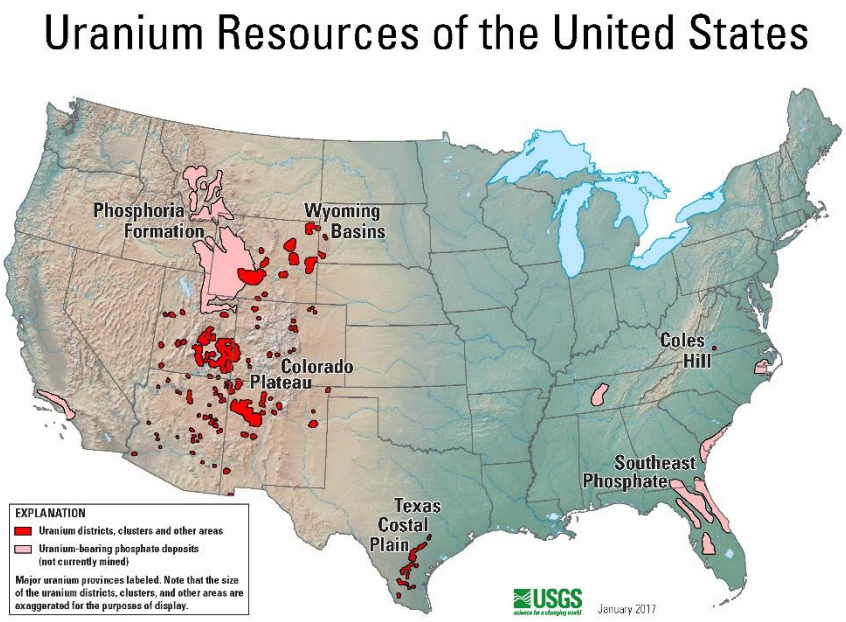

Figure 1[191]

187 *See, e.g.* Johansen, *supra* note 180, at 11; Morales, *supra* note 178.

188 MILLARD ET AL., *supra* note 175, at i.

189 Johansen, *supra* note 180, at 11.

190 Tom DiChristopher, *Nuclear Wasteland: The Explosive Boom and Long, Painful Bust of American Uranium Mining*, CNBC (Aug. 5, 2018, 9:40 AM), https://www.cnbc.com/2018/08/04/the-miners-that-fuel-americas-nuclear-power-and-atomic-arsenal-are-di.html.

191 *Integrated Uranium Resource and Environmental Assessment*, U.S. GEOLOGICAL SURV., https://www.usgs.gov/centers/cersc/science/integrated-uranium-resource-and-environmental-assessment?qt-science_center_objects=0#qt-science_center_objects (last visited April 20, 2020).

Meanwhile, hundreds of the old mines are still un-reclaimed and piles of mill tailings dot the landscape as seen in the figure below:[192]

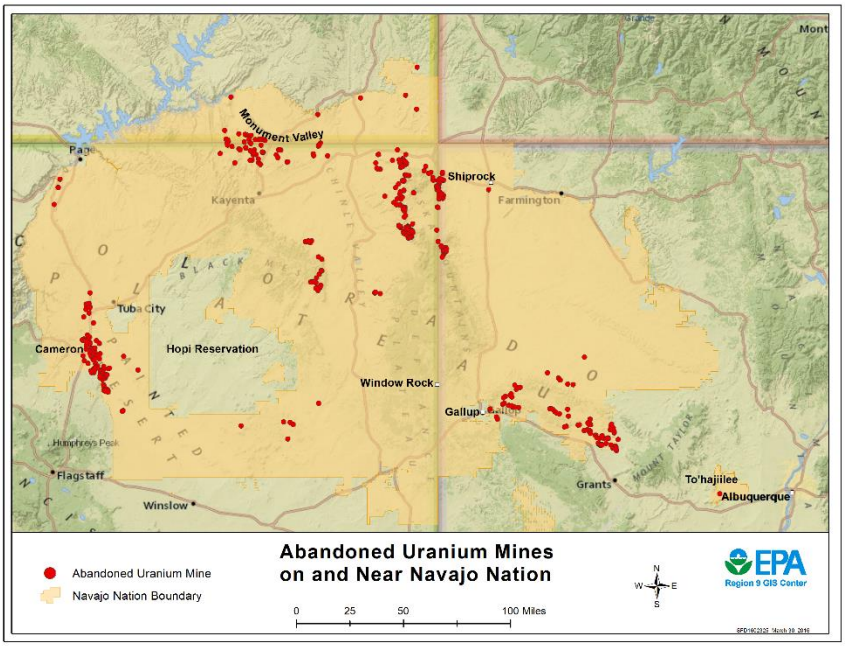

Figure 2[193]

It seems plausible to fear that future uranium development would generate further economic detriment such as "the potential damage projected to the land, water, vegetation, and other natural resources . . . and the forbearance or foreclosure of the Navajo Nation from using these natural resources for other economic purposes."[194] This last concern could also hamper the area's transition away from reliance on extractive industries like uranium mining.

