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INDIGENOUS NUCLEAR INJURIES AND THE RADIATION EXPOSURE COMPENSATION ACT (RECA):

REFRAMING COMPENSATION TOWARD INDIGENOUS-LED ENVIRONMENTAL REPARATIONS

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Abstract

Indigenous Nations have borne a wide array of harms as a result of U.S. nuclear policy. The extraction and processing of nuclear materials and testing of nuclear weapons have caused extensive health problems for Indigenous Peoples. Given that most nuclear facilities are located on tribal and traditional lands, Indigenous Peoples have been disproportionately harmed by these practices. Radiation exposure has led to increased rates of several types of cancers, as well as lung and renal diseases and many other chronic conditions. Moreover, radiation has caused environmental degradation, contaminating water and food sources across tribal and traditional lands. Nuclear exposure has created multigenerational injuries for Indigenous Peoples, leading to permanent genetic problems and lasting ecological and spiritual consequences. This Note argues that the United States should fulfill its international human rights commitments by implementing comprehensive redress specific to the nuclear injuries of Indigenous Peoples. U.S.

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nuclear policy implicates a legacy of colonial violence and oppression; to that end, meaningful redress requires contextualized remedial approaches.

In 1990, the United States Congress passed the Radiation Exposure Compensation Act (RECA), a compensatory statute that has awarded lump sums of money to categories of people exposed to nuclear radiation, such as uranium miners and people "downwind" of testing sites. However, this model falls short in important ways. With underinclusive coverage and narrowly constructed regulations, RECA effectively excludes some radiation-exposed Indigenous people. Considering the deliberate treatment of Indigenous Peoples and lands as disposable for the sake of U.S. policy, monetary compensation alone misses the mark in remedying lasting generational and environmental consequences. This Note examines international legal frameworks in order to highlight the human rights obligations that should inform the United States' efforts to redress Indigenous Nations. Most importantly, the United States should defer to the leadership of Indigenous Peoples and the sovereignty of Indigenous Nations, recognizing that the scope of Indigenous self-determination encompasses determining the frameworks of nuclear redress as well as shaping the future of nuclear and environmental policies.

I. Introduction

United States nuclear policy has generated irreparable physical, emotional, environmental, and spiritual harms on Indigenous Nations.[1] Twentieth century nuclear weapons testing and nuclear energy production have caused increased cancer rates, thyroidal and lung diseases, birth defects, and many other chronic and deadly health conditions for miners, "downwinders," and test site workers.[2] The brunt of these nuclear harms has been cast upon poor, rural, and Indigenous communities,[3] particularly those communities throughout the southwestern United States.[4] This Note briefly surveys a few accounts of nuclear radiation exposure experienced by Indigenous Nations, exemplifying how nuclear test sites, extraction and processing facilities, and energy production sites have impacted the health of communities, traditional lands, and sacred places of Indigenous Peoples.[5]

The lands on and around U.S. nuclear sites have been harmed at several levels—radioactive elements have contaminated groundwater, soil, animals, plants, buildings, and of course, those who inhabit the land.[6] As a result, "Indigenous Peoples live with the legacy of radioactive contamination on a daily basis" and they are "vulnerable to radioactive contamination in ways that other communities are not."[7] Indigenous communities are exposed to radiation not only by the nature of their proximity to test and mining sites, but also in part due to their lifestyles, jobs, and diets, which put them at risk of having additional routes of radiation exposure.[8]

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[1] I use the term Indigenous Nations in this note to broadly refer to the hundreds of tribal nations located within the territories of the United States. Although there are 567 federally recognized Tribes, there are hundreds more state-recognized and "unrecognized" by the U.S. Government. Bureau of Indian Affairs Notice, 83 Fed. Reg. 4235, 4235 (2018). For a survey on problems faced by Indigenous Peoples in the federal tribal recognition process and Tribes that have been left out of this framework, see MARK E. MILLER, FORGOTTEN TRIBES: UNRECOGNIZED INDIANS AND THE FEDERAL ACKNOWLEDGMENT PROCESS (2004).

[2] *See* SARAH FOX, DOWNWIND: A PEOPLE'S HISTORY OF THE NUCLEAR WEST 35-38 (2014).

[3] Michael Gochfeld & Joanna Burger, *Disproportionate Exposures in Environmental Justice and Other Populations: The Importance of Outliers*, 101 AM. J. PUB. HEALTH S53 (2011).

[4] Anita Moore-Nall, *The Legacy of Uranium Development on or Near Indian Reservations and Health Implications Rekindling Public Awareness*, 5 GEOSCIENCES 15, 24 (2015).

[5] Take the example of an Indigenous miner whose experience with the "uranium industry threw [his] life, his community, and the local environment out of balance," thus requiring healing through "[t]he restoration of that balance – in terms of emotional and physical health, spirituality, and ecology, all of which are interconnected for the Navajos." FOX, *supra* note 2, at 64.

[6] *See* Ward Churchill & Winona LaDuke, *Native America: The Political Economy of Radioactive Colonialism*, 13 INSURGENT SOCIOLOGIST 51, 58, 67 (1986).

[7] Rebecca Tsosie, *Indigenous Peoples and the Ethics of Remediation: Redressing the Legacy of Radioactive Contamination for Native Peoples and Native Lands*, 13 SANTA CLARA J. INT'L L. 203, 208–09 (2015).

[8] Eric Frohmberg et al., *The Assessment of Radiation Exposures in Native American Communities from Nuclear Weapons Testing in Nevada*, 20 RISK ANALYSIS: INT'L J. 101 (2000); *see* Gochfeld & Burger, *supra* note 3, at S54-S56.

The U.S. government has long characterized its choice of locations for nuclear facilities as an effort to avoid harming "populated areas."[9] That is, sites have been intentionally selected for the "remoteness" of the locations, while major U.S. cities have been geographically and politically shielded from the dangerous fallout and contamination.[10] This serves as a justification for locating nuclear sites for extraction, experimentation, and waste disposal of dangerous materials on Indigenous lands.[11] As a result, Indigenous Nations disproportionately experience hazardous siting on traditional lands, "unfair distribution of environmental benefits and burdens," "inequitable environmental enforcement," "and synergistic effects of hazardous material," including nuclear materials.[12]

Congress passed the Radiation Exposure Compensation Act (RECA) in 1990 in an attempt to remedy the harms Indigenous Peoples and other communities have suffered from nuclear activities, primarily in the western portion of the U.S.[13] RECA limits eligibility for compensation to applicants who have lived in Washington, Oregon, Nevada, Idaho, Wyoming, North and South Dakota, Utah, Colorado, Arizona, New Mexico, and Texas.[14] Through RECA, applicants can receive minimal compensation once they complete a complicated application process and obtain approval. However, the amount of people covered by and able to receive benefits through the Act pales in comparison to the breadth of the Indigenous and other affected peoples who have suffered from nuclear radiation. Many applicants do not fit within the narrow eligibility requirements, while others lack access to the necessary documents or language proficiency to meet the standards.[15] Moreover, RECA falls short as a mode of redress. In order to address colonial legacies of violence, compensation must be met with additional actions by the U.S. government that allow for the exercise of tribal self-determination such that Indigenous Nations exercise sovereignty over their lands and are consulted with and centered in environmental and nuclear policy making.

