

Clean Up Your Act: The U.S. Government’s CERCLA Liability for Uranium Mines on the Navajo Nation

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This Comment delves into the Cold War legacy of uranium mining on the Navajo Nation. Today, unremediated hazardous waste from more than five hundred deserted mines has continued to poison the health and lands of the Navajo. This Comment argues that the federal government is ultimately liable for the remediation of these mines under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Specifically, because the federal government held legal title to the mining lands and tightly managed the mining operations, the federal government satisfies CERCLA’s liability regime for “owners” and “operators.” The U.S. government’s liability under CERCLA warrants fuller attention by the U.S. Environmental Protection Agency (EPA), Congress, and states in order to achieve the complete, long-overdue remediation of these uranium mines.

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INTRODUCTION

The Navajo Nation¹ is located across approximately twenty-seven thousand square miles of the U.S. Southwest at the corner of Arizona, New Mexico, and Utah.² It is home to nearly half of the Tribe's four hundred thousand enrolled members³ as well as over five hundred deserted uranium mines.⁴ Between World War II and the Cold War, these mines produced significant quantities of uranium ore under the direction of the U.S. government in order to fuel the government's wartime nuclear ambitions. During this time, ore produced on Navajo lands totaled approximately thirty million tons⁵ or 14% of total U.S. uranium production.⁶ Once

¹ Since 1968, "Navajo Nation" has been the official English name that the Navajo have adopted, and it is the name of the tribe and associated lands federally recognized by the U.S. government. See *Navajo History*, NAVAJO PEOPLE (Oct. 10, 2004), <https://perma.cc/M5HE-LQQE>. Before Spanish settlers introduced the term "Navajo," the Navajo traditionally referred to themselves as "Diné." TRACI BRYNNE VOYLES, *WASTELANDING: LEGACIES OF URANIUM MINING IN NAVAJO COUNTRY*, at xi (2015). Today, the Navajo use both "Diné" and "Navajo," *id.*, and this Comment will generally use "Navajo."

² *History*, NAVAJO NATION (last updated Sept. 20, 2022), <https://perma.cc/4FT3-ZT5S>. The Navajo Nation is larger than ten U.S. states, *id.*, and is almost three times larger than New Jersey. *Means v. Navajo Nation*, 432 F.3d 924, 928 & n.4 (9th Cir. 2005).

³ Simon Romero, *Navajo Nation Becomes Largest Tribe in U.S. After Pandemic Enrollment Surge*, N.Y. TIMES (May 21, 2021) <https://www.nytimes.com/2021/05/21/us/navajo-choerokee-population.html> (describing an increase in enrollment from 306,268 in 2020 to 399,494 in 2021). As of the 2020 census, approximately 165,000 people live on the Navajo Nation reservation and on off-reservation trust land. POLY RSCH. CTR., NAT'L CONG. OF AM. INDIANS, 2020 CENSUS RESULTS: NCAI NAVAJO REGION TRIBAL LAND DATA 3 (2021).

⁴ *The Health and Environmental Impacts of Uranium Contamination in the Navajo Nation: Hearing Before the Committee on Oversight and Government Reform*, 110th Cong. 21 (2007); Kate Selig, *Can a New EPA Office Expedite Uranium Cleanup on Navajo Land? Not If Past Is Prologue.*, & THE WEST (Nov. 2, 2020), <https://perma.cc/BB6N-B773>.

⁵ *Navajo Nation: Cleaning Up Abandoned Uranium Mines*, U.S. ENVTL. PROT. AGENCY (last updated Jan. 11, 2023), <https://perma.cc/Y2AH-F3CJ> (reflecting production levels between 1944 and 1986). To put these numbers further in perspective, 96% of "defense-related uranium mines" in the United States were built on the Navajo Nation. Ariel Gould, *State of Play: The Legacy of Uranium Mining on U.S. Tribal Lands*, GOOD ENERGY COLLECTIVE (Nov. 17, 2022), <https://perma.cc/PVL8-DPBN>. This Comment focuses on the Navajo for this reason, but uranium mines were also built on other tribal lands—including the lands of the Pueblo of Laguna, the Pueblo of Zuni, the Hualapai Tribe, the Tohono O'odham Nation, the Spokane Tribe of Indians, and the Ute Indian Tribe—and in other parts of the United States. *Id.*

⁶ U.S. ENVTL. PROT. AGENCY, *ABANDONED URANIUM MINES AND THE NAVAJO NATION: NAVAJO NATION AUM SCREENING ASSESSMENT REPORT AND ATLAS WITH GEOSPATIAL DATA*, at vii (2007).

uranium ore had been mined, mills refined the ore into concentrated “yellowcake,” which was then further enriched into fuel suitable for nuclear power plants or the cores of nuclear weapons.⁷ Today, the hazardous waste left from the mining has severely and detrimentally impacted the health of the Navajo Nation, having led to a wave of cancers, deaths, and lifelong health problems.⁸

The cleanup of these mines has been slow and insufficient. Under the Comprehensive Environmental Response, Compensation, and Liability Act⁹ (CERCLA), the U.S. Environmental Protection Agency (EPA) has held a number of companies responsible for the cleanup costs of uranium mines.¹⁰ Such costs include the cost to permanently “prevent or minimize the release of hazardous substances” from “caus[ing] substantial danger to present or future public health or welfare or the environment.”¹¹ However, while the EPA has successfully obtained financing from companies for this kind of cleanup (or remediation) at certain mines, the EPA has not obtained financing for hundreds of other mines where the companies involved have already gone out of business or otherwise cannot afford remediation. In these “orphaned” mines cases, generally no remediation has occurred.¹²

The failure to remediate these hazardous, orphaned uranium mines has life-and-death stakes. Almost all of the orphaned mines on the Navajo Nation sit within one mile of a natural water source, and many sit within close proximity of Navajo homes—

⁷ Barbara Rose Johnston, Susan Dawson & Gary Madsen, *Uranium Mining and Milling: Navajo Experiences in the American Southwest*, in INDIANS & ENERGY: EXPLOITATION AND OPPORTUNITY IN THE AMERICAN SOUTHWEST 111, 112 (Sherry L. Smith & Brian Frehner eds., 2010).

⁸ Lauren Morales, *For the Navajo Nation, Uranium Mining’s Deadly Legacy Lingers*, NPR (Apr. 10, 2016), <https://perma.cc/K3JU-LRXQ>.

⁹ Pub. L. No. 96-510, 94 Stat. 2767 (1980) (codified as amended in 42 U.S.C. §§ 9601–9628).

¹⁰ See generally, e.g., *Case Summary: Cleanup Agreement Reached at Former Uranium Mine on Spokane Indian Reservation*, U.S. ENVTL. PROT. AGENCY (last updated Aug. 23, 2022), <https://perma.cc/XTA9-PXXX> (referring to a 2012 settlement); *Case Summary: \$600 Million Settlement to Clean Up 94 Abandoned Uranium Mines on the Navajo Nation*, U.S. ENVTL. PROT. AGENCY (last updated July 25, 2022), <https://perma.cc/J6BM-E24N>; Consent Decree, *United States v. Newmont Mining Corp.*, No. 2:05-cv-00020 (E.D. Wash. Jan. 17, 2012) (requiring defendant companies to finance the cleanup of a uranium mine, following an initial trial court finding of CERCLA liability that was on appeal over insurance coverage issues).

¹¹ 42 U.S.C. § 9601(24) (defining this kind of permanent cleanup operation as a “remedy” or “remedial action”).

¹² Selig, *supra* note 4 (“No mines have been cleaned up to date, although the EPA has taken measures to improve safety around high-priority abandoned mines.”).

some even within two hundred feet.¹³ Waste from the unremediated mines has contaminated Navajo drinking water and continues to spread through dust in the air.¹⁴ Studies indicate that those living near uranium mines face an increased risk of developing cancers, kidney diseases, respiratory diseases, tuberculosis, and other chronic diseases.¹⁵ One recent study finds that 26% of Navajo women possess uranium concentrations at levels higher than those found in the top 5% of the U.S. population with the highest concentrations,¹⁶ and other studies have previously linked uranium contamination to birth defects and other unfavorable birth outcomes.¹⁷ The ongoing and intergenerational legacies of these orphaned mines and the frustratingly slow pace of existing remediation efforts demand renewed attention.

In analyzing the tricky problem at play, this Comment makes two primary contributions to the literature. First, it argues that, in the case of uranium mining, the federal government is itself liable under CERCLA for the contamination and, thus, the remediation costs of the orphaned mines. Where hazardous substances from a site have contaminated an area, CERCLA holds any “owner” or “operator” of the site strictly liable and can require the liable party to fund all remediation efforts.¹⁸ The federal government was both an “owner” and “operator” of the uranium mines on Navajo lands. It not only held legal title to the Navajo lands

¹³ Mary F. Calvert, *Toxic Legacy of Uranium Mines on Navajo Nation Confronts Interior Nominee Deb Haaland*, PULITZER CTR. (Feb. 23, 2021), <https://perma.cc/MA84-TZFY> (“Experts estimate that . . . 85 percent of all Navajo homes are currently contaminated with uranium.”).

¹⁴ Cheyanne M. Daniels, *The US Nuclear Weapons Program Left ‘a Horrible Legacy’ of Environmental Destruction and Death Across the Navajo Nation*, INSIDE CLIMATE NEWS (June 27, 2021), <https://perma.cc/ZWG4-MRKP>.

¹⁵ See Susan E. Dawson & Gary E. Madsen, *Uranium Mine Workers, Atomic Downwinders, and the Radiation Exposure Compensation Act (RECA): The Nuclear Legacy*, in HALF-LIVES & HALF-TRUTHS: CONFRONTING THE RADIOACTIVE LEGACIES OF THE COLD WAR 117, 122–23 (Barbara Rose Johnston ed., 2007); Yvette Cabrera, *Nuclear Buildup Sickened His Community. Then It Caught Up with Him.*, CTR. FOR PUB. INTEGRITY (Nov. 30, 2022), <https://perma.cc/Z4NK-CMM4>; Cody Nelson, *Ignored for 70 Years: Human Rights Group to Investigate Uranium Contamination on Navajo Nation*, THE GUARDIAN (Oct. 27, 2021), <https://perma.cc/G4B5-GY6G>; Lauren Hund, Edward J. Bedrick, Curtis Miller, Gabriel Huerta, Teddy Nez, Sandy Ramone, Chris Shuey, Miranda Cajero & Johnnye Lewis, *A Bayesian Framework for Estimating Disease Risk Due to Exposure to Uranium Mine and Mill Waste on the Navajo Nation*, 178 J. ROYAL STAT. SOC’Y 1069, 1087–88 (2015).

¹⁶ Mary Hudetz, *US Official: Research Finds Uranium in Navajo Women, Babies*, AP NEWS (Oct. 7, 2019), <https://perma.cc/9ZVK-Y7AB>.

¹⁷ Johnston et al., *supra* note 7, at 121.

¹⁸ 42 U.S.C. § 9607(a).

where the mining took place, but it also extensively controlled the U.S. uranium market by directing uranium exploration efforts, determining uranium suppliers and production quotas, positioning itself legally as the sole buyer of uranium ore and enriched uranium, and manipulating mining contracts on Navajo lands to maximize production. As such, where no other solvent “owner” or “operator” can be identified for a particular mining site, the U.S. government should be held responsible for the cleanup costs.

The second contribution offered by this Comment is a critique of CERCLA’s enforcement regime with respect to tribal lands. Although the federal government is likely liable under CERCLA for the remediation costs of uranium mines on the Navajo Nation, the statute provides little to no remedy to tribes in enforcing this liability. This reality stands in contrast to the authority that CERCLA grants to federal, state, and local governments. In any of the fifty states, the EPA can hold private and governmental actors responsible for cleanup costs from the release of hazardous waste. If the federal government fails to order such a cleanup or if the federal government is itself responsible for the hazardous waste, state or local governments can step in to facilitate these same cleanup actions under CERCLA, including against the federal government. On tribal lands, however, these checks are extinguished: if the federal government is responsible for the hazardous waste and does not first initiate a cleanup action, tribal governments cannot seek a cleanup order. Such a limitation flies in the face of tribal sovereignty and CERCLA’s overall purpose, and it enables the federal government to deliberately avoid responsibility for a catastrophe of its own creation.

This Comment proceeds in three parts. Part I describes how the uranium mining industry began and why hazardous waste from unremediated mines continues to pose such serious problems for the Navajo. Given this backdrop, Part II then demonstrates how the federal government is liable for the remediation of these mines under CERCLA. Part III works through the practical challenges of enforcing this liability and calls upon federal and state officials to chart a path forward amid these obstacles.

I. THE PROBLEM OF UNREMEDIED URANIUM MINES

The first instances of domestic uranium mining can be traced back more than eighty years to World War II and then the Cold War. The rise of the uranium industry was quick, and Part I.A begins with a brief history of its rise in the Navajo Nation.

Part I.B then describes what happened next: mass radiation poisoning, cancers, deaths, and a cover-up. Witnessing this aftermath, the Navajo organized to provide programming and education within their community and lobbied Congress to pass statutes designed to redress the devastation.¹⁹ Today, three statutes primarily form the backdrop for the current remediation problem: the 1978 Uranium Mill Tailings Radiation Control Act²⁰ (UMTRCA), the 1990 Radiation Exposure Compensation Act²¹ (RECA), and CERCLA. Part I.C concludes with an outline of each of these statutes.

A. U.S. Uranium Mining Beginnings

In the wake of the U.S. atomic bombings of Hiroshima and Nagasaki, Congress created the Atomic Energy Commission²² (AEC) to build an atomic energy program that could fuel the United States' growing military desires.²³ The Atomic Energy Act of 1946²⁴ (AEA), which created the AEC, established four major program areas to “encourage private research, control scientific and technical information, establish federal research and development, and control all fissionable materials.”²⁵ Because the original wartime uranium industry had died with the end of World War II, the industry was practically nonexistent in 1947 when the AEC first attempted to kickstart new uranium exploration and procurement.²⁶

¹⁹ VOYLES, *supra* note 1, at 144–46, 177–78 (2015); Doug Brugge & Rob Goble, *The History of Uranium Mining and the Navajo People*, 92 AM. J. PUB. HEALTH 1410, 1415 (2002) [hereinafter *History of Uranium Mining*].

²⁰ Pub. L. No. 95-604, 92 Stat. 3021 (codified as amended in scattered sections of 5 U.S.C., 33 U.S.C., and 42 U.S.C.).

²¹ Pub. L. No. 101-426, 104 Stat. 920 (codified as amended in scattered sections of 42 U.S.C.).

²² The AEC was later reorganized in 1974, and its functions have now been incorporated into the U.S. Department of Energy and U.S. Nuclear Regulatory Commission. *Atomic Energy Commission*, U.S. NUCLEAR REG. COMM'N (last updated Mar. 9, 2021), <https://perma.cc/UQH8-3NLR>.

²³ MICHAEL A. AMUNDSON, *YELLOWCAKE TOWNS: URANIUM MINING COMMUNITIES IN THE AMERICAN WEST* 19–20 (2002).

²⁴ Pub. L. No. 79-585, 60 Stat. 755 (codified as amended in scattered sections of 42 U.S.C.).

²⁵ AMUNDSON, *supra* note 23, at 20.

²⁶ *Id.* at 21; Johnston et al., *supra* note 7, at 115.

By 1948, however, government-led exploration and procurement of uranium were in full swing.²⁷ For example, after first learning about some deposits of uranium ore on Navajo lands, the AEC mapped out a widescale exploration strategy and began encouraging companies to mine the large deposits on and near the reservation to support the war effort.²⁸ Navajos helped U.S. officials locate high-grade uranium deposits in exchange for jobs, discovery rewards, and overall economic prosperity.²⁹ Hopeful in the promise of this prosperity, several prominent Navajo leaders advocated for the expansion of uranium development, framing it as a new form of “Navajo nationalism” and development on their own terms.³⁰ Fittingly, the twentieth-century uranium boom that swept across the Navajo Nation and elsewhere in the United States was termed “uranium fever.”³¹

However, uranium mining was not all that it seemed to be. The federal government knew early on the health risks associated with radiation from the uranium mines, but it did not disclose those risks to miners or their families for many years.³² As early as the 1930s, the U.S. Public Health Service (PHS), an agency under the Department of Health and Human Services tasked with protecting the public health, was well aware of the hazards

²⁷ Doug Brugge & Rob Goble, *A Documentary History of Uranium Mining and the Navajo People*, in *THE NAVAJO PEOPLE AND URANIUM MINING* 25, 27 (Doug Brugge, Timothy Benally & Esther Yazzie-Lewis eds., Esther Yazzie-Lewis & Timothy Benally trans. 2006) [hereinafter *Documentary History*].