After the tailings spill and the collapse of the uranium market, the nearby town of Grants, New Mexico changed its slogan from "Uranium Capital of the World," to "Grants Enchants."[195] Like much of the Southwest, the area now promotes itself as a tourist destination and "haven

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192 2008 REPORT TO THE HOUSE COMMITTEE, *supra* note 176, at 4.

193 According to the EPA, there are over 500 abandoned uranium mines on Navajo Nation. *Cleaning Up Abandoned Uranium Mines*, EPA (April 15, 2020), https://www.epa.gov/navajo-nation-uranium-cleanup/cleaning-abandoned-uranium-mines.

194 NAVAJO NATION CODE ANN. tit. 18, § 1301(G).

195 Johansen, *supra* note 180, at 11.

for retirees."[196] The recent history of uranium extraction is not prominently featured in the enticing descriptions.[197] Many southwestern communities have chosen an economic path that includes an economy focused on tourism, outdoor recreation, and other complementary industries. As in Virginia, "[t]his path does not include a large uranium mine."[198]

In short, the Navajo Nation has a host of concrete, historical, non-radiation safety-based reasons to oppose further uranium development. Those reasons are primarily economic, but some reasons are also cultural and environmental. Traditionally, these are all areas of concern under state or tribal control, and not lightly preempted by federal regulation. This firm basis in documented fact and legal authority, reflected in the DNRPA, makes it a durable law.

B. A Text Grounded in History, Economy, and Traditional Culture

The Diné Natural Resource Protection Act of 2005 was passed to address the environmental, cultural, and economic issues surrounding uranium mining and processing.[199] It notes that natural resource management in "Navajo Indian Country"[200] is a traditional "matter of paramount governmental interest" and "a fundamental exercise of Navajo tribal sovereignty."[201] While the legal status of states and tribes are in many regards distinct, states have also traditionally exercised the authority to manage their own natural resources for the public good.

The Act explains the traditional importance of environmental stewardship, stating that:

> Fundamental Laws of the Diné . . . support preserving and protecting the Navajo Nation's natural resources . . . for these resources are the foundation of the peoples' spiritual ceremonies and the Diné life way.[202]

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196 *Id.*

197 For example, the local Chamber of Commerce website now invites visitors to "stop by and seek the hidden spirit," by visiting one of the nearby National Parks or historical pueblos. Uranium is not mentioned. GRANTS – CIBOLA COUNTY CHAMBER OF COMMERCE, http://www.grants.org/Default.aspx (last visited Mar. 30, 2019).

198 *See* Brief Amici Curiae in Support of Respondents, *supra* note 146, at 19.

199 NAVAJO NATION CODE ANN. tit. 18, §§ 1301–03.

200 "Indian Country" is a term of art in American Indian law and has itself been the focus of extensive litigation.

201 NAVAJO NATION CODE ANN. tit. 18, § 1301(A).

202 *Id.* § 1301(B).

> Diné Natural Law . . . warn[s] that certain substances in the Earth that are harmful to the people should not be disturbed . . . *uranium is one such substance, and therefore [ ] its extraction should be avoided* as traditional practice and prohibited by Navajo law.[203]

It is difficult to separate economic and environmental considerations from one another or from "radiation safety." However, like the California regulations upheld in *PG&E*, the DNRPA frames the community concerns in economic terms, stating that uranium mining and processing:

> has created substantial and irreparable economic detriments . . . in the form of lands lost to permanent disposal of mining and processing wastes, lands left unproductive and unusable . . . surface water and ground water left unpotable … livestock that could not be marketed . . . workers who lost thousands of person-years [of] gainful economic activity . . . and the families of Navajo uranium workers whose livelihoods, agricultural lands and homesites were diminished in value …[204]

> [T]here is a reasonable expectation that future mining and processing of uranium will generate further economic detriments [including] the potential damage projected to the land, water, vegetation, and other natural resources . . . the forbearance or foreclosure of the Navajo Nation from using these natural resources for other economic purposes, the potential remediation costs for damage projected to the natural resources . . . the potential injury to livestock . . . and the potential injury to human beings from uranium mining, including, but not limited to, loss of wages, loss of consortium, medical costs, loss of access to and use of vegetation used in traditional ceremonies, loss of current and future potable water supplies, and other costs.[205]

Therefore, the Act concludes, "[n]o person shall engage in uranium mining and uranium processing on any sites within Navajo Indian Country."[206]

C. Why the Diné Natural Resource Protection Act Works

Given the history of uranium mining and processing on Navajo land, it is difficult to disagree with any of the conclusions set out in the

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203 *Id.* § 1301(D) (emphasis added).