This Note analyzes the scheme of RECA and underscores its ineffectiveness and application; then, it explores alternative remedies. Part I describes case studies of nuclear contamination on Indigenous lands. Part II

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[9] Nancy B. Collins & Andrea Hall, *Nuclear Waste in Indian Country: A Paradoxical Trade*, 12 L. & INEQUALITY 267, 306 (2017).

[10] WARD CHURCHILL, ACTS OF REBELLION 171 (2002) (noting the connection between nuclear sites being located away from settler-societies and the conclusion that Indigenous Peoples were considered more expendable in risk calculus of nuclear decision-makers); Dylane Jacobs, *Hanford Nuclear Site: Remediating to a Standard Safe for All or Some?*, 7 SEATTLE J. ENVTL. L. 107, 115 (2017).

[11] Collins & Hall, *supra* note 9, at 317.

[12] *Id.*

[13] *See* discussion *infra* Section II(A); *Radiation Exposure Compensation Act*, U.S. DEP'T OF JUSTICE, https://www.justice.gov/civil/common/reca (last updated Apr. 17, 2020).

[14] *Id.*

[15] Tori Ballif, *Political Fallout: Designing A Radiation Exposure Compensation Scheme*, 31 STAN. ENVTL. L.J. 253, 277 (2012).

outlines the text of RECA, relevant regulations, and case law and then analyzes some problems with RECA as a model of compensation. Part III suggests U.S. policy shifts informed by international legal frameworks, Indigenous legal approaches, and restorative justice models to conceptualize remedies beyond monetary compensation. Through the lens of de-colonial theory and environmental racism, this Part concludes that the U.S. has international obligations to pursue remedies conducive to the self-determination of Indigenous Nations, such as coordinating land reparations and engaging in intergovernmental consultations guided by mutual sovereignty such that Nations determine the future of redress for nuclear harms.

I. Historical Background: Nuclear Contamination of Indigenous Lands

Nuclear weapon and energy production requires multiple steps: mining nuclear elements, milling and enriching nuclear materials, testing nuclear weapons, and creating and disposing nuclear waste. Citizens of Indigenous Nations have been exposed to radiation at each of these levels—they have worked in contaminated mines,[16] consumed contaminated foods,[17] and lived near nuclear weapons testing, waste, and extraction sites.[18]

In the 1950s, the Nevada Test Site (NTS) was selected as a nuclear weapon testing facility and served as the primary testing site in the U.S. until the early 1990s.[19] Located in southern Nevada, the NTS has operated on Western Shoshone traditional lands, with Southern Paiute traditional lands just to the east. In part, the U.S. Government selected this location because the typical winds in the area blew to the north and east of the site, avoiding the risk of nuclear fallout blowing to major metropolitan areas.[20] However, this meant that the winds carrying nuclear fallout from the NTS usually blew in the direction of Southern Paiute and Western Shoshone reservations and towns.[21]

Throughout the 1950s, the NTS conducted about 100 atmospheric tests of nuclear weapons, which "[laid] down a swath of radioactive fallout over Utah, Arizona, and Nevada."[22] From the 1960s to the 1990s, the U.S. Department of Energy conducted over 800 underground detonation tests.[23] The Indigenous

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[16] Doug Brugge & Rob Goble, *The History of Uranium Mining and the Navajo People*, 92 AM. J. PUB. HEALTH. 1410 (2002).
[17] *See* Frohmberg, *supra* note 8.
[18] *See* CHURCHILL, *supra* note 10, at 178-196; Collins, *supra* note 9, at 316.
[19] OAK RIDGE ASSOCIATED UNIVS., DOSE RECONSTRUCTION PROJECT FOR THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH 28 (2008), https://www.cdc.gov/niosh/ocas/pdfs/tbd/nts2-r1-p1.pdf.
[20] Frohmberg et al., *supra* note 8, at 102.
[21] The U.S. Department of Energy has found the heaviest downwind exposures scattered in the direction of Southern Paiute and Western Shoshone lands as a result of testing and the direction of the winds. *Id.* at 102-03.
[22] HOWARD BALL, JUSTICE DOWNWIND: AMERICA'S ATOMIC TESTING PROGRAM IN THE 1950S 85 (1986).
[23] *Nevada Test Site – Site Description*, DEP'T OF ENERGY, https://www.cdc.gov/niosh/ocas/pdfs/tbd/nts2-r1-p1.pdf at 28 (last visited Apr. 17, 2020).

people living near these experiments have been "undoubtedly" those most negatively impacted:

> These [Indigenous communities] include not only three Shoshone reservations—Duckwater, Yomba, and Timbisha—but the Las Vegas Paiute Colony and the Pahrump Paiute, Goshute, and Moapa reservations as well. Their circumstances have been greatly compounded by the approximately 900 underground test detonations that have, in a region where surface water sources are all but nonexistent, resulted in the contamination of groundwater with . . . radioactive substances at levels up to 3,000 times maximum "safe" limits.[24]

In addition to nuclear weapons facilities, radiation exposure has impacted Indigenous Peoples through nuclear production and manufacturing processes such as uranium mining. Today researchers estimate that over 4,000 abandoned uranium mines span across the Western U.S.—one of the affected Indigenous Peoples being the Navajo Nation (the Diné).[25] The Diné have endured decades of radiation exposure through their work in uranium mines and their proximity to abandoned mining sites, and these sites continue to produce negative health consequences.[26] This history of "radioactive contamination inspired the Navajo Nation to enact its own law banning uranium mining on its lands that states that "[n]o person shall engage in uranium mining and uranium processing on any sites within Navajo Indian Country."[27]

The treatment of Diné and other Indigenous miners illustrates the ongoing historical trend in which Indigenous Peoples and lands are harmed for the benefit of national security and scientific industries.[28] Throughout the 20th century, the U.S. Government extracted Navajo mining labor without disclosing known information on increased rates of lung cancers and diseases related to uranium mining.[29] U.S. Government officials and scientists understood the dangers of uranium mining and processing to the human body as early as the 1930s.[30]

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[24] WARD CHURCHILL, PERVERSIONS OF JUSTICE: INDIGENOUS PEOPLES AND ANGLO-AMERICAN LAW 175 (2003).
[25] *See* Johnnye Lewis et al., *Mining and Environmental Health Disparities in Native American Communities*, 4 CURRENT ENVTL. HEALTH REPORTS 130, 135-36 (2017).
[26] *See id.*; *see generally* Brugge & Goble, *supra* note 16; Moore-Nall, *supra* note 4, at 16-18.
[27] Rebecca Tsosie, *Indigenous Peoples and Epistemic Injustice: Science, Ethics, and Human Rights*, 87 WASH. L. REV. 1133, 1172 (2012); Diné Natural Resources Protection Act of 2005, Navajo Nation Code Ann. tit. 18 § 1301 (2005) (section 1303 of the Act includes the Prohibition of Uranium Mining).
[28] *Indigenous Peoples and Epistemic Injustice*, *supra* note 27, at 1169-72.
[29] Rebecca Tsosie, *Climate Change, Sustainability and Globalization: Charting the Future of Indigenous Environmental Self-Determination*, 4 ENVTL. & ENERGY L. & POL'Y J. 188, 219 (2009); Moore-Nall, *supra* note 4, at 18.
[30] Lewis et al., *supra* note 25, at 135.