²⁸ *See id.*

²⁹ Johnston et al., *supra* note 7, at 111, 115–17.

³⁰ ANDREW NEEDHAM, *POWER LINES: PHOENIX AND THE MAKING OF THE MODERN SOUTHWEST* 233–36 (2014). Other Navajo activists called for their own version of “Navajo nationalism” in which the Navajo Nation would break from the extractive, colonial nature of mining and other similar operations. *See id.* at 218 (pointing out that these activists even began their own newspaper, the *Diné Baa-Hani*, in order to counter the pro-mining posture of the tribally run *Navajo Times* with stories that highlighted the harm that mining produced); *see also id.* at 217 (“They warned that [industrial] energy development brought short-term profits but threatened the destruction of Navajo culture itself.”).

³¹ Johnston et al., *supra* note 7, at 115 (“[U]ranium fever’ swept the United States. . . . Finding uranium, according to Gordon Dean, chairman of the AEC from 1950 to 1953, became a patriotic duty.”).

³² *Documentary History*, *supra* note 27, at 33–34. One note on uranium- and radiation-related terminology: As uranium decays, it emits radiation in the form of (less penetrating but potent) alpha and beta particles as well as (highly penetrating and fatal when intense) gamma rays. PETER H. EICHSTAEDT, *IF YOU POISON US: URANIUM AND NATIVE AMERICANS* 47–49 (1994). Uranium decays over thousands of years into several different elements, including radium and then radon gas, the latter of which then quickly decays over a matter of days into isotopes known generally as “radon daughters.” *Id.* at 49. The radon daughters eventually break down into a stable (nonradioactive) form of lead. *Id.*

posed by uranium mining due to comprehensive studies of uranium in Czechoslovakia and Germany.³³ Moreover, the PHS conducted its own epidemiological studies on the impact of radiation on the health of Navajo uranium miners beginning in 1949.³⁴ By 1950, the initial PHS results revealed radon exposures in mines on the Navajo Nation up to 750 times the then-acceptable limits.³⁵ By January 1951, internal records revealed that both PHS and AEC staff believed “radon [in uranium mines] was present in levels that would cause cancer.”³⁶ Despite the evidence discovered during this time and over the course of a decade-long study on the health risks from uranium mining,³⁷ the PHS and AEC struck a deal with the mining companies to not “divulge the potential health hazards to the workers” or “inform those who became ill that their illnesses were radiation related.”³⁸ This decision was

³³ EICHSTAEDT, *supra* note 32, at 56 (explaining that at least one of the uranium mines that was subject to these European studies was known as “Siebenschlenhen” or “death mine”); Brugge & Goble, *supra* note 27, at 26–27 (“In 1926, clinical evaluation defined the histopathology of the lung cancer in miners. By 1932, Germany and Czechoslovakia had designated cancer in these miners as a compensable occupational disease.” (citations omitted)). In the United States, the Bureau of Labor Statistics had by 1929 also begun reporting radiation-related health risks for workers producing glow-in-the-dark watches and clocks. EICHSTAEDT, *supra* note 32, at 54–55; *see also id.* at 54 (“Grotesque cases of radiation poisoning had been documented in the early 1920s when factory workers in companies that produced luminescent dials began to lose their teeth, jaws, and finally their lives.”). For one account of radiation poisoning from luminescent dial factories, *see generally* KATE MOORE, *THE RADIUM GIRLS: THE DARK STORY OF AMERICA’S SHINING WOMEN* (2017).

³⁴ EICHSTAEDT, *supra* note 32, at 51.

³⁵ *Id.* at 52. In other instances, such as one mine on the Navajo Nation that was run by the Vanadium Corporation of America and whose miners were 95% Navajo, the readings of these miners in the worst cases exceeded the “allowable weekly doses [of radiation] in less than one day and were reaching total annual doses in just a week [by modern-day standards].” *Id.*

³⁶ *History of Uranium Mining*, *supra* note 19, at 1413 (describing the records of an internal meeting between the AEC and PHS on January 25, 1951).

³⁷ Dawson & Madsen, *supra* note 15, at 122.

³⁸ Johnston et al., *supra* note 7, at 120; EICHSTAEDT, *supra* note 32, at 64. Duncan Holaday, one officer within the PHS who advocated against the nondisclosure procedure, wrote in a letter: “Our procedure in the uranium study was to send the examinee a letter stating either that the findings were ‘essentially negative’ or one stating that the examinations showed possible problems . . . and that he should see his physician. The appropriate health officer was sent notices of [individual cases of health problems].” EICHSTAEDT, *supra* note 32, at 64–65 (quoting Letter from Duncan Holaday, PHS official, to Stewart Udall, former U.S. Sec. of the Interior (May 21, 1983)); *see id.*, at 65 (stating that miners with identified health problems were “only informed . . . after they had contracted a fatal disease” and with no notice that the problems could be radiation-related (emphasis added)).

part of an unethical compromise,³⁹ and it denied many miners crucial information about their health risks until at least the 1960s.⁴⁰

Why did the federal government accede to this deal? PHS leadership stated it did not want to “rock the boat when it came to mining.”⁴¹ The AEC was quite simply unwilling to risk the domestic uranium supply to any degree and, in fact, disclaimed authority to regulate the mines.⁴² The AEC, in particular, continued to deny and downplay the mounting evidence for several years in order to achieve its uranium supply goals. In 1953, the AEC’s chairman wrote to the Senate Joint Committee on Atomic Energy: “[T]he exposure accumulated to date by the individual miners in the uranium mines has not been sufficiently great to have produced injuries.”⁴³ In 1954, while the AEC began experimenting with ventilation to reduce the radiation-related health risks and released a report recommending ventilation standards, it ultimately did not require companies to install ventilation nor did it take up any other recommendations advocated by the PHS.⁴⁴ Of course, companies largely ignored these recommendations.⁴⁵ As

³⁹ *Documentary History*, *supra* note 27, at 32 (“The centerpiece of the Nuremberg Code, promulgated in 1947 and widely publicized, was provision of informed consent to persons enrolled in research studies. The PHS study clearly violated a central tenet of the standard of care of the time, as well as the standards of today.”).

⁴⁰ Dawson & Madsen, *supra* note 15, at 127.

⁴¹ *History of Uranium Mining*, *supra* note 19, at 1413 (quoting Victor Archer, head of the PHS medical team).

⁴² VOYLES, *supra* note 1, at 112.

⁴³ EICHSTAEDT, *supra* note 32, at 69 (quoting Letter from Lewis L. Strauss, Chairman, Atomic Energy Comm’n, to W. Sterling Cole, Chairman, Joint Comm. on Atomic Energy (July 13, 1953)).

⁴⁴ VOYLES, *supra* note 1, at 111 (explaining that the AEC did not oversee or enforce its ventilation recommendations). President Harry Truman wrote in his memoir, “The Joint Committee [on Atomic Energy, which oversaw the AEC,] was primarily concerned with atomic development[] . . . and [] was always pushing for more production.” 2 HARRY S. TRUMAN, MEMOIRS BY HARRY S. TRUMAN: YEARS OF TRIAL AND HOPE 297 (1956); *see also id.* at 306 (“In all my dealings with the Atomic Energy Commission I made it a practice to conclude each discussion with the admonition that we must keep ahead [with domestic atomic developments].”).

⁴⁵ EICHSTAEDT, *supra* note 32, at 71; *see also id.* at 184 (sharing an interview with Ben Jones, a mine worker for eleven years on the Navajo Nation, who recounted that mines “sometimes” had vents but that they were “not strong enough to move the air out” and were “just left [] off” if the generator ran out of gas). It is worth noting that the mining companies did not ignore ventilation standards out of ignorance; they were well aware of the health risks and deliberately ignored ventilation recommendations. *Id.* at 63–64.

Shortly after the U.S. Advisory Committee on Human Radiation Experiments was created in 1994, it found that “an insufficient effort was made by the federal government to mitigate the hazard to uranium miners through early ventilation of the mines, and that as a result miners died.” Johnston et al., *supra* note 7, at 120.

the AEC's actions indicate,⁴⁶ the agency was in the business of pursuing uranium development at all times and at any cost, including to health.

B. The Consequences and Broken Trust

While the Supreme Court has characterized the relationship between the U.S. government and tribes as a “general trust relationship,”⁴⁷ the U.S. government's actions and subsequent lack of redress in the case of uranium mining have been characterized as a colossal failure in this supposed trust relationship.⁴⁸ Since 1868, when the United States and the Navajo Nation signed a treaty establishing what was then known as the Navajo Indian Reservation,⁴⁹ the U.S. government has held legal title to Navajo lands and resources in trust for the Navajo.⁵⁰ As a result, the government generally has a duty to protect the “welfare” of the Navajo.⁵¹ But many would argue that the government's insistence on mining uranium did anything but protect Navajo welfare.⁵²

⁴⁶ One other example of the AEC's downplaying of the problem was its minimal public awareness campaign. Professors Doug Brugge and Rob Goble noted that “some” pamphlets mentioning the risk of lung cancer were distributed to miners in 1959, but “they minimized the level of concern, and it is unclear how widely these materials were disseminated or what was the literacy and English comprehension of the miners who received them.” *History of Uranium Mining*, *supra* note 19, at 1413.

⁴⁷ *United States v. Mitchell*, 463 U.S. 206, 225–26 (1983); *United States v. Jicarilla Apache Nation*, 564 U.S. 162, 176 (2011). Importantly, the federal-tribal trust relationship is not, however, equivalent to the private common law trust relationship that ordinarily triggers full fiduciary duties on the part of the trustee. *Jicarilla Apache Nation*, 564 U.S. at 173 (citing *Cherokee Nation of Okla. v. United States*, 21 Cl. Ct. 565, 573 (1990)). For the federal-tribal trust relationship, particular statutes that confer duties upon the federal government, rather than common law, determine the federal government's responsibilities. *Id.* at 174 (“Congress may style its relations with the Indians a ‘trust’ without assuming all the fiduciary duties of a private trustee, creating a trust relationship that is ‘limited’ or ‘bare’ compared to a trust relationship between private parties at common law.”).

⁴⁸ Ed. Bd., *The Cold War Threat to the Navajo*, N.Y. TIMES (Feb. 12, 2008), <https://www.nytimes.com/2008/02/12/opinion/12tue3.html>.

⁴⁹ Treaty with the Navajo, U.S.–Navajo Nation, June 1, 1868, 15 Stat. 667 [hereinafter 1868 U.S.–Navajo Treaty]; *see also* *Sekaquaptewa v. MacDonald*, 619 F.2d 801, 803 (9th Cir. 1980); *McClanahan v. State Tax Comm'n of Ariz.*, 411 U.S. 164, 173–75 (1973). The treaty states that the area described “shall be . . . set apart for the use and occupation of the Navajo,” 1868 U.S.–Navajo Treaty, at 668, and that the Navajo “agree to make the reservation herein described their permanent home,” *id.* at 671. As recently discussed by the Supreme Court in *McGirt v. Oklahoma*, such language amounts to official congressional establishment of a reservation. 140 S. Ct. 2452, 2460 (2020).

⁵⁰ *Navajo Tribe of Indians v. United States*, 9 Cl. Ct. 227, 231–32 (1985).

⁵¹ *Jicarilla Apache Nation*, 564 U.S. at 175–76 (quoting *Heckman v. United States*, 224 U.S. 413, 432 (1912)).

⁵² *See VOYLES*, *supra* note 1, at 83–86.

The Navajo only learned of the devastating consequences of the uranium once miners began to fall ill and die of lung cancer, stomach cancer, and other fatal diseases in mass numbers.⁵³ Marie Harvey, the daughter of one Navajo uranium miner, recounted:

[W]e were never told about the conditions or were we cautioned about what was going to happen to [my father]. They drank the water that seeped out of the walls of the mines. We lived about 50 feet away from the dumps of the ore. As kids, we were never told not to go here and there, or play here and there. Now my father's clothing, he took it off, he hung it in the house. We lived in a one-room house there. Nobody told us about the dangers of the uranium ore until it was 1974, and we found out [my father] had cancer of the stomach and the liver. There was some in his lungs, too.⁵⁴

Marie and her father's story is not uncommon. Professors Barbara Johnston, Susan Dawson, and Gary Madsen found that Navajo miners often "worked in dusty mine shafts, eating their lunch there, drinking water from sources inside the mine, and returning home to their families wearing dust-covered radioactive clothing."⁵⁵

The hazardous waste produced by mining operations also contaminated the water supply and soil for the surrounding communities⁵⁶—to say nothing of the fact that miners and their families frequently lived on-site on company-provided housing or lived nearby.⁵⁷ No one properly informed the Navajo about the

⁵³ Johnston et al., *supra* note 7, at 120–21.

⁵⁴ EICHSTAEDT, *supra* note 32, at 113 (quoting *Occupational Health Hazards of Older Workers in New Mexico: Hearing Before the Special Committee on Aging*, 96th Cong. 34 (1979) (statement of Pearl Nakai, Red Valley, New Mexico, as read by her daughter Marie Harvey)).

⁵⁵ Johnston et al., *supra* note 7, at 120; *see also* Phil Harrison, "Human Beings Are Priceless": Interview with Leroy and Lorraine Jack, in *THE NAVAJO PEOPLE AND URANIUM MINING* 49, 51 (Doug Brugge, Timothy Benally & Esther Yazzie-Lewis eds., Esther Yazzie-Lewis & Timothy Benally trans., 2006) (alteration in original):

Our children were born [near the mines]. As a pregnant mother I used to go there. So, the babies were born there. When they grew up they played there, just as I did. They played in the ore that was dangerous, just as we did way back. I did not know it was dangerous.

See also EICHSTAEDT, *supra* note 32, at 49 (describing how radon "oozed" from the walls and waters of mines and would "attach[] to dust particles or cluster together as molecules" that the miners breathed in and brought home).

⁵⁶ Johnston et al., *supra* note 7, at 120–22; EICHSTAEDT, *supra* note 32, at 181–82.

⁵⁷ Johnston et al., *supra* note 7, at 121–22, 124; *see also* Timothy Benally, "I Have Revisited the Places Where I Used to Work": Oral History of Former Miner George Tutt, in

dangers of kids playing on tall piles of the leftover ore (“tailings”) or families building homes amid—and even at times with⁵⁸—contaminated debris, further seeping uranium into all parts of Navajo life.⁵⁹ As a result, not only did the miners battle cancers and early deaths, but the families of miners also experienced birth defects, miscarriages, throat cancer, skin lesions and sores, and cleft palates.⁶⁰

By the early 1960s, the Navajo began noticing the first lung cancer cases in their miners, and newly widowed wives soon after began educating themselves and organizing in response to these deaths.⁶¹ By the 1970s and emerging with the Red Power Movement,⁶² Native activists organized protests, developed community programming and health resources, ran news stories, and began seeking worker’s compensation and other relief in the courts.⁶³

C. Prior Attempts to Compensate Victims and Remediate Mines

After a series of lost court battles,⁶⁴ the Navajo focused much of their efforts on enacting national legislation,⁶⁵ culminating in

THE NAVAJO PEOPLE AND URANIUM MINING 11, 20 (Doug Brugge, Timothy Benally & Esther Yazzie-Lewis eds., Esther Yazzie-Lewis & Timothy Benally trans., 2006) (“[W]hen we lived at the mine sites, some of us just lived in tents. The tents were small, like the ones they use to set up camp when they’re herding sheep.”).

⁵⁸ VOYLES, *supra* note 1, at 136–38 (explaining that construction contractors used radioactive tailings as materials to build homes and other buildings such as gas stations and warehouses); Cabrera, *supra* note 15.

⁵⁹ Sherry L. Smith & Brian Frehner, *Introduction*, in INDIANS & ENERGY: EXPLOITATION AND OPPORTUNITY IN THE AMERICAN SOUTHWEST 3, 10 (Sherry L. Smith & Brian Frehner eds., 2010); VOYLES, *supra* note 1, at 139.

⁶⁰ VOYLES, *supra* note 1, at 141–42; Johnston et al., *supra* note 7, at 121. In 1970, the PHS estimated that between 10% and 17% of the six thousand uranium miners employed across the country would die of related cancers by 1990. VOYLES, *supra* note 1, at 139.

⁶¹ *History of Uranium Mining*, *supra* note 19, at 1415.

⁶² Professor Kent Blansett has previously defined Red Power as “an Intertribal movement that emerged from Native Nationalism” and “employed nonviolent direct action to gain greater recognition of Indigenous sovereignty.” KENT BLANSETT, JOURNEY TO FREEDOM: RICHARD OAKES, ALCATRAZ, AND THE RED POWER MOVEMENT 4 (2018).