204 *Id.* § 1301(F).

205 *Id.* § 1301(G).

206 *Id.* § 1303.

DNRPA. The text provides a clear and extensive explanation of its purposes: to preserve and act in accordance with traditional law and culture; to wisely manage natural resources as a matter of spiritual practice and tribal sovereignty; and to prevent further economic detriment through damage to resources. None of these are directly about "radiation safety." The DNRPA is the exercise of precisely the sort of authority that Section 2021(k) of the AEA leaves to the states and tribes. This is reflected in its text and supported by tangible, specific concerns to which the drafters refer. It is a durable law.

To illustrate this point, it is helpful to analyze the DNRPA under each of the *Virginia Uranium* opinions. Even under the most sweeping theories of preemption, the Act survives.

1. The Lead Opinion: The Act's Text Provides a Legitimate, Non-Preempted Rationale

Despite Justice Gorsuch's deep skepticism of legislative purpose inquiries, the lead opinion acknowledges that states (and tribes) "remain free to regulate the activities discussed in § 2021 for purposes *other than* nuclear safety without the NRC's consent."[207] The DNRPA's specific ban on uranium mining is clearly acceptable under the lead opinion. The clearest takeaways from *Virginia Uranium*, on which both lead and concurring opinions agree, are that non-AEA-defined activities do not trigger the sort of legislative-purpose inquiry employed in *PG&E*, and that uranium mining bans are not an obstacle to the AEA's purpose.

Under Justice Gorsuch's analysis, the milling and tailings-storage ban would also stand. The role of purpose in subsection 2021(k) remains—states may indeed regulate "activities" for non-radiation-hazard purposes. The lead opinion merely rejects, as *PG&E* did, the often "unsatisfactory" quest to find true, subjective legislative motive lurking behind a state statute: "[i]f trying to peer inside legislators' skulls is too fraught an enterprise, *shouldn't we limit ourselves to trying to glean legislative purposes from the statutory text where we began?*"[208]

This point is directly relevant to the DNRPA, which clearly states multiple permissible, non-preempted rationales for the uranium processing prohibition. The need to avoid "further economic detriments [including] the potential damage projected to the land, water, vegetation, and other natural resources"[209] alone is an acceptable legislative purpose in the

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

208 *Id.* at 19007 (emphasis added).

209 NAVAJO NATION CODE ANN. tit. 18, § 1301(G).

statutory text. As far as Justice Gorsuch is concerned, the purpose inquiry is over.

Finally, the lead opinion's conflict-preemption analysis leaves the DNRPA undisturbed. Since Congress, in this theory, may be as inscrutable as state legislatures, it is unproductive to look for conflicts with a congressional purpose not clearly articulated in the text.[210] As the AEA does not mandate nuclear development's promotion everywhere, or at all costs, it should not be assumed that the DNRPA poses an obstacle to the achievement of Congressional purpose. And it is surely possible to comply with both federal and tribal laws, so no direct conflict arises.[211]

2. The Concurrence: The Act's Purpose is Valid and it Presents no Obstacle to Congressional Purpose.

The concurrence would also support the DNRPA's validity. Justice Ginsburg analyzes the AEA's preemptive scope in much the same manner as the lead opinion without delving into "the perils of inquiring into legislative motive."[212] Turning to the legislative motives behind § 2021(k), the concurrence finds that "[t]he House and Senate Reports are explicit . . . Section § 2021(k) was 'intended to make it clear that the bill does not impair the States' authority to regulate activities of federal licensees for the manifold health, safety, and economic purposes other than radiation protection.'"[213] The DNRPA was enacted for these same purposes.