Although government scientists were aware of the dangers of uranium posed to public health, they failed to warn Diné miners working in the mines of the adverse health impacts.[31]

The U.S. Public Health Service launched a project in 1950 that specifically studied the health effects of uranium observed in miners, without any disclosure or consent from the workers.[32] Some have argued that the United States treated miners as medical experiments and used them for the "greater good," or for the goals of science and "national security."[33] Pamphlets discussing the risks of uranium exposure were not dispersed to miners until 1959.[34] This cruel experiment illustrates a key symptom of colonialism, in which the colonial power utilizes and endangers the lives of colonized peoples to serve its own interests. The United States disregarded the health and wellbeing of Indigenous and other poor workers, while extracting value in the form of mining labor and scientific information.

In the northwestern region of the United States, the Hanford Nuclear Weapons Reservation has also created lasting health problems and environmental consequences for Indigenous and rural communities. As the "first large-scale plutonium manufacturing facility in the world," Hanford produced materials for atomic bombs—including the bomb dropped on Nagasaki, Japan—while also generating other dangerous materials, such as radioactive iodine.[35] Hanford, like the NTS, was sited for its "flat and arid environment," and it was considered an "'isolated wasteland, remote from population centers,' which could be used indiscriminately for national defense or natural resource extraction purposes."[36] However, the facilities *were* located near populated areas, occupied by peoples that lived off of the Columbia River, including the Yakima, Nez Perce, Umatilla, Cayuse, and Walla Walla.[37] Although Handford's activities were shut down in 1989, the nuclear consequences remain today.[38] The U.S. Government has initiated a "clean up" of the four Hanford sites (governed by statutes like the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)), but the affected "Tribes' voices are not being heard" in decision-making processes to determine the parameters of the cleanup.[39]

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[31] *Id.*; Moore-Nall, *supra* note 4, at 18.
[32] Brugge & Goble, *supra* note 16, at 1413.
[33] *Indigenous Peoples and Epistemic Injustice*, *supra* note 27, at 1171.
[34] Brugge & Goble, *supra* note 16, at 1413.
[35] *In re* Hanford Nuclear Reservation Litig., 292 F.3d 1124, 1127 (9th Cir. 2002).
[36] Jacobs, *supra* note 10, at 115.
[37] *Id.* at 130.
[38] Collins & Hall, *supra* note 9, at 298.
[39] Jacobs, *supra* note 10, at 126 (explaining how federal agencies have dismissed Indigenous-created risk-exposure scenarios that aim to remediate the land to pre-Hanford levels and account for cultural-specific land use, such as fishing and hunting).
have been dismissed

II. The RECA Compensation Model and Its Shortcomings

A. The Statutory Language and Regulatory Scheme

The original version of RECA, passed in 1990, opens with an admission of guilt and a formal "apology" for victims of radiation exposure. It states its purpose is to compensate radiation victims and their families "for the hardships they have endured," apologizing "for the burdens they have borne for the [n]ation as a whole."[40] Acknowledging downwinders and miners alike "were involuntarily subjected to increased risk of injury and disease to serve the national security interests of the United States," Congress established a trust fund to provide partial restitution for the health consequences from nuclear radiation.[41]

RECA provides compensation to three categories of applicants: uranium miners, people who lived downwind of sites, and test site workers.[42] The Act awards eligible miners with $100,000, onsite test participants with $75,000, and downwinders with $50,000. According to the Department of Justice, a total of 34,982 RECA claims have been approved since the passage of the Act, totaling $2,280,093,470 in compensation payments.[43] As of 2017, the DOJ estimated that about 7% of the RECA funds have gone to Indigenous applicants.[44]

RECA applications are procedurally regulated by Title 28 Chapter I Part 79 of the Code of Federal Regulations.[45] A person must file a claim through the Department of Justice by filling out an application form and including corroborative documents to substantiate the claim.[46] Applicants must demonstrate through medical documentation that they suffer from, or survive a family member who suffered from, a specified medical condition.[47] Moreover, applicants need to provide documentary proof that they lived or worked in covered counties or workplaces during particular time frames.[48] When the reviewer of the claim believes the documentation provided is insufficient, the DOJ can require the

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[40] Radiation Exposure Compensation Act, Sec. 2(b)-(c), Pub. L. No. 101–426, 104 Stat. 920, (1990).
[41] *Id.* Sec. 2(a)(5), Sec. 3.
[42] *Radiation Exposure Compensation Act*, U.S. DEP'T OF JUSTICE, https://www.justice.gov/civil/common/reca (last updated Mar. 13, 2020).
[43] *Awards to Date*, U.S. DEP'T OF JUSTICE, https://www.justice.gov/civil/awards-date-10182018 (last updated Oct. 18, 2018).
[44] U.S. DEP'T OF JUSTICE, RADIATION EXPOSURE COMPENSATION ACT TRUST FUND: FY 2017 BUDGET AND PERFORMANCE PLAN 1 (2016), https://www.justice.gov/jmd/file/821056/download.
[45] 28 C.F.R. § 79 (2020).
[46] 28 C.F.R. § 79.71(a) (2020).
[47] 28 C.F.R. § 79.16 (2020) ("Proof of medical condition" for Leukemia claims); 28 C.F.R. § 79.26 (2020) ("Proof of medical condition" for downwinders); 28 C.F.R. § 79.34 (2020) ("Proof of medical condition" for onsite participants); 28 C.F.R. § 79.45-46 (Proof of cancers for uranium miners); 28 C.F.R. §§ 79.54-57 (2020) (Proof of cancers or diseases for uranium millers); 28 C.F.R. §§ 79.64-67 (2020) (Proof of cancers or diseases for ore transporters).
[48] 28 C.F.R. §§ 79.23, .33, .43, .53, .63 (2020).

applicant to obtain and send additional documents before considering the application.[49]

An applicant must appeal a DOJ denial of a RECA claim through an "appeals officer" designated by the DOJ, who reviews the claim and reverses, affirms, or remands the decision.[50] Only after the appeals officer reviews a claim can an applicant seek judicial review on their denial.[51]

For the few cases that reach the stage of judicial review, the courts afford great deference to the agency's judgment.[52] Textual interpretations of RECA are left to the discretion of the DOJ, so long as the interpretation is not "arbitrary, capricious, or manifestly contrary to the statute."[53] For example, in *Sheff v. DOJ*, an applicant applied for RECA compensation based on a claim of radiation exposure while *in utero* and was denied by the DOJ. Here, the 10th Circuit affirmed the New Mexico District Court's decision under a *Chevron* analysis, finding that the DOJ interpretation excluding *in utero* radiation exposure from eligibility was a permissible construction,[54] while acknowledging RECA "never addresses whether individuals who were *in utero* during the exposure period qualify for compensation." In contrast, at least one court has found a DOJ interpretation impermissible. The New Mexico District Court rejected a narrow reading of the "ore transporter" provision, in which the DOJ denied compensation to an applicant who did not literally carry ore, but nonetheless suffered exposure.[55] The court found that this interpretation frustrated congressional intent. It noted that RECA eligibility "must be decided based on the radiation exposure that person would have been likely to incur through the person's occupational duties, which need not have included the actual carrying of ore."[56]