⁶³ VOYLES, *supra* note 1, at 144–46, 177–78; *History of Uranium Mining*, *supra* note 19, at 1415.

⁶⁴ See, e.g., *Begay v. United States*, 768 F.2d 1059, 1063 (9th Cir. 1985) (rejecting relief under the Federal Torts Claim Act, Pub. L. No. 79-601, 60 Stat. 812 (1946), because the Act’s “discretionary function exception” protects the federal government’s policy judgments); Dawson & Madsen, *supra* note 15, at 131 (describing miners’ worker compensation claims from the 1960s as “largely unsuccessful” due in part to the “very low rate of claimant success, limited benefits, and short statutes of limitation”).

⁶⁵ *History of Uranium Mining*, *supra* note 19, at 1416; see also Nate Housley, *The Uranium Boom and Free Enterprise*, UTAH DEPT OF CULTURAL & CMTY. ENGAGEMENT (Jan. 19, 2021), <https://perma.cc/Z68M-VB5N>.

the 1978 Uranium Mill Tailings Radiation Control Act (UMTRCA) and 1990 Radiation Exposure Compensation Act (RECA). Both of these statutes were steps in the right direction by offering a degree of relief to Navajos and others facing the consequences of the uranium industry.⁶⁶ Nevertheless, as this Section makes clear, these two remedial statutes do not go far enough to protect the health and safety of the Navajo and their lands. UMTRCA primarily cleaned up abandoned uranium mills, and RECA primarily offered compensation to radiation victims who worked in the mines; neither cleaned up the old uranium mines. As a result, this Comment argues that advocates could turn to a third statute to draw attention to the problem: CERCLA.

This Section walks through each of the three statutes, detailing some of their shortcomings and previewing how CERCLA uniquely frames the U.S. government's responsibility to clean up uranium mines, unlike the first two statutes.

1. 1978 Uranium Mill Tailings Radiation Control Act.

UMTRCA regulates the disposal and remediation of uranium mill tailings.⁶⁷ Uranium mills extract yellowcake from raw uranium ore collected from mines, and the uneconomical and discarded parts of that ore become hazardous leftover materials known as tailings.⁶⁸ Many of these uranium mills were located on the same sites as uranium mines for convenience.⁶⁹ Title I of UMTRCA mandated federal remediation of tailings at the twenty-two mills that were inactive and abandoned as of 1978.⁷⁰ Title II regulates the licensing of active mills with the intent of leaving remediation to private companies.⁷¹

The Department of Energy (DOE) remediated all initial Title I sites by 1998, though it is currently in the process of remediating one last site added retroactively to Title I and continues to remediate ongoing groundwater contamination across all Title I

⁶⁶ In addition to these two uranium-focused remedies, the Navajo Tribal Council also enacted a ban on uranium mining in 2005 through the Diné Natural Resources Protection Act, 18 N.N.C. §§ 1301–1303.

⁶⁷ John D. Collins, *Reclamation and Groundwater Restoration in the Uranium Milling Industry: An Assessment of UMTRCA, Title II*, 11 J. NAT. RES. & ENVTL. L. 23, 24 (1996).

⁶⁸ *See id.*

⁶⁹ *Id.* at 27.

⁷⁰ *See* Brett T. Bunkall, Note, *The Uranium Mining and Milling Industry in Utah*, 26 J. LAND RES. & ENVTL. L. 375, 381 (2006).

⁷¹ *See* Collins, *supra* note 67, at 37–38.

sites.⁷² The DOE has poured over \$2.3 billion into these Title I remediation efforts.⁷³ For Title II mills that are decommissioned, the DOE administers long-term monitoring and management.⁷⁴

While the federal government took sole responsibility for the cleanup efforts at abandoned and closed uranium mills and has committed to ongoing management, these efforts extend explicitly to only mill sites. As such, UMTRCA does nothing to address contamination from uranium mining operations more broadly.

2. 1990 Radiation Exposure Compensation Act.

In response to growing concerns from the Navajo and others affected by the uranium industry and nuclear weapons testing, Congress passed RECA. RECA provides a one-time, lump-sum amount to certain uranium miners, millers, and ore transporters; individuals who participated onsite in nuclear weapons testing activities; and “downwinders” who were affected by fallout from the nuclear weapons testing.⁷⁵ For uranium miners, in particular, RECA compensates those employed between 1942 and 1971 for at least one year (or who meet certain exposure minimums) and who have been diagnosed with certain diseases such as lung cancer.⁷⁶

⁷² CONG. RSCH. SERV., R45880, LONG-TERM FEDERAL MANAGEMENT OF URANIUM MILL TAILINGS: BACKGROUND AND ISSUES FOR CONGRESS 17–18 (2021).

⁷³ *Id.* at 18.

⁷⁴ *Id.* at 11.

⁷⁵ Dawson & Madsen, *supra* note 15, at 133–34 (stating that RECA grants \$50,000 to downwinders; \$75,000 to onsite participants; and \$100,000 to uranium miners, millers, and ore transporters); *see also* CONG. RSCH. SERV., R43956, THE RADIATION EXPOSURE COMPENSATION ACT (RECA): COMPENSATION RELATED TO EXPOSURE TO RADIATION FROM ATOMIC WEAPONS TESTING AND URANIUM MINING 3 (2022) [hereinafter CONG. RSCH. SERV., RECA] (stating that the Energy Employees Occupational Illness Compensation Program Act, 42 U.S.C. §§ 7384–7385s–16, separately makes RECA’s uranium workers eligible for an additional \$50,000 lump-sum payment as well as medical benefits that cover all medical payments related to the covered diseases).

⁷⁶ CONG. RSCH. SERV., RECA, *supra* note 75, at 10–11. In Congress’s “Findings, Purpose, and Apology,” it acknowledged that

radiation released in underground uranium mines that were providing uranium for the primary use and benefit of the nuclear weapons program of the United States Government exposed miners to large doses of radiation and other airborne hazards . . . [that] produced an increased incidence of lung cancer and respiratory diseases among these miners.

RECA § 2(a)(3), 104 Stat. at 920; *see also* RECA § 2(5), 104 Stat. at 920 (recognizing the eligibility of surface miners, in addition to underground miners). While these findings may seem to imply that only certain mines—those that provided uranium for the United States’ nuclear weapons program—are eligible, RECA effectively covers all uranium mines that operated during the specified time period. *See* CONG. RSCH. SERV., RECA, *supra* note 75, at 10.

As of August 2023, 74.8% of all RECA claims have been approved, totaling 40,895 applicants and over \$2.6 billion in federal aid.⁷⁷

At the same time, the shortcomings of RECA are well-documented, and “many activists find RECA so inadequate as to be insulting, partially because the existence of such a program insinuates historical wrongs have been righted.”⁷⁸ For instance, RECA only covers a limited number of lung-related diseases for those who worked in the mines for a specific period of time,⁷⁹ and it does not cover those workers’ families or others who live in close proximity to the hazardous mines.⁸⁰ Many miners also died before the federal government could even disburse the funds.⁸¹ Moreover, many miners and families have still been unable to satisfy the heavy documentation burdens that RECA requires.⁸² In one case, a New Mexico district court denied RECA compensation because the claimant lacked the formal, decades-old hospital records required to substantiate the specific covered illnesses claimed.⁸³ In that case, the hospital no longer possessed the necessary records documenting visitation or treatment.⁸⁴

In 2022, more than thirty years after RECA was enacted, the Act was scheduled to sunset. However, in response to critiques of RECA’s limited scope, Congress renewed RECA in May 2022 for

⁷⁷ *Radiation Exposure Compensation System Claims to Date Summary of Claims Received by 08/01/2023 All Claims*, U.S. DEPT OF JUST. (Aug. 2, 2023), <https://perma.cc/3PPS-TKDQ>.

⁷⁸ SARA ALISABETH FOX, *DOWNWIND: A PEOPLE’S HISTORY OF THE NUCLEAR WEST* 204 (2014); see also Kylie M. Allen, Note, *Indigenous Nuclear Injuries and the Radiation Exposure Compensation Act (RECA): Reframing Compensation Toward Indigenous-Led Environmental Reparations*, 10 ARIZ. J. ENVTL. L. & POL’Y 264, 273–74 (2020); Smith & Frehner, *supra* note 59, at 10.

⁷⁹ CONG. RSCH. SERV., *RECA*, *supra* note 75, at 10–11. The eligible diseases include lung cancer, pulmonary fibrosis, cor pulmonale related to fibrosis of the lung, silicosis, and pneumoconiosis. *Id.* at 11.

⁸⁰ Allen, *supra* note 78, at 273–74.

⁸¹ Winona LaDuke, *Navajos Ban Uranium Mining*, *EARTH ISLAND J.*, Aug. 23, 2005, at 37.

⁸² Allen, *supra* note 78, at 273–74.

⁸³ *Sandoval v. U.S. Dep’t of Just.*, 2006 WL 8443578, at *5 (D.N.M. Sept. 7, 2006); see also *Espinoza v. U.S. Dep’t of Just.*, 20 F. Supp. 3d 1094, 1097–98, 1102 (D. Colo. 2013) (denying a RECA claim for failure to provide sufficient employment records to substantiate the fifteen-month period claimed).

⁸⁴ *Sandoval*, 2006 WL 8443578, at *1. The court further stated that this outcome was “lamentable” considering that “one could reasonably speculate that [the claimant’s husband] suffered from a compensable illness, having worked in the uranium mines for 19 years where 1 year is sufficient per the RECA.” *Id.* at *5.

two additional years to grant time for activists to reform and expand the compensation package.⁸⁵ Thus, efforts are currently underway to craft a revised RECA statute that offers long-term compensation and expanded eligibility.⁸⁶ Such a statute would be a significant achievement for the Navajo and other radiation victims if passed.

Still, regardless of RECA's future bounds, the statute will likely remain a compensatory scheme. And, critically, compensation is not equivalent to remediation. Even if RECA's eligibility and benefits are maximally broadened, the unremediated uranium sites will continue to devastate the health and land of the Navajo for coming generations if the sites are not cleaned up.

3. 1980 Comprehensive Environmental Response, Compensation, and Liability Act.

Notwithstanding the passage of UMTRCA and RECA, Navajos have continued to experience serious health risks because most of the abandoned uranium mines have yet to be properly cleaned up.⁸⁷ As a result, more recent efforts have turned to CERCLA as a potential avenue for addressing this cleanup. Specifically, in 2007, spurred by community activism and high-profile news reporting about the lack of mine remediation efforts,⁸⁸ the U.S. House of Representatives called on the EPA and other agencies to conduct regular cleanup assessments of the Navajo uranium mines and use CERCLA to seek cleanup funds from the companies responsible for the hazardous waste left at those sites.⁸⁹ At a

⁸⁵ RECA Extension Act of 2022, Pub. L. No. 117-139, 136 Stat. 1258; see also Kelsey Turner, *Senate Approves Radiation Exposure Compensation Act Extension*, NATIVE NEWS ONLINE (May 2, 2022), <https://perma.cc/X9YL-9LMJ>.

⁸⁶ *Navajo Nation, Chapter Officials Meet with Congressional Members to Address Uranium Clean-Up Efforts*, INDIAN GAMING (Aug. 19, 2022), <https://perma.cc/U7YG-HRBZ>.

⁸⁷ Doug Brugge, *Why Has It Taken So Long to Address the Problems Created by Uranium Mining in the Navajo Nation?*, 25 J. ENVTL. & OCCUPATIONAL HEALTH POL'Y 436, 437 (2016) ("[M]ost abandoned mines in the Navajo Nation have not been remediated at a satisfactory level.")

⁸⁸ Notably, journalist Judy Pasternak ran a series in the *Los Angeles Times* beginning in 2006 that drew national attention. See, e.g., Judy Pasternak, *A Peril That Dwelt Among the Navajos*, L.A. TIMES (Nov. 19, 2006), <https://perma.cc/LU3Z-CJHB>.

⁸⁹ Selig, *supra* note 4; see also Tommy Rock, *Navajo Nation, Take Action Now to Stop New Uranium Mining*, NAVAJO TIMES (Feb. 16, 2023), <https://perma.cc/WJ73-WSP6> ("[Rep. Waxman] told several agencies that they needed to work together to clean up the mess that the federal government had made. . . . Rep. Waxman did not stop at one hearing; instead, he held several and kept checking in on the work through additional questioning, even though he changed committees.")

high level, CERCLA's mandate is to promote the "timely cleanup of hazardous waste sites' and to ensure that the costs of such cleanup efforts [are] borne by those responsible for the contamination."⁹⁰

Congress did not design CERCLA with the particular problems of the uranium industry in mind, but it enacted the statute "in response to the serious environmental and health risks posed by industrial pollution."⁹¹ Although a string of hazardous waste incidents had caught the public eye prior to 1978,⁹² the issue of hazardous waste did not firmly capture the national spotlight until the *Niagara Gazette* began publishing articles uncovering the contamination at Love Canal in 1978.⁹³ Love Canal was a neighborhood in Niagara Falls, New York, that was built over a toxic dump site. Highly toxic chemicals leached into Love Canal homes and the local school grounds,⁹⁴ spawning noxious fumes, burning children, and precipitating a wave of birth defects and miscarriages.⁹⁵ With the hazardous waste issue at the front of the nation's conscience, CERCLA was born.

CERCLA has two primary means of achieving the cleanup of hazardous sites. First, under its cost recovery mechanism, CERCLA holds certain actors, such as companies who owned and operated mines, strictly liable for hazardous waste contamination and requires them to finance timely cleanup efforts.⁹⁶ CERCLA liability is joint, several, and retroactive—meaning that any one actor can be held wholly accountable for the release of hazardous substances even if multiple actors were responsible and even if

⁹⁰ *Burlington N. & Santa Fe Ry. Co. v. United States*, 556 U.S. 599, 602 (2009) (quoting *Consol. Edison Co. of N.Y., Inc. v. UGI Utils., Inc.*, 423 F.3d 90, 94 (2d Cir. 2005)).

⁹¹ *Id.* (describing the legislative purpose of CERCLA).

⁹² S. REP. NO. 96-848, at 7–8 (1980).

⁹³ See, e.g., Michael H. Brown, *Love Canal and the Poisoning of America*, ATLANTIC (Dec. 1979), <https://perma.cc/NC9A-9DWV>. See also generally RICHARD S. NEWMAN, LOVE CANAL: A TOXIC HISTORY FROM COLONIAL TIMES TO THE PRESENT (2016) (providing a historical account of the Love Canal disaster).

⁹⁴ NEWMAN, *supra* note 93, at 103–07.

⁹⁵ See generally Anthony Depalma, *Love Canal Declared Clean, Ending Toxic Horror*, N.Y. TIMES (Mar. 18, 2004), <https://www.nytimes.com/2004/03/18/nyregion/love-canal-declared-clean-ending-toxic-horror.html>; see also *Time Bomb in Love Canal*, N.Y. TIMES (Aug. 5, 1978), <https://perma.cc/57JC-X8SE>.

⁹⁶ Kiersten E. Holms, Note, *This Land Is Your Land, This Land Is Mined Land: Expanding Governmental Ownership Liability Under CERCLA*, 76 WASH. & LEE L. REV. 1013, 1019–20 (2019).

the release occurred before the Act's enactment.⁹⁷ Congress established this exceptionally sweeping liability to redress hazardous contamination of all sorts and effectively deter future contamination. Because the language and mandate of the statute are so broad, especially in comparison to UMCTRA and RECA, it is an ambitious tool for addressing hazardous waste contamination.

If any of the companies once associated with a site either cannot be identified, have gone out of business, or otherwise lack the capital to finance remediation (orphaned sites), CERCLA provides a secondary remedy via the "National Priorities List" (NPL). Through this process, the EPA first scores potentially hazardous sites according to a "Hazardous Ranking System," which assesses site characteristics such as the degree of water, soil, and air contamination.⁹⁸ Sites that meet a certain points threshold then become eligible for inclusion on the NPL, at the EPA's discretion.⁹⁹ The EPA can then, by its own initiative, remediate sites on the list—the costs of which are paid out of a designated fund (or "Superfund") under CERCLA.¹⁰⁰ Currently, more than 1,300 orphaned hazardous sites are listed on the NPL.¹⁰¹

While these two courses of action under CERCLA can be powerful, they have their limits. For instance, CERCLA's cost recovery mechanism has traditionally targeted private companies, but sometimes it is not possible to recover from these responsible companies. In fact, most of the abandoned uranium mines scattered throughout Navajo lands are orphaned sites, where private cost recovery is not possible. As of April 2023, the most recent data

⁹⁷ *Superfund Liability*, U.S. ENVTL. PROT. AGENCY (last updated July 25, 2022), <https://perma.cc/7LMF-CXJK>.