While the concurrence devotes more time to Virginia Uranium's conflict-preemption arguments, none of them would likely threaten the DNRPA's validity. As every court confronted with the argument has agreed, Congress did not intend to promote nuclear power at all costs.[214] If the federal government did conclude that further development on non-federal land was necessary, the AEA provides a manner in which to resolve the potential conflict: exercise eminent domain.[215] The DNRPA does not frustrate congressional purpose by preventing the regulated activities: "[f]ederal regulation of certain activities does not mean that

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210 *See* Va. Uranium, Inc. v. Warren, 139 S. Ct. at 1907–08.

211 *See id.* at 1908–09.

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

213 *Id.* at 1913 (citing S. Rep. No. 870, 86th Cong., 1st Sess., at 12; accord H. R. Rep. No. 1125, 86th Cong., 1st Sess., 12 (1959)) (Ginsburg, J., concurring).

214 *Pacific Gas*, 461 U.S. at 200.

215 On Navajo Nation, any such effort would be ill-advised (to say the least) given the United States' lengthy history of confiscating Native lands for various "public purposes," but this does not change the legal analysis: Congress cannot simply force states and private landholders to permit uranium processing on their property.

States must authorize activities antecedent to those federally regulated."[216] In *PG&E*, this antecedent activity was allowing the construction of a nuclear plant, in *Virginia Uranium* it was mining uranium on private land, and under the DNRPA the antecedent activities in question would be allowing uranium mining, milling, and tailings storage. The DNRPA creates no conflict to preempt.

3. The Dissent: There is a Non-Preempted Legislative Purpose Grounded in Historical Fact and Economic Reality

This last point brings us to the Chief Justice's dissent, which, as previously noted, adopts much of the United States' *amicus* argument and would have analyzed the Virginia mining ban as pretext for banning uranium milling. The DNRPA, however, is not the Virginia ban, and would be valid under the dissent's analysis as well.

The dissent interprets *PG&E* as compelling a legislative-purpose inquiry for the regulation of non-activities which could serve as pretext, including conventional uranium mining. This approach requires a more searching inquiry than suggested by the lead opinion, although how carefully-stated legislative purpose should be scrutinized for pretext and impermissible purpose is not explained, and the dissent makes much of Virginia's alleged failure to identify any non-preempted rationales for its ban.

The DNRPA passes this test easily. Not only does the text identify multiple permissible purposes, but it also points directly to the Navajo Nation's long, often grim history with uranium extraction. The non-radiological harms cited in the DNRPA are real, specific, and legitimate. The Act would remain valid under the dissent's "odd way to read a preemption statute."

D. Lessons from the Diné Natural Resource Protection Act

Navajo law and culture, the Nation's history with uranium development, and the principle of tribal sovereignty distinguish the Navajo Nation from other non-federal governments. It is not the intent of this paper to suggest otherwise. Other governments can, however, learn from the DNRPA's use of history and traditional legal authority in drafting strong environmental legislation.

Would-be environmental legislators might take a cue from the DNRPA's invocation of tribal sovereignty and tradition.[217] Rather than

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216 Va. Uranium, Inc. v. Warren, 139 S. Ct. at 1916 (Ginsburg, J., concurring).

217 NAVAJO NATION CODE ANN. tit. 18, § 1301(A).

relying on a bare statement of authority, the Act ties the principle of sovereignty to both traditional cultural values and legal norms, explaining why it is both important and congruent with conventional legal practice that the Navajo Nation retain authority over natural resource management. Instead of forcing a rhetorical conflict with federal law,[218] the DNRPA simply asserts the power it retains under the federal system.

It is notable that the DNRPA is immune to one of Virginia Uranium, Inc.'s central claims because of its careful crafting. The dissent adopted petitioners' argument that the uranium mining ban is intended to be a ban on uranium processing, as it fails to explain why mining itself is objectionable. The DNRPA bars both uranium mining and uranium processing. However, it also refers to specific environmental and cultural issues stemming from uranium *extraction*, specifically referring to "certain substances in the Earth [that] should not be disturbed … [U]ranium is one such substance, and therefore … its extraction should be avoided."[219] The following sections include descriptions of the broader economic harm wrought by mining *and* processing, but only after establishing that mining is independently objectionable. Should the uranium processing ban ever be successfully challenged, it would still be possible for the Nation to ban uranium mining as an exercise of both traditional and statutorily defined authority.[220]

While state and local governments do not have the same sovereign authority that tribes do, certain regulatory areas—including economic development and land management—have been traditionally occupied by the states. Every city and state has an interest in promoting stable economic growth, preserving tradition, and preventing environmental degradation. And every state has some traditional authority to legislate in these areas. When this is the case, "congressional intent to supersede state

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218 *See, e.g.*, Swepi, LP v. Mora Cty., N.M., 81 F. Supp. 3d 1075 (D.N.M. 2015). A New Mexico county attempting to ban fracking wrote a provision into the statute revoking corporate personhood and explicitly stating that "the New Mexico Constitution's Bill of Rights, and the United States Constitution's Bill of Rights and amendments thereto, shall be recognized as preemptive law within the County of Mora only to the extent that their interpretation and application are not inconsistent with the provisions of this Ordinance." *Id.* at 1094.