B. Problems in RECA's Application

One source of criticism of the RECA model is that the payments allotted are insufficient as a form of redress, given the seriousness and life-changing nature of radiation exposure. Indeed, Congress opted for a "partial" restitution model in establishing RECA, recognizing that the money awarded to applicants does not fully ameliorate the harms radiation victims experienced. With current awards ranging from $50,000-$100,000, arguably:

> [T]hese lump payments [bear] no relation to the amount of harm suffered by the claimants . . . [t]he amount of money given to successful downwinder applicants [is] . . . inadequate even to cover

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[49] *See* 28 C.F.R. § 79.5 (2020).
[50] 28 C.F.R. § 79.73 (2020).
[51] *Id.*
[52] *See* Sheff v. U.S. Dep't of Justice, 265 F. Supp. 3d 1257, 1261 (D.N.M. 2017), *aff'd sub nom.* 734 F. App'x 540 (10th Cir. 2018).
[53] *Id.* at 541.
[54] *Id.*
[55] Murrietta v. U.S. Dep't of Justice, 217 F. Supp. 3d 1301, 1309 (D.N.M. 2016).
[56] *Id.*

> multiple rounds of chemotherapy . . . [i]n endorsing this structure, Congress acknowledged that *compensation would be a token apology of the nuclear testing program's harms, rather than a valuation of actual damages suffered.*[57]

RECA's complicated set of regulations and narrow statutory categories disqualify and limit accessibility for many people who have suffered from radiation exposure. Over the years, this has led to criticism of the program for being underinclusive in its reach.[58] The 1990 text of RECA limited compensation eligibility on several grounds, such as lifestyle choices, disease types, and temporal boundaries. In the case of diseases or cancers of the lung, smoking history could disqualify an applicant; for certain cancers, exposure had to occur after the age of 20, but for other types, exposure had to occur before the age of 30; and for esophageal cancer, a drinking history would disqualify a person from obtaining RECA benefits.[59] Also, the original legislation was limited to select counties in western states and failed to include several other states and counties where people suffered from exposure.

In 2000, Congress passed amendments in an attempt to address criticisms that RECA was unfairly restrictive or arbitrary in its limitations. The amendments struck most of the language that construed smoking, alcohol use, and even coffee drinking as disqualifying behaviors, rendering certain applicants ineligible for payment.[60] The amendments also added several counties to the list of eligible geographic areas, as well as several diseases and cancers to the list of eligible medical conditions.[61] Nonetheless, despite RECA amendments, the narrow eligibility requirements still fail to include many injured people, including Indigenous people, in the compensation model.

In addition to restrictions on eligible diseases and locations, RECA regulations restrict Indigenous accessibility to compensation. RECA applications require extensive official documentation. This means formal documents from Western administrative and legal systems must be presented as proof of each aspect of the claim.[62] This includes medical treatment and diagnostic documentation, documentation on employment or housing history, and other

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[57] Ballif, *supra* note 15, at 275 (emphasis added).
[58] *See id.* at 272.
[59] Radiation Exposure Compensation Act, Sec. 4(b)(2), Pub. L. No. 101–426, 104 Stat. 920, (1990).
[60] Radiation Exposure Compensation Act Amendments of 2000, Pub. L. No. 106–245, 114 Stat. 501. Today, the smoker and non-smoker designation no longer exists; for an example of litigation challenging the 1990 smoking differentiation on equal protection grounds, see Howell v. Reno, 939 F. Supp. 802, 807 (D. Colo. 1996) (upholding a DOJ denial of a RECA application by a smoking applicant, reasoning that the legislative scheme provided for a higher exposure standard for smokers and this was valid under the *Chevron* doctrine).
[61] Ballif, *supra* note 15, at 279-80.
[62] *Id*. at 277, 281.

forms of formal record keeping.[63] However, as applied to Indigenous people, these regulations do not meaningfully account for the fact that some Indigenous communities may have different documentation and recording practices.[64] A lack of the required documentation can prevent certain Indigenous applicants from "proving" their radiation exposure claims to the DOJ. *Espinoza v. DOJ* serves as an illustrative example of the documentary barriers in RECA applications.[65]

In *Espinoza*, the DOJ denied a claimant's application because he lacked the necessary proof in the form of administrative or employment documents.[66] The claimant provided affidavits by his aunt, in which she testified that he worked in uranium mines (under the circumstances outlined in RECA) while he lived with her.[67] Moreover, the claimant argued that the Social Security records—which did not show him working at the mine during the time frame in question—were inaccurate as to his experiences, because mining employers incompletely reported employees and earnings.[68] However, the court rejected the claimant's arguments and upheld the DOJ's denial. Reasoning that the DOJ did not abuse its discretion, and its findings had a rational basis, the court stated that the agency's decision was proper.[69] Thus, the court upheld the findings that the affidavits were "unreliable," that the aunt lacked sufficient credibility and "firsthand knowledge" of the claimant's employment, and that the "SSA records outweighed the evidence in the [a]ffidavits." The outcome in *Espinoza* highlights an aspect of RECA's application that negatively impacts Indigenous claimants that may not have the same ease of access or visibility in certain formal U.S. records.

Documentation hurdles are just one of the barriers citizens of the Diné have experienced applying for RECA compensation. One of the fundamental barriers for many Diné claims was language,[70] which has consequently led to delays and denials.[71] RECA applications being administered in standard English has caused difficulties for some applicants who speak other primary languages, [72] such as Diné Bizaad. To this end, such language barriers make it more difficult to gather and provide the required formal documents. The use of interpreters for

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[63] *See* Sandoval v. U.S. Dep't of Justice, No. CV-06-278 JC/RLP, 2006 WL 8443578, at *5 (D.N.M. Sept. 7, 2006) (affirming a DOJ denial of a RECA application based on a lack of adequate medical documentation, while noting that it was indeed "virtually impossible for [the applicant] to unearth records that could conclusively establish the nature of her husband's illness(es)" due to the passage of time).

[64] Ballif, *supra* note 15, at 277.

[65] Espinoza v. U.S. Dep't of Justice, 20 F. Supp. 3d 1094, 1103 (D. Colo. 2013).

[66] *Id.*

[67] *Id.* at 1098.

[68] Petitioner's Reply Brief, Espinoza v. Dep't of Justice, No. 1:12-cv-3272-AP, WL 10076967 (2013).

[69] In RECA appeals, the judicial standard of review is that a DOJ decision can only be put aside "if it is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." Radiation Exposure Compensation Act, Sec. 6(l), Pub. L. No. 101–426, 104 Stat. 920, (1990). As such, the courts will generally defer to the agency's interpretation of the application.

[70] Alice Segal, *Uranium Mining and the Navajo Nation-Legal Injustice*, 21 S. CAL. REV. L. & SOC. JUST. 355, 385 (2012).

[71] Ballif, *supra* note 15.