⁹⁸ U.S. ENVTL. PROT. AGENCY, HAZARD RANKING SYSTEM GUIDANCE MANUAL 1–2 (1992).

⁹⁹ *Id.* at 2 (requiring a score of 28.5 points out of 100). In addition to the EPA's scoring system, each state may also add one site to the NPL under CERCLA. 42 U.S.C. § 9605(a)(8)(B). Tribes are not afforded this same power, however. 42 U.S.C. § 9626(a) (stating tribes shall be afforded "substantially the same treatment" as states with respect to certain CERCLA provisions, except "not including the provision regarding the inclusion of at least one facility per State on the National Priorities List").

¹⁰⁰ See Cody Phillips, Comment, *What's Mine Is Yours: An Analysis of the Federal Laws Used to Compensate the Navajo Nation and Remediate Abandoned Uranium Mines and Mills on the Reservation*, 32 COLO. NAT. RES. ENERGY & ENVTL. L. REV. 75, 96–98 (2021).

¹⁰¹ *Superfund: National Priorities List (NPL)*, U.S. ENVTL. PROT. AGENCY (last updated June 27, 2023), <https://perma.cc/67QH-S9M2>.

shows that 293 of the 523 abandoned mines have not secured remediation funding.¹⁰² Moreover, even sites where private companies have already agreed to provide financing have yet to be remediated.¹⁰³

Regarding the usefulness of the EPA's National Priorities List, none of the abandoned Navajo uranium mines are currently on the NPL.¹⁰⁴ This absence is due in part to the technicalities of the NPL's scoring system. For example, the system deprioritizes areas with lower population density, which is characteristic of the rural Navajo landscape.¹⁰⁵ It is also partly a product of EPA discretion; even when sites score "very high" on the ranking system, the EPA can decline to include them on the NPL—as the EPA has previously done with Navajo uranium sites.¹⁰⁶ In any case, the

¹⁰² Arlyssa D. Becenti, *Navajo Residents Say They Won't Let the Government Forget About Poisoned Uranium Mines*, AZ CENT. (July 22, 2022), <https://perma.cc/M4R3-VUNP>; see also Selig, *supra* note 4 ("Most local authorities, private experts and activists agree that since 1994, when the EPA started to address the issue, cleanup efforts for hundreds of uranium mining sites have been slow."); *Uranium Mining: Contamination and Criticality: Hearing Before the Subcommittee on Energy and Mineral Resources*, 116th Cong. 5 (2019) (testimony of Jonathan Nez, former Navajo Nation President, and Myron Lizer, former Navajo Nation Vice President) ("Settlements and agreements were [] entered into with responsible parties to assess and cleanup abandoned uranium mines (e.g., Tronox), however no private responsible party has been identified to pay for cleanup of the remaining 304 abandoned uranium mines.").

¹⁰³ Marjorie Childress, *Cleanup of Abandoned Uranium Mines Creates a Demand for Workers*, HIGH COUNTRY NEWS (Apr. 8, 2022), <https://perma.cc/LRN9-H2QK>.

¹⁰⁴ Zayna Syed, *Infrastructure Law Funds Superfund Cleanups, but Not Uranium Mines on Indigenous Lands*, AZ CENT. (July 21, 2022), <https://perma.cc/2YEE-NMXG>; see also U.S. GOV'T ACCOUNTABILITY OFF., URANIUM CONTAMINATION: OVERALL SCOPE, TIME FRAME, AND COST INFORMATION IS NEEDED FOR CONTAMINATION CLEANUP ON THE NAVAJO RESERVATION 18 (2014). To its credit, the U.S. EPA recently proposed to list a Navajo uranium mine on the NPL in March 2023, but this action is not yet final and came only after continued pressure from the Navajo Nation. Ryan Heinsius, *Abandoned Uranium Mining Site on Navajo Nation Added to EPA Superfund Priorities List*, KNAU (Mar. 30, 2023), <https://perma.cc/G8ZH-3NAK>.

¹⁰⁵ Syed, *supra* note 104. While the EPA issued a 2007 guidance document improving the sensitivity of the Hazardous Ranking System to tribal circumstances and ways of living, it has declined to adopt recommendations from tribes regarding updating the population-centered metrics. See U.S. ENVTL. PROT. AGENCY, TRANSMITTAL OF AMENDMENTS TO SUPERFUND HAZARD RANKING SYSTEM GUIDANCE INCORPORATING NATIVE AMERICAN TRADITIONAL LIFEWAYS 2 (2007) ("Addressing [tribal concerns about small and/or rural tribal populations] would require a regulatory change to the HRS, which is beyond the scope of this guidance.").

¹⁰⁶ See *Uranium Mine Waste on the Navajo Reservation: Hearing Before the Subcommittee on Oversight and Investigations and the Subcommittee on Native Americans Affairs*, 103d Cong. 9 (1993) (statement of Sadie Hoskie, Dir. of the Navajo Env'tl. Prot. Admin. (now, N.N. EPA)) (describing several mine sites that scored "very high" on the hazardous ranking system, but where the U.S. EPA concluded the sites "do not need to be listed" on the NPL).

NPL has waned in importance over the decades as Congress has cut down the Superfund budget.¹⁰⁷

Although the EPA moved to add the Navajo uranium sites to a separate “Administrator’s Emphasis List” in 2020 in lieu of the NPL¹⁰⁸ and agreed to work with the Navajo to develop five- and ten-year cleanup plans beginning in 2008,¹⁰⁹ the overall record shows that the EPA has continued to drag its feet.¹¹⁰ And this is to say nothing of the fact that the pace for all of these remediation efforts will remain dependent on each administration’s priorities.¹¹¹

The Navajo have not been quiet about the EPA’s failures to remediate the uranium mines. Dariel Yazzie, who supervises the Navajo Nation’s own CERCLA program through its Navajo Nation Environmental Protection Agency (N.N. EPA), was quoted in 2021 stating, “when we look at the big picture of how the government is working with the Navajo Nation communities, they’re not. They’re failing. They’re not listening. . . . What we don’t have

¹⁰⁷ See JILLIAN GORDNER, FUNDING THE FUTURE OF SUPERFUND: ADDRESSING DECADES OF SLOWING TOXIC WASTE CLEANUP, U.S. PIRG EDUC. FUND & ENV’T AM. RSCH. & POL’Y CTR. 17–20 (2021). For example, the number of NPL cleanup actions commenced annually dropped from ninety-one in 1999 to only fourteen in 2021, creating a significant backlog. *Id.* at 3. The 2021 Bipartisan Infrastructure Bill has attempted to clear some of this backlog and respond to years of budget shortfalls by appropriating \$3.5 billion to Superfund. Although the appropriations themselves will be broken into several tranches, the bill was only a one-time appropriation. See Valarie Volcovici, *U.S. EPA Announces \$1 Billion for New Hazardous Waste Cleanups*, REUTERS (Feb. 10, 2023), <https://perma.cc/7RB8-TL68> (describing the EPA’s 2022 announcement to distribute \$1 billion from the total appropriation package, and noting that the EPA commenced eighty-one new cleanups in 2022).

¹⁰⁸ *EPA Releases Eighth Update to the Administrator’s Superfund Emphasis List, Navajo Abandoned Uranium Mines Added*, U.S. ENVTL. PROT. AGENCY (Apr. 15, 2020), <https://perma.cc/3VXX-F4K3>.

¹⁰⁹ *Federal Plans: Related Documents*, U.S. ENVTL. PROT. AGENCY (last updated Jan. 11, 2023), <https://perma.cc/HT8F-LYL4>.

¹¹⁰ See Eli Cahan, “We’re Losing Our People”: COVID-19 Ravaged Indigenous Tribes in New Mexico. State and Federal Data Reveal How a Long Legacy of Uranium Exposure May Have Made Them Uniquely Vulnerable., NAVAJO TIMES (Sept. 5, 2022), <https://perma.cc/64V4-JL2X>; see also Childress, *supra* note 103 (“[UNC Church Rock mine is] the only one of 523 abandoned mines on or within a mile of the Navajo Nation nearing the beginning of cleanup But that cleanup plan is controversial. . . . The plan doesn’t reflect the wishes of the Navajo Nation.”); Becenti, *supra* note 102 (“As the federal government continues to delay the cleanup of these uranium mines, residents fear officials want to wait and hope the Navajo Nation and its people will forget the 40 years of uranium mining.”).

¹¹¹ In 2017, for example, President Donald Trump’s administration proposed a 30% cut to tribal environmental protection grants, a 30% cut to the Superfund program, and a 20% cut to EPA staffing. Autumn Spanne, *Uranium Pervades Homes on and near Navajo Nation: EPA Budget Cuts Threaten to Slow a Long-Overdue Cleanup*, HIGH COUNTRY NEWS (Aug. 27, 2017), <https://perma.cc/JX8W-KRKX>.

is the direct funding.”¹¹² In February 2023, Tommy Rock, member of the Diné Uranium Remediation Advisory Commission, wrote in the *Navajo Times*:

I have seen the same PowerPoint presentation from the [U.S. EPA] since 2007. The only thing that changed was the person doing the presentation. Don’t get me started on how exhausted our people have become in making numerous emotionally exhausted testimonies before the U.S. EPA and the Nuclear Regulatory Commission, to no effect. . . . Not only has it been a constant fight to get the federal government to act on cleanup, but it has also been a feat to get them to complete it satisfactorily.¹¹³

These frustrations speak to the need for heightened scrutiny of the government’s role and other solutions beyond private company cost recovery, the NPL, and the “Emphasis List.” Part II of this Comment begins down this path. In short, while CERCLA cost recovery actions against *private companies* have not alleviated the orphaned-mines problem, long-overdue recovery through the *federal government* could lessen it.

II. THE U.S. GOVERNMENT’S CERCLA LIABILITY

CERCLA can be central to addressing the problem of orphaned uranium mines on the Navajo Nation. As detailed below, the federal government is liable under CERCLA for the hazardous uranium waste on the Navajo Nation and should take primary responsibility for the cleanup costs of orphaned mines as a result. Part II.A sketches out in greater depth CERCLA’s basic functions to lay the groundwork for Part II.B, where the argument for the U.S. government’s CERCLA liability is presented in full.

A. The Mechanics of CERCLA

For the purposes of this Comment, CERCLA has seven basic tenets: (1) it applies to the actual or threatened “release” of a

¹¹² Calvert, *supra* note 13.

¹¹³ Rock, *supra* note 89. Rock is a member of the Navajo Nation and has testified in hearings before Congress on the issue of uranium mining, including before the Subcommittee on Energy and Mineral Resources. See, e.g., *Uranium Mining: Contamination and Criticality: Hearing Before the Subcommittee on Energy and Mineral Resources*, 116th Cong. (2019) (statement of Tommy Rock, Appointee to Diné Uranium Remediation Advisory Comm’n).

“hazardous substance” at a facility;¹¹⁴ (2) it defines four types of Potentially Responsible Parties (PRPs), or actors that can be held liable under CERCLA for these releases;¹¹⁵ (3) it employs a strict liability regime;¹¹⁶ (4) this strict liability can be joint and several, though courts may also apportion the costs of remediation among multiple parties;¹¹⁷ (5) the liability is retroactive, meaning it attaches to instances of hazardous waste contamination prior to CERCLA’s enactment;¹¹⁸ (6) a party that voluntarily incurs cleanup costs may seek cost recovery from PRPs,¹¹⁹ and, on the flip side, a PRP can be ordered to commence a cleanup action;¹²⁰ and (7) governmental entities can be held liable under CERCLA,¹²¹ and the federal government waives sovereign immunity.¹²²

First, CERCLA’s remedial scheme targets actual or threatened “release[s]” of “hazardous substances[s].”¹²³ A release can occur through a broad range of possibilities, including accidental or purposeful spilling, leaking, discharging, dumping, and disposing.¹²⁴ A hazardous substance is defined through the incorporation of several other statutes and their definitions of hazardous substances.¹²⁵ For example, any hazardous air pollutant listed under § 112 of the Clean Air Act¹²⁶ is a hazardous substance under CERCLA.¹²⁷ While CERCLA contains certain carveouts for nuclear materials,¹²⁸ radioactive materials that are disposed at or

¹¹⁴ 42 U.S.C. § 9601(24).

¹¹⁵ 42 U.S.C. § 9607(a).

¹¹⁶ 42 U.S.C. § 9607(a) (stating that any PRP “shall be liable for” all cleanup costs); see also *United States v. Monsanto Co.*, 858 F.2d 160, 167 (4th Cir. 1988).

¹¹⁷ See, e.g., *O’Neil v. Picillo*, 883 F.2d 176, 178–79 (1st Cir. 1989); *Monsanto*, 858 F.2d at 171–72.

¹¹⁸ *Monsanto*, 858 F.2d at 174.

¹¹⁹ 42 U.S.C. § 9607(a)(4)(B).

¹²⁰ 42 U.S.C. § 9606(a).

¹²¹ CONG. RSCH. SERV., IF11790, LIABILITY UNDER THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) 1 (2021) [hereinafter CONG. RSCH. SERV., CERCLA].

¹²² Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. No. 99-499, § 120(a)(1), 100 Stat. 1666 (codified as amended at 42 U.S.C. § 9620(a)(1)).

¹²³ 42 U.S.C. § 9601(24).

¹²⁴ 42 U.S.C. § 9601(22).

¹²⁵ 42 U.S.C. § 9601(14).

¹²⁶ 42 U.S.C. § 7412.

¹²⁷ 42 U.S.C. § 9601(14)(E).

¹²⁸ CERCLA technically excludes from the definition of release “any release of source, byproduct, or special nuclear material from a nuclear incident” that is subject to certain financial protections by the Nuclear Regulatory Commission. 42 U.S.C. § 9601(22)(C). The

leaked from uranium mines may count generally as releases of hazardous substances.¹²⁹

Second, CERCLA defines four types of PRPs that can be held liable under CERCLA because they possess a threshold level of oversight over the hazardous waste disposal process. An actor can be held liable as a PRP if it qualifies as one of the following: (1) a current facility owner and operator, (2) a past facility owner and operator who owned and operated the facility while the disposal of hazardous substances was occurring, (3) a generator or arranger of hazardous substances disposal or transport, or (4) a transporter of hazardous substances that selected the site to which the hazardous substances were transported.¹³⁰ Because Congress framed the PRP definitions broadly, courts have likewise interpreted them “so broadly as to sweep in virtually all persons likely to incur cleanup costs.”¹³¹

statute also excludes “federally permitted releases” from liability, which include “any release of source, special nuclear, or byproduct material . . . in compliance with a legally enforceable license, permit, regulation, or order issued pursuant to the Atomic Energy Act of 1954.” 42 U.S.C. § 9601(10)(K).

¹²⁹ While CERCLA’s nuclear exceptions may seem strong, courts have not necessarily found them to be so. As an initial matter, radioactive material is designated as a “hazardous substance” under CERCLA. *T & E Indus., Inc. v. Safety Light Corp.*, 680 F. Supp. 696, 709 (D.N.J. 1988). With respect to waste from uranium mines in particular, courts have found such waste subject to liability under CERCLA. *See, e.g.*, *United States v. United Nuclear Corp.*, 814 F. Supp. 1552, 1558 (D.N.M. 1992) (“[T]he [uranium] mine tailings contain various substances, some in trace amounts, which have been designated as hazardous substances for purposes of CERCLA.”); *El Paso Nat. Gas Co. v. United States*, 390 F. Supp. 3d 1025, 1040 (D. Ariz. 2019) (showcasing how the EPA has previously identified and sued parties for the hazardous waste associated with “abandoned uranium mine[s]”); *Pennsylvania v. Lockheed Martin Corp.*, 684 F. Supp. 2d 564, 573 (M.D. Pa. 2010) (“CERCLA cost recovery actions are permitted for the clean-up of [Nuclear Regulatory Commission] decommissioned sites so long as the actions otherwise meet the requirement for cost recovery imposed by CERCLA.”).

In the past, courts have helped justify these decisions by turning to legislative history showcasing that legislators intended CERCLA to cover such waste. *See, e.g.*, *Lockheed Martin*, 684 F. Supp. 2d at 572–73 (recalling a key congressional debate that confirmed “wastes at radium sites that have been abandoned by companies whose radium mining . . . produced [] wastes” are “eligible for funding and remedial action” as long as the waste does not “come within [the limited financial protections of] § 170 of the Atomic Energy Act). Courts have also previously rejected the “federally permitted release” defense, finding that radioactive material from mines that leaches into “places that it was never intended to be” can still attach liability. *Id.* at 583; *United Nuclear Corp.*, 814 F. Supp. at 1564 (“Based on this Court’s evaluation of the [] license, it is clear that [the state regulatory body] knew of the seepage problem, but in no way authorized it to occur.”).