219 NAVAJO NATION CODE ANN. tit. 18, §§ 1301(D).

220 This concern was raised at the time, and it was the stated intent of some drafters to make the mining and milling processes separable should one be successfully challenged. *See* Andrey Curley, Dóó nal yea dah: *Considering the Logic of the Diné Natural Resource Protection Act of 2005 and the Desert Rock Power Plant Project*, DINÉ POLICY INSTITUTE, 5 (2008), available at https://www.dinecollege.edu/wp-content/uploads/2018/04/DNRPA-and-Desert-RockII.pdf.

laws must be clear and manifest,"[221] a high standard for courts reluctant to expand federal reach through implication.

While few (if any) areas in the United States share Navajo Nation's history of uranium development,[222] the environmental and economic issues that have attended it show that the concerns expressed by both the Navajo and the Virginians are not merely plausible, but actual. Open pit mines—which much of Virginia is familiar with—have a dramatic footprint: as the Solicitor General put it, they create "big, huge, ugly holes."[223] As southwestern communities have found, reclaiming these sites can take decades.[224] *In situ* leaching poses groundwater pollution threats, both from the uranium itself and the lixiviant injected to dissolve it.[225] Uranium processing produces toxic wastes, and its primary hazards are chemical rather than radioactive.[226]

All of these factors also has economic effects. One of the major points raised against developing the Virginia deposit was that a large uranium mine would negatively impact the area's tourism- and agriculture-based economy, potentially leaving the area dependent on the boom-and-bust cycle of uranium mining.[227] This is a rational fear: land physically, aesthetically, or reputationally affected by uranium production loses much of its value for any other purpose.[228]

Neither the Navajo nor Virginia Uranium, Inc.'s neighbors would benefit in the long run from further uranium development. Both have legitimate concerns beyond the field of radiation safety: environmental, aesthetic, cultural, and economic, and the "legal reality remains that Congress has left sufficient authority in the states to allow the development of nuclear power to be slowed or even stopped for economic reasons."[229] The DNRPA is a well-crafted example of how state and tribal governments can exercise this authority effectively.

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221 *English*, 496 U.S. at 79.

222 The role of environmental racism in this story is glaringly obvious and should not be ignored when comparing potential outcomes. It is not hard to imagine a faster and more comprehensive response to the mess in a more affluent, white community. That structural inequalities might exacerbate the problems discussed here does not, however, mean that they would be a positive development for any community.

223 Transcript, *supra* note 4, at 16.

224 Perez-Sullivan, *supra* note 177; Morales, *supra* note 178; 2008 REPORT TO THE HOUSE COMMITTEE, *supra* note 176.

225 Ulmer-Scholle, *supra* note 26.

226 *See* N.R.C., *supra* note 30.

227 Brief Amici Curiae in Support of Respondents, *supra* note 146, at 1,21.

228 NAVAJO NATION CODE ANN. tit. 18, § 1301.

229 *Pacific Gas*, 461 U.S. at 223.

CONCLUSION

The Diné Natural Resource Protection Act may provide guidance for states and tribes interested in regulating extractive or otherwise harmful industries also heavily regulated by the federal government. While the three-way split in the *Virginia Uranium* Court limits the precedential value of any dicta, the DNRPA's resilience under any approach to preemption, pretext, and purpose illustrates its strength. The lead opinion's skepticism of implied preemption doctrine and reluctant recognition of purpose's role in the Atomic Energy Act strongly support local and tribal power to regulate in this field. The concurrence, which places greater emphasis on legislative purpose and history while recognizing the limits of the AEA's scope, does as well. Finally, the dissent's demand for a plausible, clearly articulated, non-preempted legislative purpose is amply met by the DNRPA's text and its references to traditional belief and economic experience.[230] If Virginia's statute could withstand a preemption challenge under these theories, the DNRPA certainly should.

[230] Breyer's concerns are met. Roberts and Alito don't appear to be expressing any deeply held theory of statutory interpretation, and it is difficult to see them ever being persuaded to uphold a ban on mining anything, but maybe I am too cynical.