[72] *Id*.

some Diné applicants to obtain acceptable medical reports and other documents slowed their application processes down dramatically.[73] These applicants have expressed their critiques and frustrations, leading the United States Senate Committee on Labor and Human Resources to hold hearings "to review difficulties that Navajo uranium miners and their families faced in applying for compensation."[74]

Because of the stringent procedures and evidentiary requirements mandated in the RECA framework, the firsthand accounts of Indigenous people recounting their past exposure to nuclear radiation are undervalued, by extension undervaluing their truths and lived experiences. U.S. federal and state records and documents are given more weight and credibility in the RECA analysis. Moreover, the judicial standard of review is set so low that it effectively makes a claimant's appeal of a DOJ denial near impossible. These facets of RECA act as exclusionary barriers for Indigenous people who may have less access to U.S. record-keeping methods, leaving Indigenous claimants at a higher risk for denial of their claims.

III. Remedies for Nuclear Harms to Indigenous Nations

A. Expansion of RECA: Broadening Eligibility and Increasing Awards

Indigenous-led litigation and activism played a significant role in RECA's passing.[75] Moreover, the amendments made to RECA since 1990 were fought for in large part by Indigenous advocacy groups that placed pressure on the government and media to address RECA problems that negatively impacted Indigenous claimants.[76] Although some measures increasing RECA coverage have passed, the statute has not been amended since 2000; some Indigenous advocates argue that Congress should pass more expansive amendments.[77]

Since 2000, downwinders and uranium workers have supported various RECA amendments, such as broadening downwinder provisions and compensating uranium workers of the 1970s and 80s.[78] In June of 2018,

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[73] *Id*.
[74] *Id*. at 277.
[75] NAT'L RESEARCH COUNCIL, ASSESSMENT OF THE SCIENTIFIC INFORMATION FOR THE RADIATION EXPOSURE SCREENING AND EDUCATION PROGRAM 18 (2005).
[76] *Id*.; *see also 2005 World Conference Against Atomic and Hydrogen Bombs* 4-6 (2005), http://www10.plala.or.jp/antiatom/PDF/j_07/PMvmnt/WC/05wc/e/intl/3rd/US-Goodman.pdf (testimony of Lori Goodman, Diné Citizens Against Ruining our Environment (Diné CARE)).
[77] *See Examining the Eligibility Requirements for the Radiation Exposure Compensation Program to Ensure all Downwinders Receive Coverage: Hearing on S.197 (RECA) before Senate Judiciary Committee*, 115th Cong. 4 (2018) (statement by Mr, Jonathan Nez [then Vice President of Navajo Nation]).
[78] *Id*. RECA eligibility for miners is cut off at 1971. In the case of the Navajo, active uranium mining continued until 1986. This means RECA does not compensate Navajo workers within a fifteen-year period of uranium exposure. *See also* CONG. RESEARCH SERV., R43956, THE

Johnathen Nez, then-Vice President of the Navajo Nation, provided testimony in a U.S. congressional hearing to advocate for RECA expansion. Some of the concerns included expanding the covered cancers and diseases under RECA and broadening the acceptable modes of documentary proof for claims.[79]

However, despite widespread support from nuclear victims, the U.S. Congress has not yet expanded RECA. A 2017 Congressional Research Service (CRS) report argues against the expansion of RECA.[80] According to the CRS, Congress should not add more counties or states to the downwinder eligibility because the inclusion of additional geographic areas is unsupported by scientific research conducted by the National Research Council.[81] Moreover, the report asserts that post-1971 uranium workers are not eligible for RECA compensation because post-1971 work is part of the the "commercial uranium sector," which goes beyond the scope of RECA's purpose to redress nuclear harms by the U.S. Government.[82]

B. Remedies Beyond RECA

Although RECA has attempted to partially account for nuclear harms, the damages Indigenous Nations have suffered from nuclear radiation have not been adequately addressed. Restitution in the form of money can play an important role in funding people's medical care and economic stability; compensation may also play a symbolic role in the admission and recognition of the harms caused by the U.S. Government.[83] However, the effects of nuclear radiation to people, soil, and water will persist for lifetimes.[84] As a consequence, generations of Indigenous Peoples will continue to inherit the effects of radiation to their health and communities. The breadth of harms—physical, environmental, and spiritual—experienced by Indigenous people calls for more than money damages.

RADIATION EXPOSURE COMPENSATION ACT (RECA): COMPENSATION RELATED TO EXPOSURE TO RADIATION FROM ATOMIC WEAPONS TESTING AND URANIUM MINING 13, https://fas.org/sgp/crs/misc/R43956.pdf (last visited Apr. 17, 2020).

[79] Some of the types of documents the DOJ should accept in RECA reviews include "grazing permits, Bureau of Indian Affairs natural resources records," as well as Indigenous Nations' "Vital Records files, census records, state or county records, trading post records or places of business records." Nez, *supra* note 77. at 5.

[80] *See* CONG. RESEARCH SERV., *supra* note 78.

[81] *Id.* at 11.

[82] *Id.* at 13.

[83] William Bradford, *With A Very Great Blame on Our Hearts: Reparations, Reconciliation, and an American Indian Plea for Peace with Justice*, 27 AM. INDIAN L. REV. 1, 171 (2003).

[84] Nuclear contamination will continue to impact generations. Many nuclear materials "carr[y] a lethal half-life from 1/4 to 1/2 million years" making its "destruction…effectively permanent." Churchill & LaDuke, *supra* note 6, at 62.

1. Why Compensation Falls Short: Colonization and Environmental Racism

Compensation ultimately fails to redress the injuries suffered by Indigenous Peoples. On the one hand, the amount of compensation, for those applicants that make it through the DOJ's process, is inadequate. But more importantly, compensation itself cannot heal the wounds of nuclear radiation. Radiation exposure, for Indigenous Peoples, is inseparable from the history of colonialism.[85]

Decolonial bodies of theory draw from the histories of colonized peoples and challenge hegemonic Western modes of understanding and power.[86] In the context of the Americas, decolonial thought seeks to disentangle the erasure and violence of colonial projects while centering the experiences of people of color. "Since Colón," or the incursion of European powers in the Americas, "one common experience has been trying to "de-colón," decolonize, take Colón out."[87] Sharing overlapping analyses with critical race and gender theories, decolonial thought maintains that with the colonization of the Americas, hierarchical social and political structures originated alongside the advent of the concept of "race."[88] Critical histories of colonialism in the context of Indigenous Peoples account for "the brutal reality of invasion, slavery, forced relocation, genocide, land theft, ethnocide, and forcible denial of the right to self-determination," making "[i]t [] perhaps impossible to overstate the magnitude of the human injustice perpetrated against Indian people in denial of their right to exist, on their aboriginal land base, as self-determining peoples."[89]

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[85] *See Indigenous Peoples and the Ethics of Remediation*, *supra* note 7, at 210.