¹³⁰ 42 U.S.C. § 9607(a).

¹³¹ *United States v. Atl. Rsch. Corp.*, 551 U.S. 128, 136 (2007). And, in line with CERCLA’s broad liability, there are only three defenses under which an otherwise liable PRP may escape liability: (1) act of God defense, (2) act of war defense, and (3) third-party defense. 42 U.S.C. § 9607(b). In other words, CERCLA does not hold actors liable if the

Third, CERCLA imposes strict liability.¹³² As a result, a party that qualifies as a PRP is liable for any contamination that occurs even if the party did not itself cause the contamination.¹³³ No further causation analysis is needed. For example, a court could hold the current owner of a facility strictly liable for the costs of cleaning up hazardous waste generated under only a prior owner.

Fourth, while the cost of remediation can be apportioned among multiple parties, CERCLA liability can also be joint and several—meaning that any one actor can potentially be held wholly accountable for the release of hazardous substances even if multiple actors are responsible.¹³⁴ In other words, even if a court identifies both a PRP that owned a hazardous waste facility and another PRP that transported the waste, the court could choose to hold either PRP liable for all of the cleanup costs associated with the waste. Under this joint-and-several scheme, courts have frequently imposed joint and several liability against unsuccessful defendants,¹³⁵ and this broad liability is a powerful force that often incentivizes companies to settle.¹³⁶ In fact, the EPA resolves a vast majority of the CERCLA challenges it brings via settlement. Typically, a private entity or the EPA will bring suit directly against a “deep-pocketed” company,¹³⁷ which then has the option after an adverse judgment or settlement agreement to sue

hazardous contamination was caused by an act of God (e.g., a natural disaster), an act of war (e.g., a wartime bombing on a facility), or a third party that has not contracted directly or indirectly with the PRP and whose acts or omissions the PRP reasonably took precautions against (e.g., unforeseeable accidents caused by a third party). Although the act of war defense might seem to apply to the uranium mines on Navajo lands because the uranium was produced for the U.S. government’s wartime nuclear weapons program, courts construe the phrase too narrowly for this to be the case. Where there is no actual use of force by an actor that directly causes the contamination, and where other disposal methods could have been used but were simply forgone, there is no act of war. *See United States v. Shell Oil Co.*, 294 F.3d 1045, 1061–62 (9th Cir. 2002) (“[T]he argument that any governmental act taken by authority of the War Powers Clause is an ‘act of war’ sweeps too broadly. To take but one example, we have been unable to discover any case in which wartime price controls have been held to be ‘acts of war.’”).

¹³² *See, e.g., Monsanto*, 858 F.2d at 167 (“We agree with the overwhelming body of precedent that has interpreted section 107(a) as establishing a strict liability scheme.”).

¹³³ *See, e.g., United States v. Alcan Aluminum Corp.*, 315 F.3d 179, 184 (2d Cir. 2002); *Atl. Rsch. Corp.*, 551 U.S. at 136–37.

¹³⁴ *See, e.g., O’Neil*, 883 F.2d at 178–79; *Monsanto*, 858 F.2d at 171–72.

¹³⁵ *See* Aaron Gershonowitz, *Joint and Several Liability in Superfund Actions: When Is Environmental Harm Divisible? PRPs Who Want to Be Cows*, 14 *FORDHAM ENVTL. L. REV.* 207, 210 (2002).

¹³⁶ *See* Phillips, *supra* note 100, at 98.

¹³⁷ Richard K. Harper & Stephen C. Adams, *CERCLA and Deep Pockets: Market Response to the Superfund Program*, 14 *CONTEMP. ECON. POL’Y* 107, 115 (1996).

other PRPs for contribution toward the cleanup costs under § 113(f) of CERCLA.¹³⁸

Fifth, CERCLA's liability is retroactive and, thus, hazardous waste released prior to CERCLA's 1980 enactment is still subject to the Act.¹³⁹ Even if certain hazardous waste disposal practices were not illegal prior to CERCLA's 1980 enactment, courts have justified retroactive liability by finding that "it was certainly foreseeable at the time that improper disposal could cause enormous damage to the environment."¹⁴⁰

Sixth, there are a number of ways in which a PRP may be forced to either remediate a site or pay for the remediation of a site. Under § 107(a), a non-PRP can voluntarily clean up a contaminated site and recover the associated costs from PRPs through a cost-recovery action.¹⁴¹ Separately, the EPA may under § 106(a) order a PRP to clean up a contaminated site if there is an "imminent and substantial endangerment" to the public health, welfare, or environment.¹⁴² As mentioned briefly above, a PRP ordered to remediate a site may, however, pursue a contribution action against any other PRP under § 113(f)¹⁴³ in order to equitably share the costs of the remediation.¹⁴⁴ Notably, and as Part III will further discuss, these available causes of action exclude the right

¹³⁸ 42 U.S.C. § 9613(f).

¹³⁹ See, e.g., *Monsanto*, 858 F.2d at 174.

¹⁴⁰ *Id.*

¹⁴¹ 42 U.S.C. § 9607(a)(4)(B). The EPA may also initiate a remediation action under § 104, 42 U.S.C. § 9604, and then sue PRPs for cost recovery under § 107(a), 42 U.S.C. § 9607(a).

¹⁴² 42 U.S.C. § 9606(a). Noncompliance with an administrative order is an offense enforceable in court, with the potential for fines and punitive damages. 42 U.S.C. § 9606(b); 42 U.S.C. § 9607(c)(3).

¹⁴³ 42 U.S.C. § 9613(f)(1).

¹⁴⁴ As a general matter regarding § 107 cost recovery actions and § 113(f) contribution actions, responsible parties cannot altogether nullify their CERCLA liability, but they may enforce indemnification agreements against one another under § 107(e) to shift their ultimate financial burdens. See, e.g., *Peoples Gas Light & Coke Co. v. Beazer E., Inc.*, 802 F.3d 876, 880 (7th Cir. 2015). Responsible parties can even rely on indemnification agreements to shift their financial responsibilities to the U.S. government. See *E.I. Du Pont de Nemours & Co. v. United States*, 365 F.3d 1367, 1380 (Fed. Cir. 2004) (holding the federal government responsible for cleanup costs due to its pre-CERCLA agreement to indemnify a private contractor for the wartime production of certain chemicals). See generally Hume Ross, Feature, *WWII-Era Government Contractor Indemnification Clauses Come to the Fore in CERCLA Litigation as Other Grounds to Shift Costs to the Government Narrow*, 2016 GEO. ENVTL. L. REV. ONLINE 1.

of a private citizen to sue the EPA to order a cleanup (where the EPA has not ordered one in the first place).¹⁴⁵

Seventh, the U.S. federal government, along with states and municipalities, can be held liable under CERCLA, just like any nongovernmental entity.¹⁴⁶ The text of CERCLA expressly provides for the possibility of governmental liability. Any “person” who is found to be a Potentially Responsible Party under § 107(a) is liable for cleanup response costs, and § 101(21) defines “person” to include the “United States Government” and states, among other entities.¹⁴⁷ Moreover, as formally codified in the 1986 amendments to CERCLA, the Act abrogates the federal government’s sovereign immunity.¹⁴⁸

Still, while the U.S. government can be liable under CERCLA, there is good reason to believe that tribes are exempt (at least federally recognized tribes, under CERCLA’s definition of “Indian tribes”). At least one district court has held that tribes are exempt altogether from CERCLA because they are not listed in § 101(21), defining which categories of persons can be liable.¹⁴⁹

¹⁴⁵ See Jeffrey M. Gaba, *The Citizen Suit Provision of CERCLA: A Sheep in Wolf’s Clothing*, 43 SW. L.J. 929, 936 (1990).

¹⁴⁶ See CONG. RSCH. SERV., CERCLA, *supra* note 121, at 1.

¹⁴⁷ 42 U.S.C. § 9601(21).

¹⁴⁸ SARA § 120(a)(1), 42 U.S.C. § 9620(a)(1) (“Each department, agency, and instrumentality of the United States . . . shall be subject to, and comply with, this chapter in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity, including liability under [§ 107] of this title.”).

Without diving too deeply into the sovereign immunity provision, the following two paragraphs provide additional background detail. First, there was some early disagreement about whether the waiver of sovereign immunity in § 120(a)(1) applied to only federal facilities since the provision is located within the “Federal [F]acilities” section, but courts have concluded that the heading does not constrain the scope of immunity to only federal facilities. See Steven G. Davison, *Governmental Liability Under CERCLA*, 25 B.C. ENVTL. AFFS. L. REV. 47, 52–54 (1997).

Second, technically, the text of SARA appears to waive the sovereign immunity of both the states *and* the federal government. 42 U.S.C. § 9620(a)(1); *see also* Pennsylvania v. Union Gas Co., 491 U.S. 1, 10 (1989) (interpreting SARA’s sovereign immunity provision as applying to both states and the federal government). But, after SARA’s enactment, the Supreme Court held in *Seminole Tribe v. Florida* that Congress cannot abrogate the sovereign immunity of *states*. 517 U.S. 44, 58–72 (1996); Steven G. Davison, *supra*, at 49. *Seminole Tribe* did not, however, disturb SARA’s abrogation of the *federal government’s* sovereign immunity in § 120(a)(1), which still remains part of the Act. *See, e.g., Shell Oil*, 294 F.3d at 1052 (“*Seminole Tribe* does nothing to cast doubt on the correctness of the Court’s understanding of the meaning of [§ 120(a)(1)].”).

¹⁴⁹ *Pakootas v. Teck Cominco Metals, Ltd.*, 632 F. Supp. 2d 1029, 1032–35 (E.D. Wash. 2009). In *El Paso Natural Gas Co. v. United States*, a District of Arizona court did not address this issue directly, but it did reiterate the proposition from *Pakootas* that tribes are exempt from CERCLA liability. 2017 WL 3492993, at *3 (D. Ariz. Aug. 15, 2017); *see also* Catherine Baker Stetson & Kevin Gover, *CERCLA Liability and Regulation of*

And, to date, no tribe has been held liable under CERCLA. Thus, concerns that the federal government or private parties may in the future weaponize CERCLA against tribes for their uranium involvement are less worrying than one may otherwise think. This fact also strengthens the proposal in Part II.B that, for orphaned sites where no private companies exist to hold liable, the U.S. government—and the U.S. government alone—is liable under CERCLA for uranium mining cleanup costs.

B. The U.S. Government's Liability for Cleanup

This Section argues that the U.S. government is liable under CERCLA for its involvement as an “owner” and “operator” of uranium sites on Navajo lands. While the other two types of PRPs—transporters and arrangers—may be relevant under other facts, they are not discussed further here because they are defined narrowly.¹⁵⁰

As an initial matter, although the definitions of arranger and transporter PRPs are generally well-defined by statute, the definitions of owner and operator are not. CERCLA does not define “owner” or “operator” in any instructive way—instead, it circularly defines each as a party that owns or operates a facility.¹⁵¹

In response to this ambiguity, courts have stepped in to design their own standards, often based on the ordinary meaning of “owner” and “operator.”¹⁵² While some courts may disagree with one another in certain respects, however, courts universally agree

Solid and Hazardous Waste on Indian Lands, 7 NAT. RES. & ENV'T 24, 26 (1993) (noting that tribes enjoy sovereign immunity that is not expressly waived in CERCLA, and noting that SARA specifies that tribes must be treated as states in certain instances, though such incidences do not include liability as a PRP).

¹⁵⁰ For instance, Supreme Court precedent has established that a party that “enter[s] into a transaction for the sole purpose of discarding” hazardous waste is an “arranger” under CERCLA. *Burlington N. & Santa Fe Ry. Co. v. United States*, 556 U.S. 599, 602 (2009) (quoting *Consol. Edison Co. of N.Y., Inc.*, 556 U.S. 599, 609–10 (2009)). The U.S. government may have been less likely to contract solely for the disposal of hazardous waste, however, as opposed to uranium ore procurement more generally.

¹⁵¹ *Holms*, *supra* note 96, at 1026 (citing 42 U.S.C. § 9601(20)(A)) (“CERCLA provides little guidance on the interpretation of the word ‘owner,’ defining an ‘owner’ circularly as ‘any person owning.’”). In *United States v. Bestfoods*, the Supreme Court referred to CERCLA’s operator definition as “useless[.]” 524 U.S. 51, 66 (1998).

¹⁵² *See, e.g., Redwing Carriers, Inc. v. Saraland Apartments*, 94 F.3d 1489, 1498 (11th Cir. 1996) (turning to state law to define the ordinary meaning of “owner” and “operator”); *Am. Premier Underwriters, Inc. v. Gen. Elec. Co.*, 14 F.4th 560, 574–75, 577 (6th Cir. 2021) (stating that the ordinary meaning of “operator” is the “primary question,” and finding it helpful to define an “operator” as a party that had “actual control” over a facility and performed “affirmative acts” in that regard).

that determining whether an actor is a PRP is a fact-intensive inquiry that considers the totality of the circumstances.¹⁵³

This Section proceeds by first presenting the case for owner liability, the strongest case. It then presents the case for operator liability, the inquiry into which is highly fact intensive. Of the four independent PRP categories—(1) current owner or operator, (2) past owner or operator, (3) arranger, and (4) transporter¹⁵⁴—the argument for “owner” liability could fall under either the first or second PRP categories, and the “operator” argument would fall under the second PRP category. It is necessary to demonstrate only one of the four PRP categories in order to attach CERCLA liability to the U.S. government.¹⁵⁵ However, the U.S. government is likely independently liable under each of the first two PRP categories, given its strong property rights and extensive control of the uranium market as well as CERCLA’s broad liability mandate.

The fact that the U.S. government may be liable under both categories strengthens the argument that the government shares a greater (or the greatest) responsibility for remedying the hazardous waste. In CERCLA proceedings, it’s not uncommon for one party to be held liable under multiple PRP categories (for example, both a current/past owner and a current/past operator, both an owner and transporter).¹⁵⁶ In these cases, a party that has multiple routes to liability usually bears a higher proportion of the cleanup costs.¹⁵⁷

1. Owner liability.

a) *Case law defining “owner” liability.* The Supreme Court has not endorsed any particular criteria for determining what

¹⁵³ See, e.g., *Tosco Corp. v. Koch Indus., Inc.*, 216 F.3d 886, 892 (10th Cir. 2000) (“CERCLA liability may be inferred from the totality of the circumstances; it need not be proven by direct evidence.”).

¹⁵⁴ 42 U.S.C. § 9607(a)(1)–(4).

¹⁵⁵ See 42 U.S.C. § 9607(a) (listing four types of PRPs, any one of which “shall be liable” for “all” cleanup costs from the release of a hazardous substance).

¹⁵⁶ See, e.g., *GenCorp, Inc. v. Olin Corp.*, 390 F.3d 433, 442, 449–50 (6th Cir. 2004) (finding both arranger and ownership liability).

¹⁵⁷ When allocating cleanup costs among multiple parties, courts must do so equitably. Therefore, courts typically require parties with greater PRP involvement to pay a larger share of the costs. See, e.g., *Litgo N.J. Inc. v. Comm’r N.J. Dep’t of Env’tl. Prot.*, 725 F.3d 369, 387–88 (3d Cir. 2013). In addition to a party’s degree of involvement, courts have generally considered other equitable factors such as the “amount of the hazardous waste involved,” “degree of toxicity,” and “degree of care exercised.” *Id.* (citing *In re Bell Petroleum Servs., Inc.*, 3 F.3d 889, 899–900 (5th Cir. 1993)).

constitutes an “owner.”¹⁵⁸ As a result, courts are split on how to interpret the term.¹⁵⁹ However, two key propositions have generally emerged in the case law that together amount to the standard that legal title to a facility is sufficient, though not always necessary, to attach “owner” liability.

First, a party holding “bare legal title” to the land on which a facility sits can be held liable as an owner, even without an indication of further control by the landowner. While it is true that some district courts have held that CERCLA ownership requires both legal title to the land and some additional indicia of ownership,¹⁶⁰ most courts have found bare legal title sufficient to attach CERCLA ownership liability.¹⁶¹ For example, the Tenth Circuit in *Chevron Mining Inc. v. United States*¹⁶² relied on ordinary meaning, the purpose and intentional breadth of CERCLA, and prior case law to hold that the federal government’s mere legal title to the land amounted to “owner” liability.¹⁶³ In further articulating

¹⁵⁸ Davison, *supra* note 148, at 77.