[86] Western philosophical and historical frameworks posit whiteness as the manifestation of "Reason," "progress," and "civilization," while positing black and Indigenous Peoples as the "uncivilized Other" to Reason. According to theorists, "[t]his appropriative and destructive configuration of 'the other' is crucial to the configuration of Western identity in its. . . forms of domination." ALEJANDRO A. VALLEGA, LATIN AMERICAN PHILOSOPHY FROM IDENTITY TO RADICAL EXTERIORITY 103 (2014). This understanding of racial exteriority has served as a logical structure that justifies and rationalizes the violent consequences of settler-colonialism. *See* Anibal Quijano & Michael Ennis, *Coloniality of Power, Eurocentrism, and Latin America*, 1 NEPANTLA: VIEWS FROM SOUTH 533 (2000).

[87] Luz Guerra, *Latcrit Y La Des-Colonizacion Nuestra: Taking Colon Out*, 19 CHICANO-LATINO L. REV. 351, 355 (1998).

[88] "Race" is a social construct. Luis Angel Toro, *"A People Distinct from Others": Race and Identity in Federal Indian Law and the Hispanic Classification in Omb Directive No. 15*, 26 TEX. TECH L. REV. 1219, 1231 (1995). Although it has real effects on lived experiences, race is not a biological or natural reality; rather, it is "a symbolic category, based on phenotype or ancestry and constructed according to specific social and historical contexts, that is misrecognized as a natural category." Matthew Desmond & Mustafa Emirbayer, *What is Racial Domination?* 6:2 DU BOIS REV. 335, 336 (2009); Quijano & Ennis, *supra* note 86, at 534.

[89] Bradford, *supra* note 83, at 19. Indigenous histories of colonial violence include the imposition of slavery and serfdom, land theft, forced assimilation, and genocide. *See generally*, *id.*

Environmental racism, an analytical framework employed by theorists and activists, describes the phenomenon that harmful, toxic, and carcinogenic materials are handled and discarded in a manner that disproportionately affects communities of color and poor communities.[90] I use the term "racism" to describe economic, social, and political structures that contribute to racial inequities and violence. To this end, environmental racism (in addition to knowing and reckless environmental actions that harm poor and non-white people) includes behaviors that lack racist "intent," but are nonetheless products of systemic inequalities and indifferences of a class and race-hierarchized society. In the case of nuclear degradation of Indigenous Nations, these harms are symptoms of the interplay between coloniality of power and environmental racism.

The reality of colonialism for Indigenous Peoples endures, in part in the form of environmental destruction. By extension, this amounts to a destruction of Indigenous spiritual places and practices.[91] Some writers have articulated that ecological destruction correlates with the erasure and disappearance of Indigenous Peoples; to this end, Indigenous activists from traditions of "Native environmentalism" seek to challenge colonial violence in the form environmental degradation.[92] Indigenous environmental advocates have and continue to challenge the existence of hazardous and nuclear sites,[93] illegal waste dumping,[94] and industries that threaten water sources.[95] Many Indigenous grassroots organizations mount organized resistance to environmental destruction. Diné Citizens Against Ruining our Environment (CARE), for example, formed in 1988 in response to a toxic waste site on the Navajo Nation.[96] Diné CARE has advocated for the expansion of RECA in response to the needs of Diné miners and families.[97] Diné CARE member Lori Goodman described the intersection of

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[90] Environmental racism has been articulated through "hundreds of studies conclud[ing] that, in general, ethnic minorities, Indigenous persons, people of color, and low-income communities confront a higher burden of environmental exposure from air, water, and soil pollution from industrialization, militarization, and consumer practices;" these observations have been demonstrated through employing risk-analysis and proximity analysis methodologies and through the direct life experiences and testimonies of people who have been negatively impacted by environmental racism. Paul Mohai, David Pellow & J. Timmons Roberts, *Environmental Justice*. ANNU. REV. ENV. RES. 405, 406, 412 (2009).

[91] *See Climate Change, Sustainability and Globalization*, *supra* note 29, at 250.

[92] WINONA LADUKE, ALL OUR RELATIONS: NATIVE STRUGGLES FOR LAND AND LIFE 15 (Haymarket Books 2015) (1999); Rebecca Tsosie, *Tribal Environmental Policy in an Era of Self-Determination: The Role of Ethics, Economics, and Traditional Ecological Knowledge*, 21 VT. L. REV. 225, 305 (1996) (quoting Lori Goodman, a Dine CARE member: "Culture and tradition define the essence of environmentalism, which is to live respectfully with Mother Earth—not to desecrate her.").

[93] *See, e.g.*, Giancarlo Panagia, *Tot Capita Tot Sententiae: An Extension or Misapplication of Rawlsian Justice*, 110 PENN ST. L. REV. 283, 315 (2005).

[94] Daniel Brook, *Environmental Genocide: Native Americans and Toxic Waste*, 57 AM. J. ECON. & SOC. 105-113 (1998).

[95] David DeRoin & Ritchie Eppink, *Resistance Is Ceremony: Legal Support at Standing Rock and Beyond*, 61 ADVOCATE 25, 27 (2018).

[96] *About Us*, DINÉ C.A.R.E. (Citizens Against Ruining our Environment), https://www.dine-care.org/about-us (last visited May 29, 2020).

[97] *See* NAT'L RESEARCH COUNCIL, *supra* note 75, at 18.

environmental stewardship with Indigenous identity, stating that "[t]he land becomes a part of our person and of our religion. Therefore, when you separate native people from their lands, it is the equivalent to taking away their will to live."[98] Other examples of environmental activism abound, exemplifying the agency of Indigenous actors on the forefront of environmental defense.[99]

Given the intertwined and constitutive relationship of colonialism and Indigenous nuclear injuries, the United States is urged to confront an ongoing history of colonial violence and foster exercises of Indigenous Nations' self-determination. Indigenous self-determination encompasses a "universe of human rights."[100] Overall, these rights are "grounded in the idea that all are equally entitled to be in control of their own destinies."[101] Self-determination in the context of Indigenous Peoples recognizes Indigenous rights to exist and self-govern. Article 3 of the United Nations Declaration on the Rights of Indigenous Peoples ("UNDRIP" or "the Declaration") states that Indigenous People may "freely determine their political status and freely pursue their economic, social and cultural development."[102] S. James Anaya has observed, "self-determination is a foundational right, without which [I]ndigenous [P]eoples' human rights, both collective and individual, cannot be fully enjoyed."[103] Considering Indigenous Peoples' relationships to spiritual places and traditional lands, it is important to note "[t]here is a direct relation between self-determination and land and resource rights."[104]

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[98] Scott Perez, *Uranium, Navajos and National Sacrifice Zones*, https://app.box.com/s/5bx5k5qojhegrmtx46q00zvzkmjmsx9j (last visited Apr. 17, 2020).

[99] *See, e.g.* Churchill & LaDuke, *supra* note 6, at 158 (describing "Newe [Shoshone] opposition to nuclear militarism" as "integral to assertion of their land claims. As the matter was framed in a resolution first published by the Sacred Lands Association during the early 1980s, 'The Western Shoshone Nation is calling upon citizens of the United States…to demand that the United States terminate its invasion of our lands for the evil purpose of testing nuclear bombs and other weapons of war.'"); Conger Beasley Jr., *The Dirty History of Nuclear Power*, ENV. MAGAZINE 34 (Feb. 1994) (Native Americans for a Clean Environment (NACE) initially formed to investigate and expose toxic pollution generated by Kerr McGee's Sequoyah Fuels Plant in Gore, Oklahoma).