¹⁵⁹ Catherine Nampewo, Comment, *CERCLA: Determining Ownership Liability for Possessory Interests in Real Property*, 39 B.C. ENVTL. AFFS. L. REV. E. SUPP. 83, 85 (2012).

¹⁶⁰ See, e.g., *United States v. Friedland*, 152 F. Supp. 2d 1234, 1244, 1246 (D. Colo. 2001); *Castlerock Ests., Inc., v. Est. of Markham*, 871 F. Supp. 360, 366–67 (N.D. Cal. 1994) (“An analysis of ownership requires a determination of whether indicia of ownership over and above bare legal title exist. The test for ‘ownership’ liability under CERCLA, therefore, has become similar to [the] test for ‘operator’ liability under CERCLA.”). In *Castlerock Estates*, the court went on to say that important indicators of ownership include whether the defendant can alienate property and whether the defendant is involved in the “management and operation” of the facility. *Castlerock Ests.*, 871 F. Supp. at 366–67.

¹⁶¹ *City of Phoenix v. Garbage Servs. Co.*, 816 F. Supp. 564, 567–68 (D. Ariz. 1993) (finding that ownership liability attached for a trustee who held bare legal title to a facility in trust but was “not involved at all in the day-to-day administration” of the contaminated site); *United States v. A & N Cleaners & Launderers, Inc.*, 788 F. Supp. 1317, 1332 (S.D.N.Y. 1992) (“[A]n ‘owner’ under CERCLA need not have any control over the disposal activity. Mere ownership of the property on which the release took place is sufficient to impose liability under § 107(a), regardless of any control or lack [of] control over the disposal activities.”); *New York v. Westwood-Squibb Pharm. Co.*, 138 F. Supp. 2d 372, 387 (W.D.N.Y. 2000) (relying on the ordinary meaning of “owner” to find that the term “must extend to those parties holding legal title to property” even if the owner lacks any further degree of control), *overruled on other grounds by Commander Oil Corp. v. Barlo Equip. Corp.*, 215 F.3d 321 (2d Cir. 2000).

¹⁶² 863 F.3d 1261 (10th Cir. 2017).

¹⁶³ *Id.* at 1272–78 (“[The government’s] actions all indicate the government’s continued oversight and involvement in operations [at the site] that produced substantial amounts of hazardous substances. Though such efforts are not at all required for ownership liability, that the United States undertook them here buttresses our conclusion that it was an owner.” (citation omitted)). The Court also relied on its opinion in *Atlantic Research Corp.*, which states that “the statute defines PRPs so broadly as to sweep in virtually all persons likely to incur cleanup costs. . . . [such that] even parties not responsible for contamination may fall within the broad definitions of PRPs.” *Atlantic Rsch. Corp.*, 551 U.S. at 136.

the “bare legal title” theory, the Tenth Circuit pointed out that requiring additional “indicia” of ownership—often defined as some level of managerial control over the site beyond legal title—would functionally collapse the owner and operator definitions, because the operator inquiry focuses exactly on a PRP’s level of managerial control over the facility, as discussed in Part II.B.2.¹⁶⁴

Second, even if a party does not legally hold title to a facility’s property, the party can still be liable under CERCLA. For example, the Second Circuit has applied a five-prong test¹⁶⁵ to determine that a lessee had the “requisite degree of control over the property” such that it was a de facto owner, even if not the owner by title.¹⁶⁶ Other courts agree; the Ninth Circuit relies on the common law definition of “owner,”¹⁶⁷ and other courts—such as one South Carolina district court—prioritize degree of “control” over the site in its definition of owner.¹⁶⁸

While both of these propositions are important to ownership liability, the first proposition is most applicable to the U.S. government’s liability for uranium mining in the Navajo Nation. While the “bare legal title” theory has floated through several district courts, the 2017 *Chevron Mining* case presents the first example of a circuit court addressing the theory. Given that the Tenth Circuit (along with a number of lower courts across the country) has endorsed the “bare legal title” theory, the Tenth Circuit appears poised to set the standard for other circuits. Moreover, because Navajo lands sit at the intersection of the Ninth and Tenth Circuits, *Chevron Mining* is immediately relevant to the uranium sites on their lands. Thus, the recent momentum around the “bare legal title” theory has opened a new path toward U.S. governmental liability under the ownership PRP standard.

b) Applying the law to Navajo uranium mines. In applying the “bare legal title” theory, it is helpful to begin with the fact that the U.S. government holds legal title to Navajo Nation lands and

¹⁶⁴ *Chevron Mining*, 863 F.3d at 1275–76.

¹⁶⁵ *Commander Oil*, 215 F.3d at 330–31.

¹⁶⁶ *Id.* at 326 (“[C]ourts have interpreted the term ‘owner’ to extend beyond the fee or record owner to anyone possessing the requisite degree of control over the property.”).

¹⁶⁷ *City of Los Angeles v. San Pedro Boat Works*, 635 F.3d 440, 444, 448 (9th Cir. 2011); see also *Long Beach Unified Sch. Dist. v. Dorothy B. Godwin Cal. Living Tr.*, 32 F.3d 1364, 1368 (9th Cir. 1994) (quoting *Edward Hines Lumber Co. v. Vulcan Materials Co.*, 861 F.2d 155, 156 (7th Cir. 1988)) (finding that the circularity of “owner” in the statute “strongly implies” that courts should adopt the ordinary meaning of the term under common law).

¹⁶⁸ *United States v. S.C. Recycling & Disposal, Inc.*, 653 F. Supp. 984, 1003 (D.S.C. 1984), *aff’d in part, vac’d in part sub nom., Monsanto*, 858 F.2d 160.

natural resources in trust for the benefit of the Navajo Nation.¹⁶⁹ Whenever private companies leased Navajo lands to build their uranium facilities, they thus leased lands to which the U.S. government held clear title under law. It appears relatively straightforward then that, as the legal title holder of the uranium land, the federal government is liable as an owner under CERCLA's strict liability regime.

Indeed, one unreported District of Arizona opinion, borrowing heavily from *Chevron Mining*, has already held that the United States is liable as an owner under CERCLA for nineteen uranium mines on Navajo lands.¹⁷⁰ In that case, *El Paso Natural Gas Co. v. United States*,¹⁷¹ a private company that was previously found liable as a PRP, sought contribution from the United States for the remediation costs with which the company was saddled.¹⁷² The Arizona district court agreed with *Chevron Mining* that the ordinary meaning of ownership—which includes bare legal title—along with Congress's intentionally sweeping strict liability and PRP language justified holding the federal government liable as an owner.¹⁷³ Describing the language of CERCLA, the *El Paso* court found that the statute “casts the liability net broadly, capturing virtually everyone connected with the property or the contamination.”¹⁷⁴

While the *Chevron Mining* and *El Paso* cases were brought by private companies that were already found liable as PRPs and simply seeking contribution from other PRPs, the results of these contribution suits clarify that the federal government's potential liability should not be ignored. Currently, there are hundreds of orphaned mines scattered across Navajo lands, with no clear owner other than, potentially, the U.S. government. These unremediated mines have largely sat dormant for decades, but they are ripe for government-sponsored remediation if a plaintiff can successfully demonstrate the U.S. government's CERCLA ownership under the recently strengthened “bare legal title” theory.

¹⁶⁹ *Navajo Tribe of Indians v. United States*, 9 Cl. Ct. 227, 231–32 (1985).

¹⁷⁰ *El Paso*, 2017 WL 3492993, at *2, *5 (D. Ariz. Aug. 15, 2017) (“Because the United States holds legal title to the Mine Sites, it is the owner of the Mine Sites under the ordinary meaning of ‘owner.’”).

¹⁷¹ 2017 WL 3492993 (D. Ariz. Aug. 15, 2017).

¹⁷² *Id.* at *1.

¹⁷³ *Id.* at *1–3.

¹⁷⁴ *Id.* at *2; see also *Bestfoods*, 524 U.S. at 56 n.1 (“[E]veryone who is potentially responsible for hazardous-waste contamination may be forced to contribute to the costs of cleanup.” (emphasis in original) (quoting *Union Gas Co.*, 491 U.S. at 7)).

2. Operator liability.

a) *Case law defining “operator” liability.* Despite not directly owning a facility or incurring owner liability, an entity can be held liable as an “operator” under CERCLA if it “manage[s], direct[s], or conduct[s] operations specifically related to pollution,” meaning operations relating to the “leakage or disposal of hazardous waste” or “decisions about compliance with environmental regulations.”¹⁷⁵ The Supreme Court clarified this standard in *United States v. Bestfoods*,¹⁷⁶ which is where this Section begins. After discussing the Court’s *Bestfoods* reasoning, this Section then delves into other case law to further refine the “operator” standard, and it ends with a discussion of cases with facts analogous to the uranium mines at hand.

In *Bestfoods*, the federal government sued a parent corporation under CERCLA for the remediation costs of a chemical plant from one of its subsidiary companies.¹⁷⁷ The circuits had previously split on the question of whether a parent company could be held liable under CERCLA as an “operator” for a facility under the control of one of its subsidiaries,¹⁷⁸ and the Supreme Court resolved the split in the affirmative: a parent company can be liable as an “operator” for its subsidiary (once the corporate veil is pierced).¹⁷⁹ Based on the plain meaning of the term “operator” in the organizational context, the Court concluded that a company (or any entity) is an “operator” if it “directs the workings of, manages, or conducts the affairs of a facility.”¹⁸⁰ The Court reasoned that operation under CERCLA must mean “more than mere mechanical activation of pumps and valves, and must be read to contemplate ‘operation’ as including the exercise of direction over the facility’s activities.”¹⁸¹ The Court further specified: “[A]n operator must manage, direct, or conduct operations specifically related to pollution, that is, operations having to do with the leakage or disposal of hazardous waste, or decisions about compliance with environmental regulations.”¹⁸² Importantly, the question of operator liability is an inquiry into the specific relationship between the

¹⁷⁵ *Bestfoods*, 524 U.S. at 66–67.

¹⁷⁶ 524 U.S. 51 (1998).

¹⁷⁷ *Id.* at 55.

¹⁷⁸ *Id.* at 60.

¹⁷⁹ *Id.* at 63–64.

¹⁸⁰ *Id.* at 66.

¹⁸¹ *Bestfoods*, 524 U.S. at 71.

¹⁸² *Id.* at 66–67.

company in question (here, the parent company) and the facility itself, not between the parent company and the subsidiary generally.¹⁸³ In other words, to be held liable as an operator, a PRP must have a certain degree of direct control over the facility beyond merely a relationship with the entity that is directly controlling the facility.

In sharpening this *Bestfoods* standard, two additional points are instructive. First, even if the U.S. government does not directly enter into a contract with a facility and instead merely regulates a facility's behaviors, operator liability can still attach to the government if the regulation is sufficiently intense. In *FMC Corp. v. U.S. Department of Commerce*,¹⁸⁴ the dissent characterized the federal government's activity as purely "regulatory" in part because the government imposed certain regulations on, but did not directly purchase from, the facility in question—which produced rayon, a rubber substitute.¹⁸⁵ Rather than possessing a direct contract with the U.S. government, the rayon facility first sold its rayon to a separate company (for tire production) before the rayon made its way into the U.S. government's World War II vehicles.¹⁸⁶ Under these facts and in contrast to the dissent, the en banc Third Circuit reasoned that operator liability applies to the U.S. government as long as it possesses substantial actual control of the facility. The court then held the United States liable as an operator, finding it sufficient that the U.S. government "determined what product the facility would produce, the level of production, the price of the product, and to whom the product would be sold."¹⁸⁷

Second, the operator standard requires affirmative acts on the part of the PRP. Per the Sixth Circuit in *United States v. Township of Brighton*,¹⁸⁸ an operator must perform specific affirmative acts (rather than merely acts of omission),¹⁸⁹ and neither the mere *ability* to control¹⁹⁰ nor the mere *ability* to

¹⁸³ *Id.* at 67–68; see also *MRP Properties Co. v. United States*, 583 F. Supp. 3d 981, 992, 996 (E.D. Mich. 2021), *rev'd on other grounds*, 72 F.4th 166 (6th Cir. 2023).

¹⁸⁴ 29 F.3d 833 (3d Cir. 1994) (en banc).

¹⁸⁵ See *id.* at 854 (Sloviter, C.J., dissenting).

¹⁸⁶ See *id.* at 835–36 (majority opinion); see also *id.* at 854 (Sloviter, C.J., dissenting).

¹⁸⁷ *Id.* at 843 (majority opinion).

¹⁸⁸ 153 F.3d 307 (6th Cir. 1998).

¹⁸⁹ *Id.* at 315.

¹⁹⁰ *Id.* at 314 (finding the "actual control" standard instructive, as opposed to the "ability to control" or "authority to control" standards).

regulate¹⁹¹ a facility will amount to operator liability. In 2020, the Third Circuit in *PPG Industries Inc. v. United States*¹⁹² similarly stated that mere formal or general control over a facility is insufficient to attach operator liability.¹⁹³ Instead, relying on *Bestfoods*, the Third Circuit held that operator liability would additionally “require[] some indicia of control over the facility’s polluting activities.”¹⁹⁴

In applying these operator standards to the Navajo uranium mines, the facts of two cases are instructive.¹⁹⁵ Both cases are explained in turn below, before this Section turns to comparing their facts to those of the uranium mines at hand.

The first helpful case here, already mentioned *supra* in this Section, is the Third Circuit’s *FMC* decision. Prior to World War II, the United States sourced 90% of its crude rubber supply from Asia, but this supply suddenly vanished following Pearl Harbor because most of this rubber was imported from Japanese-occupied territory.¹⁹⁶ In response, President Franklin D. Roosevelt empowered the War Production Board to “issue directives to industry” that dictated and expedited the production process for wartime goods such as rayon.¹⁹⁷ In light of this extensive power,

¹⁹¹ *Id.* at 316; see also *United States v. Sterling Centrecorp Inc.*, 977 F.3d 750, 758–59 (9th Cir. 2020) (finding the operator standard unmet because the U.S. government possessed “general” wartime “regulatory authority over the mining industry” and had merely instructed the gold mine in question to shut down).

¹⁹² 957 F.3d 395 (3d Cir. 2020).

¹⁹³ *Id.* at 403.

¹⁹⁴ *Id.* In 2020, the Ninth Circuit agreed and found that operator liability requires “actual participation in decisions related to pollution.” *Centrecorp*, 977 F.3d at 758. The court further stated that the “operator” standard under CERCLA “requires something more than general control over an industry or facility”—in other words, “some level of direction, management, or control over the facility’s polluting activities.” *Id.*

¹⁹⁵ Although this Comment focuses on two particular cases, other cases have held the federal government liable as an operator under somewhat analogous facts. See, e.g., *El Paso*, 390 F. Supp. 3d at 1042–44 (holding that, though the government was not liable as an operator in the mining phase because it did not oversee “mining or labor activities” or “compel El Paso to mine” uranium, the U.S. government was liable as an operator during the exploration phase for four uranium mines); *Nu-W. Mining Inc. v. United States*, 768 F. Supp. 2d 1082, 1089–91 (D. Idaho 2011) (holding the federal government liable as an operator because it “manage[d] the design and location of the waste dumps for [] four mines, “regularly inspected the mines to ensure compliance with the mining plans and waste disposal guidelines,” and acted more akin to an entity giving strict “orders” than “suggestions”); *United States v. Newmont*, 2008 WL 4621566, at *60–61, 64 (E.D. Wash. Oct. 17, 2008) (equitably allocating the United States one-third of the cleanup costs after describing the U.S. government’s extensive management, which “directly impacted the operation and extent of reclamation efforts” at the uranium mine in question).

¹⁹⁶ *FMC*, 29 F.3d at 836.

¹⁹⁷ *Id.*

the Third Circuit held the U.S. government liable as an operator of the rayon facility at issue in the case. The court reasoned that, because the government mandated rayon production, controlled the distribution of raw materials, and was the end user of almost all rayon, it essentially set the operating level and profit of each rayon company.¹⁹⁸ The *FMC* court was persuaded that the World War II defense market for rayon was in part a monopsony,¹⁹⁹ a type of market where there is only one buyer. Because the U.S. government's monopsony created an unequal distribution of power between the U.S. government and the facility—where the facility was essentially at the will and whim of the government—the court concluded that the facility did not truly operate voluntarily or independently of the government.²⁰⁰

Moreover, although *FMC* predates *Bestfoods*, the *FMC* court found that the federal government was directly tied to the hazardous waste generated. Because the waste was highly visible and inherent in the rayon production process, the federal government had knowledge of the vast amount of hazardous waste generated.²⁰¹ Despite this knowledge, the government continued to “pressure” facilities to maximize production levels—levels that necessarily increased the amount of material disposed.²⁰² Lastly, the court found that the government increased hazardous waste by rejecting materials that did not adhere to stringent production specifications and by generating waste directly from its government-owned equipment.²⁰³

The second relevant case is *Exxon Mobil Corp. v. United States*,²⁰⁴ in which a Texas district court held the U.S. government liable as an operator of two chemical plants²⁰⁵ but declined to hold the government liable as an operator for two oil refineries.²⁰⁶ For the chemical plants, the *Exxon* court found that the government

¹⁹⁸ *Id.* at 837.

¹⁹⁹ *See id.* at 843.

²⁰⁰ *See id.* at 844.

²⁰¹ *FMC*, 29 F.3d at 837–38.

²⁰² *Id.* at 838; *see also* *TDY Holdings, LLC v. United States*, 885 F.3d 1142, 1148 (9th Cir. 2018) (holding the U.S. government liable for cleanup costs from a manufacturing plant, and relying on circuit precedent establishing governmental liability for “requir[ing] the use of the hazardous substances to ensure the final product met quality standards, or mandat[ing] that production proceed in a certain manner to increase output, resulting in the generation of hazardous waste”).

²⁰³ *FMC*, 29 F.3d at 838.

²⁰⁴ 108 F. Supp. 3d 486 (S.D. Tex. 2015).

²⁰⁵ *Id.* at 531–32.

²⁰⁶ *Id.* at 529, 532.

approved plant designs and required governmental approval for waste disposal plans, expenditures above \$1,000, plant alterations, and employee salary and benefits.²⁰⁷ Moreover, the court concluded that the federal government “knew” the facility was disposing of spent waste in open basins and that it delayed improvements in waste processing at the facilities in order to maximize production.²⁰⁸ Knowledge of the increased waste along with the government’s significant management of the facility justified operator liability.

In contrast to its conclusions regarding the chemical plants, the *Exxon* court found that the government’s role regarding the oil refineries was more akin to that of a “very interested consumer” involved in voluntary, consensual—not coercive—contracts.²⁰⁹ For the refineries at issue, the court found that the parties neither negotiated nor specified via contract the disposal activities,²¹⁰ and the government did not design, specify, or provide any of the refinery equipment.²¹¹ The court further held that the government’s general wartime “authority to control” private entities was not itself sufficient to confer PRP status because a “direct nexus” to decisions over waste disposal was necessary.²¹² The *Exxon* court’s rationale for these oil refineries mirrors much of the rationale in other opinions that have similarly involved World War II sites and held that the U.S. government did not possess operator liability.²¹³

b) Applying the law to Navajo uranium mines that were active between 1948 and 1970. The federal government’s control

²⁰⁷ *Id.* at 531.

²⁰⁸ *Id.*

²⁰⁹ *Exxon*, 108 F. Supp. 3d at 523 (quotation marks omitted). An Idaho district court similarly held that the U.S. government was not an “operator” in its involvement in metal mining activities because the “mines and mills were not forced to produce” and instead simply “elected” to do so. *Coeur D’Alene Tribe v. Asarco Inc.*, 280 F. Supp. 2d 1094, 1129 (D. Idaho 2003). In supporting its findings, the *Coeur D’Alene Tribe* court stated that the U.S. government “did not control who could purchase the metals at the given prices” and, thus, did not maintain “actual control” over the mines. *Id.* at 1130.

²¹⁰ *Exxon*, 108 F. Supp. 3d at 525.

²¹¹ *Id.* at 526.

²¹² *Id.* at 524.

²¹³ See, e.g., *MRP Properties Co. v. United States*, 72 F.4th 166 (6th Cir. 2023) (finding that the United States did not meet *Bestfoods*’s operator standard for its regulation of certain oil refineries); *PPG Indus.*, 957 F.3d at 403 (finding the federal government did not “control[] operations related to pollution” and was not “responsible for . . . stockpiling the waste outdoors”); *United States v. Vertac Chem. Corp.*, 46 F.3d 803, 808–09 (8th Cir. 1995) (finding that the company voluntarily sought out the government’s business and that the government did not manage or supervise any facility personnel); *Rospatch Jessco Corp. v. Chrysler Corp.*, 962 F. Supp. 998, 1005–06 (W.D. Mich. 1995).

over uranium mines on the Navajo Nation between 1948 and 1970 rises to the level of operator liability. The circumstances closely follow the facts of *FMC* and *Exxon*. The federal government not only founded the U.S. uranium market but also drove and controlled it over several decades, particularly during the period between 1948 and 1970.²¹⁴ The Section proceeds by first discussing generally the AEC's control over the domestic uranium industry between 1948 and 1970, when most uranium mines on Navajo lands operated.²¹⁵ It then discusses circumstances specific to the Navajo that reinforce the U.S. government's liability for these mines. On the Navajo Nation, in particular, the U.S. government wielded extraordinary influence in setting the terms of mining contracts without meaningful consultation with the Navajo.

From 1948 to 1970, the federal government had a complete stranglehold on the domestic uranium market—one akin to, if not exceeding, the likes of *FMC* and *Exxon*. Key to the U.S. government's operator liability is that it directly managed mining operations on Navajo lands in order to achieve breakneck-speed production, leading to anticipated and known increases in waste and disregard for the consequences of poor waste disposal. The U.S. government achieved this level of control in two ways: (1) generally, it dictated the exploration of raw ore, set the price of the ore, and decreed itself the sole buyer of enriched uranium in the end use-market; and (2) specifically, it circumvented and displaced meaningful Navajo management of mining operations through hands-on negotiation and approval of mining contracts.

First, like in *FMC*, the U.S. government established the prices, profits, and distributions for uranium mining operations so as to maximize production levels. In *FMC*, the U.S. government controlled the distribution of raw materials, set production levels,

²¹⁴ See VOYLES, *supra* note 1, at 62 (2015) (“[T]he search for uranium has been the only government-induced, government-maintained, government-controlled mining boom in the nation’s experience.” (quoting Herbert Lang, *Uranium Mining and the AEC: The Birth Pangs of a New Industry*, 36 BUS. HIST. REV. 325, 325 (1962))).

²¹⁵ *Documentary History*, *supra* note 27, at 28 (“Uranium production in . . . the Navajo Nation began in 1948, peaked in the years 1955 and 1956, and declined to zero again by 1967.”). Although all or nearly all uranium production on the Navajo Nation may have ended by 1967, this Comment uses the date range of 1948–1970 to frame the scope of the U.S. government’s legal liability under CERCLA because the government maintained a monopoly over enriched uranium during this entire date range, as described *infra*. There is some factual uncertainty as to the exact years that the Navajo uranium mines remained active, so this Comment errs on the side of caution by not explicitly restricting its thesis on the U.S. government’s liability to the narrower date range of 1948–1967.

and was the end user of all rayon.²¹⁶ Here, the same is also true: the AEC managed exploration efforts and product requirements, set price guarantees for ore, and decreed itself the sole buyer and end user.

With respect to exploration and product requirements, the AEC tightly monitored the search for high-quality uranium ore. In 1948, the AEC, in coordination with the science- and resource-focused U.S. Geological Survey (USGS), launched a large-scale exploratory effort to identify uranium deposits on U.S. public lands, including airborne surveys and on-site drill tests.²¹⁷ If uranium was discovered, the AEC then leased the land to companies to mine.²¹⁸

With respect to price controls, the AEC developed three- and ten-year price guarantees beginning in 1948 for the delivery of uranium ore to U.S. purchasing stations, along with bonuses for especially high-grade ore.²¹⁹ These newly constructed AEC purchasing stations were scattered throughout the West, and, at these sites, U.S. government contractors would weigh, inspect, and purchase the ore at the predetermined prices.²²⁰ Moreover, the AEC even provided “haulage allowance[s]” to compensate mining companies for delivering the ore to these purchasing stations.²²¹ Through these on-the-ground purchasing stations, the AEC could tightly oversee and track production on a regional and per-mine basis. While the AEC adjusted its pricing schemes over time,²²² they remained a key fixture in the uranium industry through the end of the 1960s, fueling the United States’ nuclear

²¹⁶ *FMC*, 29 F.3d at 843.

²¹⁷ AMUNDSON, *supra* note 23, at 22. To facilitate these exploration camps, the United States sometimes constructed its own housing to host AEC and USGS exploration crews or otherwise sublet the housing to private mining companies. *Id.* at 40. These government-sponsored housing arrangements were just another way in which the U.S. government could control all aspects of exploration for ore to ensure it found ore of the highest quality. *See id.* at 22.

²¹⁸ *Id.*

²¹⁹ *Id.*

²²⁰ AMUNDSON, *supra* note 23, at 22. In addition to operating purchasing stations, the federal government also financed new roads and airports to increase accessibility to uranium deposits. VOYLES, *supra* note 1, at 104–05.

²²¹ CHARLES RIVER ASSOCS. INC., URANIUM PRICE FORMATION 3-13 (1977).

²²² In 1962, the federal government ended its price guarantees for ore, but it replaced the ore price guarantees with mill price guarantees. *Id.* at 3-15. These mill guarantees still dictated uranium ore rates, although they did so less directly. *See id.* at 3-15 n.5 (“The AEC nonetheless controlled ore prices to some extent through the mill contracts. If ore prices were out of line, the AEC could exert pressure to correct this before signing the mill contract.”).

ambitions throughout much of the Cold War.²²³ This national procurement program jolted the uranium industry into production and spurred a new generation of uranium explorers hoping to strike it rich.²²⁴

Lastly, with respect to maintaining a monopsony, the AEA installed the United States as the “sole legal buyer, refiner, and producer of uranium ore for atomic energy use” from the get-go.²²⁵ As a result, private companies could legally sell uranium ore only to the federal government for further enrichment and use. The AEC did not begin breaking down this total monopsony until 1958, when it announced that AEC-licensed private companies could also purchase domestic yellowcake—enriched ore, as opposed to raw ore from mines—in order to develop a commercial nuclear energy industry.²²⁶ No matter the buyer, however, the U.S. government maintained a monopoly on all domestic enrichment services for every uranium end use, meaning private companies were required to contract with the government for all enrichment services. Even though private companies could now buy yellowcake for commercial purposes, the yellowcake only reached their hands after the U.S. government first purchased the ore from uranium mines and then enriched it into yellowcake itself.²²⁷ While the AEC began allowing private companies to purchase uranium ore directly from mines and mills in 1964,²²⁸ the U.S.

²²³ See AMUNDSON, *supra* note 23, at 30–31.

²²⁴ *Id.* at 26 (recounting popular stories from the time that described “rags-to-riches” Americans, who were dubbed “uraniumaires”). The uranium boom became a cultural phenomenon, spawning movies and shows, toys, uranium-themed restaurants, Miss Atomic Energy pageants, and more. *Id.* at 26, 28, 84, 94. As Professor Michael Amundson has recounted, the uranium-boom era even produced a 1950s board game designed to reward the player who profited most from their uranium discoveries. *Id.* at 17–19. The box of the board game reads: “[y]our ‘Geiger counter’ lights your way to fun and fortune,” and “[a]n exciting new electric game for the family.” *Id.* at 18. Emblematic of the extent of the government’s control, the board game required each player to pay the government \$1,000 to begin developing a mine, and the government would pay the player \$50,000 upon the discovery of uranium—determined by whether a play Geiger counter flashed a light. AMUNDSON, *supra* note 23, at 17. The player would then select a “government card” for additional instructions, which could tack on new fees or rewards. *Id.* at 17–19 (“[T]he use of government cards suggested that Uncle Sam would regulate the whole affair.”).

²²⁵ *Id.* at 20; VOYLES, *supra* note 1, at 119.

²²⁶ AMUNDSON, *supra* note 23, at 109.

²²⁷ *Id.*

²²⁸ Private Ownership of Special Nuclear Materials Act of 1964, Pub. L. No. 88-489, 78 Stat. 602 (codified in scattered sections of 42 U.S.C.).

government remained the sole end user of ore from many companies through 1970.²²⁹

Beyond the U.S. government's general controls over the mining industry, the government directly managed and oversaw mining contracts, and this was nowhere clearer than in the case of mining contracts on Navajo lands. When the AEC hoped to establish mining on tribal lands, it worked with the Bureau of Indian Affairs (BIA) to negotiate the contracts with private entities, then presented the contract to the Navajo Tribal Council for official approval.²³⁰ Although the AEC advised the public that formal approval from the Navajo Tribal Council was required before exploration or mining activities could occur on Navajo lands—in accordance with the 1938 Tribal Mineral Leasing Act²³¹—this approval was commonly disregarded or treated as a mere formality.²³² The AEC or BIA often presented prenegotiated mining contracts to the Navajo Tribal Council as economic development initiatives requiring only a final seal of approval.²³³

Before these contracts would have reached the tribal approval phase, the AEC would have already set the ore, milling, and haulage costs in the contracts and established production quotas.²³⁴ Moreover, the AEC would only approve contracts once

²²⁹ AMUNDSON, *supra* note 23, at 20, 23, 109; *see also* CHARLES RIVER ASSOCS., *supra* note 221, at 3-20 (“The AEC remained the only legal purchaser of [enriched uranium] until 1966, and commercial purchases for current delivery after 1966 were initially very small. AEC procurement ended entirely in 1970.”). Toward the end of the 1960s, as the national uranium stockpile had ballooned and the international test ban movement (to ban nuclear weapons testing) matured, it was clear the uranium industry was faltering. AMUNDSON, *supra* note 23, at 106–07. As a result, the government allowed many companies to defer their contracts, which were initially set to expire by 1966, through 1968 to weather the bust cycle until the commercial industry could take off. *Id.* at 108. Through this “stretch-out” program, the United States additionally promised to purchase uranium from these deferring companies through 1970. *Id.*

²³⁰ Johnston et al., *supra* note 7, at 117.

²³¹ Pub. L. No. 75-506, 52 Stat. 346; *see also* VOYLES, *supra* note 1, at 77.

²³² VOYLES, *supra* note 1, at 64. Professor Traci Voyles found that many prospectors were unlikely to know how to seek tribal approval or whether they were even on tribal lands as an initial matter. *Id.* at 64, 66, 71, 74 (explaining that the uranium promotional materials and maps often did not delineate tribal boundaries).

²³³ Johnston et al., *supra* note 7, at 117; VOYLES, *supra* note 1, at 81. Of course, during this process, there was no mention of the potential health or environmental hazards associated with uranium. Johnston et al., *supra* note 7, at 117.

²³⁴ AMUNDSON, *supra* note 23, at 29; *see also* Transcript at 961, *El Paso Nat. Gas Co. v. United States*, 390 F. Supp. 3d (D. Ariz. 2019) (No. 3:14-cv-08165) (testimony of defendants' expert witness, Dr. Jay Brigham) [hereinafter *El Paso Transcript*]:

Q[uestion:] . . . [T]he Navajo Nation was not involved in any of that [exploration or purchasing] activity, whether it be pricing of the uranium, whether it be milling the uranium, any of the processes and procedures, the Navajo Nation was

prospective companies had submitted proposals demonstrating their ability to meet strict AEC requirements regarding “ore supply, technical capability, and financial responsibility.”²³⁵ Once a company had met all of the requirements, however, the federal government intentionally made the path to profit easy for these companies, which received large benefits and allowances.²³⁶ These contracts “open[ed] [Navajo lands] up to prospectors, miners, and, eventually, mills for processing the ore and mill tailings piles for dumping the inevitable waste.”²³⁷

Importantly, while the Navajo did seek out and approve mining contracts in the hopes of spurring economic growth, the U.S. government manipulated the process. These contracts were designed to maximize production²³⁸ and consequently “degraded” rather than improved “the Navajos’ ability to benefit economically as a tribe.”²³⁹ And, once the mining leases were executed, the Navajo could not terminate the contract without approval from the U.S. Department of the Interior.²⁴⁰ Of course, this one-way ratchet was especially problematic given the latent nature of radiation exposure, the dangers of which often did not become evident for many years.²⁴¹

Furthermore, the balance of power between the AEC and Navajo was asymmetric, with the AEC wielding significant coercive power over the Navajo Nation, which the federal government designated as a reservation and thus forced into some degree of dependence.²⁴² One example of this dependence played out in the

not involved in any of that, was it? A[nswer:] No. It just set what they wanted as a royalty rate for the tribe.