[100] S. James Anaya, *The Native Hawaiian People and International Human Rights Law: Toward A Remedy for Past and Continuing Wrongs*, 28 GA. L. REV. 309, 320 (1994).

[101] *Id.* at 320.

[102] Declaration on the Rights of Indigenous Peoples, G.A. Res. 61/295, U.N. Doc. A/RES/61/295 (Sept. 13, 2007) [hereinafter "The Declaration"].

[103] Special Rapporteur on the Situation of Human Rights and Fundamental Freedoms of Indigenous Peoples, *Promotion and Protection of All Human Rights, Civil, Political, Economic, Social and Cultural Rights, Including the Right to Development*, ¶ 41, Human Rights Council, U.N. Doc. A/HRC/12/34 (July 15, 2009).

[104] Inter-Am. Comm'n on Human Rirghts, *Indigenous and Tribal Peoples' Rights Over Their Ancestral Lands and Natural Resources: Norms and Jurisprudence of the Inter-American Human Rights System*, ¶ 165, OEA/Ser.L/V/II. Doc.56/09 (Dec. 30, 2009), https://www.oas.org/en/iachr/indigenous/docs/pdf/AncestralLands.pdf.

2. Alternative Approaches of Redress

Theories of reparative and restorative justice can provide conceptual approaches to inform more holistic modes of redress that take into account the colonial nature of nuclear harms of Indigenous Peoples. Reparations can be broadly defined as a "formal acknowledgment of historical wrong, the recognition of continuing injury, and the commitment to redress, looking always to victims for guidance."[105] However, approaches as to what this might look like, and whether it is effective or desirable, vary widely. For Indigenous Peoples, reparations could partially address past and ongoing nuclear injuries.

An understanding of "the current disparities, inequities, and vulnerabilities that pertain to the Indigenous Peoples" must not be detached from "the historical parameters of injustice for Native peoples," that is, colonialism.[106] Moreover, reparative frameworks should be informed by "Indigenous justice systems and norms," prioritizing an "intercultural approach" in order to carry out "the moral objectives of reparative justice, as well as the legal obligation to redress tangible harms."[107]

Given the depth and breadth of colonial harms perpetrated against Indigenous Peoples—genocide, political disenfranchisement, land theft, and environmental destruction, to name a few—non-monetary reparations could provide a form of redress that is more responsive to this colonial relationship, rather than compensation alone. However, Indigenous Peoples must determine for themselves what these remedies should look like.[108] The United States should not impose its own ideas for what constitutes adequate reparations. To this end, reparations should be framed around principles of Indigenous self-determination.[109] Colonial violence may be addressed in part by "maintaining or improving various core aspects of self-determination" for Indigenous Peoples, "such as social welfare and development, cultural integrity, and self-government."[110] For example, returning lands and restoring autonomous control of Indigenous lands to Indigenous Peoples could act as one step towards

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[105] Mari J. Matsuda, *Looking to the Bottom: Critical Legal Studies and Reparations*, 22 HARV. C.R.-C.L. L. REV. 323, 397 (1987).

[106] *See Indigenous Peoples and the Ethics of Remediation*, *supra* note 7, at 253.

[107] *Id.* at 210.

[108] Examples of what reparations in Indigenous contexts might look like include: "Non-repetition" (or a "cessation of continuing human rights abuses"), "public disclosure of past acts; public acknowledgement and apology for those abuses; official declaration restoring the dignity, reputation, and legal rights of a victim or victim's family; judicial or administrative actions to ensure against future abuses (including mechanisms to monitor and prevent social conflicts); and the promotion of human rights education and training." Lorie M. Graham, *Reparations, Self-Determination, and the Seventh Generation*, 21 HARV. HUM. RTS. J. 47, 80 (2008). Approaches will vary across Nations depending on their own histories, traditions, and experiences.

[109] *See Indigenous Peoples and the Ethics of Remediation*, *supra* note 7, at 242-45.

[110] Graham, *supra* note 108, at 65; *See* Todd Howland, *U.S. Law As A Tool of Forced Social Change: A Contextual Examination of the Human Rights Violations by the United States Government Against Native Americans at Big Mountain*, 7 B.C. THIRD WORLD L.J. 61, 96 (1987) (highlighting the need for Indigenous Peoples "to regain control over the institutions that most affect their lives").

Indigenous self-determination and serve as part of a reparative effort to redress nuclear harms. Although "monetary compensation to the individual" is understood as an "important aspect of reparations,"[111] the United States should consult with Indigenous Nations to create more responsive reparations for nuclear injuries.

Restorative justice models can also provide instructive frameworks when creating redress policies beyond compensation. Although similar to reparative models, restorative justice builds off of the "normative goal of reparation, the 'making of amends for a wrong,'" by also pursuing a "holistic goal, to 'restore' or 'repair' damaged relationships."[112] Reparations may act as an important step towards a restoration process in the sense that reparations can constitute an early acknowledgement of wrongs, communicating: "You exist. Your experience of deprivation is real. You are entitled to compensation for that deprivation. This nation and its laws acknowledge you."[113]

Some Indigenous Nations' legal traditions and approaches incorporate restorative justice concepts. For example, the Navajo Peacemaker Program focuses on "not only providing individual restitution for an injury caused to a person, but also repairing familial relationships and regaining harmony within the community."[114] This exemplifies a "method of dispute resolution known as Tribal Peacemaking,"[115] which "utilizes non-adversarial strategies . . . [and] incorporates some traditional or customary approaches . . . the aim of which is conciliation and the restoration of peace and harmony."[116] Approaches to tribal peacemaking are by no means homogenous; "[t]he format and style of tribal peacemaking may vary considerably, from a court-annexed process which strongly resembles non-Indian arbitration, or mediation, to a sacred ritual with a peace pipe."[117] However, tribal peacemaking approaches share a focus on the core concepts of "reconciliation rather than agreement, and the good of the community, rather than individual rights."[118]

In addressing nuclear wrongs, U.S. approaches should "engage Native normative frameworks of justice because, for Native [P]eoples, reparative justice is a process that is 'simultaneously emotional and spiritual, political and social.'"[119] As Tsosie observes, "[t]here is no 'uniform' theory of reparations that can fit all cultures, all nations, and all peoples."[120] Thus, the United States should

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[111] Graham, *supra* note 108, at 77.
[112] *Id.*
[113] Matsuda, *supra* note 105, at 390.
[114] Graham, *supra* note 108, at 77.
[115] Bradford, *supra* note 83, at 164.
[116] Phyllis E. Bernard, *Community and Conscience, The Dynamic Challenge of Lawyers' Ethics in Tribal Peacemaking*, 27 U. TOL. L. REV. 821, 825 (1996).
[117] *Id.*
[118] *Id.*
[119] *Indigenous Peoples and the Ethics of Remediation*, *supra* note 7, at 253.
[120] *Id.*

consult with Indigenous Peoples affected by nuclear radiation to understand each Nation's perspective on the appropriate reparative and restorative models of nuclear redress for their context. When Indigenous Peoples determine the modes of nuclear redress, the United States can foster a "recognition of mutual sovereignty" which in itself may produce remedial benefits.[121]

3. International Frameworks and U.S. Human Rights Obligations

In order to satisfy international human rights standards, the United States should shape its nuclear redress policies with deference to the leadership of Indigenous Nations. As the U.N. Special Rapporteur on the rights of Indigenous Peoples has observed, "a history of . . . nuclear weapons testing and uranium mining . . . has resulted in 'widespread environmental harm, and has caused serious and continued health problems among Native Americans.'"[122] These human rights violations call for more remedial action. Responses to Indigenous nuclear injuries should align with "current notions of justice and the human rights of [I]ndigenous [P]eoples,"[123] and as such, the United States should adhere to international standards to inform its approaches to nuclear redress.