²³⁵ AMUNDSON, *supra* note 23, at 29. As one Idaho district court put it, even where governmental “requirements” can be characterized as “suggestions,” the difference can be “irrelevant” if the government retains ultimate approval powers over an operation. *Nu-W.*, 768 F. Supp. 2d at 1091 (“The ‘suggestions’ of a federal agency with final approval authority over a mining operation carry some weight.”).

²³⁶ Amundson, *supra* note 23, at 29 (describing these contracts as “favorable” to the companies).

²³⁷ VOYLES, *supra* note 1, at 83–84.

²³⁸ See *supra* note 44 and accompanying text.

²³⁹ VOYLES, *supra* note 1, at 83–85 (explaining that the AEC commonly negotiated contract terms that provided the “lowest possible cost” to industry and lowest royalty amounts to the Navajo, all of which the AEC framed as a benefit to the Navajo).

²⁴⁰ El Paso Transcript, *supra* note 234, at 980.

²⁴¹ Dawson & Madsen, *supra* note 15, at 128 (reporting latency periods of twenty-five years for nonsmoking uranium mine workers and nineteen years for smoking mine workers).

²⁴² VOYLES, *supra* note 1, at 84, 114–15; see also EICHSTAEDT, *supra* note 32, at 37–38 (explaining further that the Navajo leadership understood the uranium mining activities to be economically beneficial at the time, but this understanding was almost certainly

financing of roads on Navajo lands. In seeking funding for road construction throughout its lands, the Navajo found that the federal government was all too “eager[]” to build roads where the need from industry was great but not otherwise—in fact, the government actively resisted building roads on Navajo lands if it was not connected to industry.²⁴³ Professor Traci Voyles further characterized the mining and milling labor that the Navajo supplied as a “forced choice” in many ways.²⁴⁴ She explained that, given the federal government’s insistence on uranium expansion and the limited nature of other job opportunities on Navajo lands, many Navajo workers were essentially coerced by the AEC and BIA into working in uranium mines and mills when no other opportunities were available.²⁴⁵ Speaking of the economic pressure, Navajo miner Tommy James said, “[T]o say I wish I did not work is impossible . . . it is money that is used to get what is needed, such as food and clothing. Because of these needs, even though it may be dangerous, you will go there to work. That is how it is.”²⁴⁶ The AEC itself even recognized this power imbalance in a 1951 statement regarding tribal lands when it confirmed, “We have, undoubtedly, had some influence on the establishment of regulations and procedures for the operation of uranium mineral lands.”²⁴⁷ Undoubtedly, indeed.

In a sense then, here, the narrative spun by the *Exxon* court regarding the oil refineries—that the federal government was merely a “very interested customer” engaging in contracts that lacked an element of coercion²⁴⁸—seems less apt. Instead, it seems more plausible that the government certainly imposed a level of coercion on the Navajo and uranium mining contracts, or at least the government did not enter into contracts that were completely

without the wider context of the associated health risks and costs—which the federal government had already been studying).

²⁴³ See VOYLES, *supra* note 1, at 105–06.

²⁴⁴ *Id.* at 114–15.

²⁴⁵ *Id.*

²⁴⁶ Phil Harrison, “*It Was Like Slave Work*”: Oral History of Miner Tommy James, in THE NAVAJO PEOPLE AND URANIUM MINING 117, 123–25 (Doug Brugge, Timothy Benally & Esther Yazzie-Lewis eds., Esther Yazzie-Lewis & Timothy Benally trans., 2006).

²⁴⁷ VOYLES, *supra* note 1, at 84 (quoting Frank MacPherson, *Relations Between the Navajo Indian Tribe-Area Office of the Navajo Indian Reservation, and the U.S. Atomic Energy Commission*, NARMR 434-99-208, “Program Correspondence,” Box 3 (Nov. 13, 1951)).

²⁴⁸ *Exxon*, 108 F. Supp. 3d at 523; see also *Rospach*, 962 F. Supp. at 1005 (holding that the U.S. government was not an operator in part because it “did not ‘twist [plaintiff’s] arm,’ forcing it to produce [the wartime goods]”).

“voluntary” and “consensual” as the *Exxon* court found.²⁴⁹ If not for the U.S. government’s negotiation tactics—effectively manipulation and arm-twisting—the mines may not have been built on the Navajo Nation (or elsewhere), or the operations may have looked very different.

Taken together, the U.S. government’s general profit-setting control over the uranium market and its specific coercive management over mining contracts suggest that the U.S. government satisfies the operator standard with regard to uranium mining between 1948 and 1970. The government’s maximum-production campaign on both fronts clearly would have led to foreseeable increases in hazardous waste at mining facilities—which the government knew contaminated people and lands, as discussed in Part I. As a result, even if a court disagrees that the U.S. government is liable under the “bare legal title” theory of ownership liability, the facts support a finding of operator liability independent of legal title.

III. CERCLA’S ENFORCEMENT PUZZLE

While this Comment has sought to establish the U.S. government’s liability as a PRP under § 107(a) of CERCLA, the story does not simply end there. To establish that the U.S. government must, therefore, also remediate uranium mines in the Navajo Nation requires a discussion of several other salient aspects of the issue. This Part first discusses how CERCLA builds in safeguards to ensure that multiple levels of government can initiate cleanup proceedings and recover on those costs from PRPs. It then describes how tribes have been excluded from those safeguards and left without the same tools that state and local governments enjoy. In this way, CERCLA’s enforcement regime perpetuates government-led environmental racism and dismisses tribal concerns around hazardous waste. Despite these barriers, this Comment concludes with calls to action for two types of bodies: (1) for state and local governments to take up enforcement measures against the federal government where possible, and (2) for Congress to amend CERCLA to establish parity between tribal, state, and local governments in enforcement tools and pass comprehensive legislation funding the remediation of the orphaned mines across the Navajo Nation.

²⁴⁹ *Exxon*, 108 F. Supp. 3d at 523.

Under 42 U.S.C. § 9620(a)(4), CERCLA explicitly authorizes states (and their subdivisions) to compel the EPA to remediate hazardous waste that violates state laws. This type of backstop is powerful because it enables state and local governments to facilitate cleanups where the federal government does not act, which is especially useful where the federal government is itself liable for the hazardous releases and would not otherwise voluntarily finance the cleanup. This safeguard is a two-way street because the federal government can step in to facilitate cleanups where state and local governments fall short or are liable themselves.

Unlike states and local governments, however, tribes are not authorized to order remediation, either pursuant to their own tribal laws or citizen suit provisions.²⁵⁰ Tribal governments are “afforded substantially the same treatment as states” with respect to only certain enumerated provisions.²⁵¹ And, as previewed in Part II.A, private parties also generally cannot independently compel a PRP to remediate a site absent an initial directive from the EPA ordering said remediation.²⁵² Consequently, the litigation strategies available for pursuing government-sponsored remediation are somewhat limited: neither tribal governments nor individual tribal members can sue the EPA to compel it to clean up the mines.

Thus, there are largely only two available avenues through which the remediation of orphaned mines can occur under CERCLA’s current language. Those two avenues are: (1) cost recovery under § 107(a); and (2) state CERCLA enforcement. Both are briefly mentioned in turn. The first method through which the Navajo could secure remediation funds is a § 107(a) cost-recovery action, which is straightforward by the terms of the statute but not viable as a matter of cost. The Navajo could—through grant, nonprofit, or other external funding—take the initial leap of financing the remediation of one or more mines. Once remediation of a mine or mines is complete, the Navajo could then seek cost recovery from the U.S. government as a PRP under § 107(a). Of

²⁵⁰ *Id.*

²⁵¹ 42 U.S.C. § 9626(a).

²⁵² Gaba, *supra* note 145, at 937.

course, this approach carries substantial risks. The cost of cleaning up just one uranium mine can easily reach millions of dollars,²⁵³ and the Navajo would risk potential nonrecovery.

State CERCLA enforcement is a second possibility. Section 120(a)(4)²⁵⁴ of CERCLA authorizes states to order the remediation of facilities owned and operated by the U.S. government (“federal facilities”) by way of state remediation laws.²⁵⁵ In other words, even though neither a tribal government nor a private citizen can compel remediation, a state *can* compel remediation—even from the federal government. In *United States v. Pennsylvania Department of Environmental Resources*,²⁵⁶ a Pennsylvania district court upheld an action by the Pennsylvania Department of Environmental Resources (DER) ordering remediation.²⁵⁷ In that case, the DER sought an order directing the Navy Control Center to clean up a federal facility under state remediation laws. The United States asserted a sovereign immunity defense against this state order,²⁵⁸ but the court found that § 120(a)(4) waived the federal government’s sovereign immunity such that state remediation laws could tie the hands of federal government officials and require remediation.²⁵⁹ Other courts seem to agree.²⁶⁰

Most states possess state-level versions of the federal CERCLA statute,²⁶¹ so state enforcement in coordination with the Navajo might, therefore, be able to order the federal government

²⁵³ U.S. DEP’T OF ENERGY, DEFENSE-RELATED URANIUM MINES COST AND FEASIBILITY TOPIC REPORT, at vii–vii, 29–30 (2014); U.S. GOV’T ACCOUNTABILITY OFF., *supra* note 104, at 55 (2014).

²⁵⁴ 42 U.S.C. § 9620(a)(4).

²⁵⁵ 42 U.S.C. § 9620(a)(4).

²⁵⁶ 778 F. Supp. 1328 (M.D. Pa. 1991).

²⁵⁷ *Id.* at 1334.

²⁵⁸ *Id.* at 1330.

²⁵⁹ *Id.* at 1332. The court also pointed to § 101(24), 42 U.S.C. § 9601(24), in concluding that removal and remedial actions explicitly include “enforcement activities.” *DER*, 778 F. Supp. at 1331. Further support is found in § 121(f)(1), which states that the federal government shall “provid[e] for substantial and meaningful involvement by each State in initiation, development, and selection of remedial actions to be undertaken in that State.” 42 U.S.C. § 9621(f)(1).

²⁶⁰ See, e.g., *Colorado v. U.S. Dep’t of the Army*, 707 F. Supp. 1562, 1569 (D. Colo. 1989) (“[Section 120(a)(4)] preserves state enforcement actions at federal facilities that are not listed on the National Priorities List.”); *United States v. Colorado*, 990 F.2d 1565, 1579–80 (10th Cir. 1993) (“[H]ad Congress intended § 9620(a)(4) to exclude states from enforcing their EPA-delegated [state environmental law] responsibilities, it would have expressly said so.”).

²⁶¹ Thomas Kearns, Comment, *An Examination of, and Suggested Revisions to, CERCLA’s Provisions Waiving the Federal Government’s Sovereign Immunity from Actions Based on State Law*, 5 BUFF. ENVTL. L.J. 17, 41 (1997).

to remediate certain Navajo uranium mines. Because states do not have jurisdiction on federal lands, these state-based claims would be limited to mines on or near the tribal-state border that have discrete, spillover impacts on state lands and would violate state laws. A number of mines might fit that description.²⁶² This approach would require cogovernance between the Navajo and state officials. And, because the state rather than the Navajo would be the ultimate decision-maker in this kind of approach, there is a risk that a state-led enforcement action ignores Navajo interests. At the same time, given the power that CERCLA entrusts to the states in ordering cleanup actions and the seeming lack of other options to hold the federal government liable, states should initiate enforcement actions against the U.S. government where possible.

Despite some promise in these two avenues, they are also unsatisfying, revealing a gap in CERCLA's enforcement regime when it comes to tribal lands. It is problematic that the U.S. government is responsible for the uranium contamination yet has also stripped tribal governments of the tools necessary under CERCLA to remedy the contamination. This failure on the part of the U.S. government perpetuates environmental racism. Civil rights leader Benjamin Chavis defined "environmental racism" as "racial discrimination in environmental policymaking."²⁶³ In other words, the federal government's failure to remedy the mining situation represents "racial discrimination in the enforcement of regulation and laws" and the "official sanctioning of the life-threatening presence of poisons and pollutants in communities of color."²⁶⁴ The unremediated uranium mines continue to be a reminder of this reality.

Given this context, CERCLA's regulatory gap deserves renewed attention. First, to the extent that CERCLA—whether unintentionally or intentionally—limits the potential liability of the U.S. government by not providing a clear enforcement mechanism on tribal lands, the statute is fatally flawed. The dual reality

²⁶² See *Navajo Nation: Cleaning Up Abandoned Uranium Mines Map*, U.S. ENVTL. PROT. AGENCY (last updated June 6, 2022), <https://hub.arcgis.com/maps/EPA::Navajo-nation-cleaning-up-abandoned-uranium-mines-map/explore?location=35.971737%2C-109.882025%2C8.08> (showing, according to the legend as of April 2023, a number of gray dots around the perimeter of the Navajo Nation, representing abandoned uranium mines that have no currently available remediation funding).

²⁶³ Reverend Benjamin F. Chavis, Jr., *Foreword* to *CONFRONTING ENVIRONMENTAL RACISM: VOICES FROM THE GRASSROOTS* 3 (Robert D. Bullard ed. 1993).

²⁶⁴ *Id.*

of the U.S. government's CERCLA liability and the lack of comprehensive tools to act on that liability warrants a broader discussion of CERCLA's current text. Congress can and should pass federal legislation revising CERCLA so as to better put into effect the statute's overall mandate of achieving the timely cleanup of hazardous waste sites. These amendments should expand the tribal treatment-as-states provision to ensure that tribes are given the same powers already afforded to states—including the ability to order the federal government to clean up sites located within tribes' jurisdictions. That mine sites could be more easily remediated if only tribes had sufficiently deep pockets to fund remediation efforts (under § 107) or if the mines were located within U.S. state borders (under § 120(a)) flies in the face of tribal sovereignty and CERCLA's broad objectives.

Second, explicit acknowledgement of the U.S. government's CERCLA liability, coupled with acknowledgement of the limited enforcement options, highlights the government's moral imperative to quickly remediate all uranium mines on Navajo lands. The EPA should step in to remedy this wrong by providing remediation financing in greater sums and on a faster timeline than it has currently proposed. The Navajo Nation already takes this position.²⁶⁵ The funding required to ramp up the EPA's remediation efforts would likely require a broader response by Congress. In December 2022, Senators Mark Kelly of Arizona and Cynthia Lummis of Wyoming introduced the Legacy Mine Cleanup Act²⁶⁶ to expedite and fund the remediation of abandoned hardrock mines, including for Navajo uranium mines.²⁶⁷ National legislation of this sort is more than justified by the government's egregious history with regard to uranium mining. While the proposed bill did not go anywhere when initially introduced, it is an example of the potential for bipartisan commitment toward rectifying this tragedy in U.S. history.

²⁶⁵ NEZ & LIZER, *supra* note 102, at *5.

²⁶⁶ S. 5294, 117th Cong. (2022).

²⁶⁷ Ryan Heinsius, *Senate Bill Aims to Help Tribes with Cleanup of Abandoned Uranium Mines*, NPR KNAU (Dec. 20, 2022), <https://perma.cc/YJG2-QPK2>. While this bill appears to have the right aims, the proposal appropriated \$100 million over a ten-year period—not a sum easily dismissed in many circumstances, but certainly a drop in the bucket compared to the scale of cleanup that is necessary. S. 5294 § 129(e)(1).

CONCLUSION

Fundamentally, this Comment aims to demonstrate that the federal government retains ultimate responsibility for the hazardous waste left by uranium mines on the Navajo Nation—both by CERCLA’s terms and normatively. This Comment demands federal and state governmental accountability for the legacy uranium sites that continue to poison the lands and health of the Navajo. CERCLA is the nation’s principal answer to the abandoned-hazardous-waste problem, yet it protects the federal government from suit on tribal lands even where the federal government is liable under the statute’s terms. Such a limitation disregards tribal sovereignty and CERCLA’s overall purpose, and it enables the federal government to deliberately avoid responsibility for a catastrophe of its own creation. More tools are needed to remedy this accountability problem. The United States benefited greatly from its ability to extract as much uranium from Navajo lands as it could, and it is time it was held accountable for its decisions. As the Ninth Circuit once stated after holding the U.S. government liable for the wartime manufacturing of aviation gasoline, “the cleanup costs are properly seen as part of the war effort for which the American public as a whole should pay.”²⁶⁸

²⁶⁸ *United States v. Shell Oil Co.*, 294 F.3d 1045, 1060 (9th Cir. 2002); *see also* *United States v. Shell Oil Co.*, 13 F. Supp. 2d 1018, 1027 (C.D. Cal. 1998), *aff’d in part and rev’d in part*, 294 F.3d 1045 (9th Cir. 2002) (“[J]ust as the American public stood to benefit from the successful prosecution of the war effort, so too must the American public bear the burden of a cost directly and inescapably created by the war effort, the production of [aviation gasoline].”).