The United States is obligated by several international instruments to pursue policies that protect the rights of Indigenous Peoples. International treaties, conventions, and covenants "constitute the primary sources of law for the protection of human rights" and "are legally binding upon . . . countries that have ratified them."[124] That is, when a State formally ratifies an instrument, it makes "a legal commitment to guarantee the rights enumerated therein to all persons within a [its] borders" and may be subject to "accountability to the international community for alleged violations of those rights."[125]

Moreover, the U.S. Constitution itself creates an obligation to uphold international instruments it ratifies. Article VI Section 2 of the U.S. Constitution states that "all treaties made, or which shall be made, under the authority of the United States, shall be the supreme Law of the Land."[126] Thus, the United States is bound by instruments it has ratified—such as the International Covenant on Civil and Political Rights (ICCPR) and the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD)—to observe and uphold the human rights of Indigenous Peoples. Additionally, non-binding instruments like the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Indigenous and Tribal Peoples Convention (ILO 169)

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[121] Bradford, *supra* note 83, at 163.
[122] James Anaya, U.N. Special Rapporteur on the Situation of Human Rights and Fundamental Freedoms of Indigenous Peoples, *The Situation of Indigenous Peoples in the United States of America*, ¶ 41, U.N. Doc. A/HRC/21/47/Add.1 (Aug. 30, 2012).
[123] *Id.* at ¶ 78.
[124] Elizabeth A. Pearce, *Self-Determination for Native Americans: Land Rights and the Utility of Domestic and International Law,* 22 COLUM. HUM. RTS. L. REV. 361, 375 (1991).
[125] *Id.*
[126] U.S. CONST. art. VI § 2.

should be consulted insofar as these instruments provide additional policy and interpretation guidelines.

4. Non-binding Mechanisms

Although it initially voted against UNDRIP, the United States has endorsed the Declaration since 2010.[127] The Declaration outlines human rights principles centered around Indigenous self-determination[128] and contains several provisions that should inform U.S. interpretations of its human rights obligations. Article 11 Section 2 of the Declaration maintains that States "shall provide redress through effective mechanisms" for any "cultural, intellectual, religious and spiritual property taken without their free, prior and informed consent or in violation of their laws, traditions and customs."[129] Moreover, this section provides that these redress mechanisms should be "developed in conjunction with [I]ndigenous [P]eoples."[130] In the context of nuclear contamination, Indigenous Peoples' property (both their lands and persons) was effectively deprived from them. This principle behind this article suggests that the United States should consult with Indigenous Nations to provide effective redress for these harms.

Several other provisions of the Declaration can facilitate efforts to create comprehensive nuclear redress for Indigenous Peoples. Article 29 provides in Section 2 that "States *shall* take effective measures to ensure that *no* storage or disposal of hazardous materials shall take place in the lands or territories of [I]ndigenous [P]eoples *without their free, prior and informed consent*."[131] Here we see the Declaration actually provides a veto power regarding hazardous materials—such as nuclear waste—meaning that Indigenous Peoples' consent must be obtained before any nuclear materials are stored or disposed of within their territories.

This Declaration also touches on another international standard that the United States should consider adhering to when consulting with Indigenous Peoples on nuclear redress—the standard of Free Prior and Informed Consent (FPIC).[132] Grounded in self-determination principles and the recognition of Indigenous Nations as sovereigns, FPIC can act as a mechanism to uphold the

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[127] Akilah Jenga Kinnison, *Indigenous Consent: Rethinking U.S. Consultation Policies in Light of the U.N. Declaration on the Rights of Indigenous Peoples*, 53 ARIZ. L. REV. 1301, 1302 (2011).
[128] The Declaration, *supra* note 102, art. 3.
[129] *Id.* art. 11.
[130] *Id.*
[131] *Id.* art. 29, sec. 2 (emphasis added).
[132] For example, Article 19 of the Declaration maintains that "states shall consult and cooperate in good faith with the [I]ndigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them." *Id.* art. 19.

right of Nations to lead decisions regarding their own lands.[133] It "allows [Indigenous Peoples] to give or withhold consent to a project that may affect them or their territories . . . [and] enables them to negotiate the conditions under which the project will be designed, implemented, monitored and evaluated."[134] The FPIC standard aims to ensure Indigenous Peoples can "conduct their own independent and collective discussions and decision-making," thereby facilitating a "process [that] does not guarantee consent as a result."[135] Adhering to the FPIC framework in efforts to expand and improve nuclear redress can ensure Indigenous Peoples shape these processes based on their own needs and contexts. This would be a step in the right direction enhancing observance of the constellation of rights implicated in Indigenous self-determination.

Indigenous nuclear injuries can in part be remedied by fostering Indigenous Peoples' self-determination in other areas of nuclear policy. Consider again the example of abandoned mines and waste on Diné lands. In an attempt to address the harms of uranium mining, the U.S. Government entered into agreements with the Navajo Nation to examine and "clean up" mines of high priority.[136] The EPA-led efforts consist of environmental assessments of selected sites.[137] However, many Indigenous people understandably mistrust U.S. efforts to restore and look after the land.[138] Utilizing FPIC in determining environmental remediation and other nuclear policies could facilitate more responsive reparative measures for nuclear contamination of Indigenous lands.

In addition to the FPIC model, the Declaration contains other articles that suggest the remedial nature of restoring Indigenous control over Indigenous lands. This could include Indigenous control over environmental policies as they are related to nuclear issues. Article 25 states that "Indigenous [P]eoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or

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[133] *See* Brant McGee, *The Community Referendum: Participatory Democracy and the Right to Free, Prior, and Informed Consent to Development*, 27 BERKELEY J. INT'L L. 570, 576, 578 (2009) (emphasizing the centrality of FPIC in the context of Indigenous lands: "[a] denial of FPIC or a reduction to mere consultation denies a people the right to their lands and threatens the peoples' existence").

[134] FREE PRIOR AND INFORMED CONSENT, FOOD & AGRIC. ORG. OF THE U.N., http://www.fao.org/3/a-i6190e.pdf (2016).

[135] *Id.*; *But see* The Declaration, *supra* note 102, art. 29 (regarding absolute bar against storage and disposal of hazardous materials without Indigenous consent).

[136] *Trust Mines*, U.S. EPA, https://www.epa.gov/navajo-nation-uranium-cleanup/trust-mines (last updated Apr. 24, 2020).

[137] Assessment involves "biological and cultural surveys, radiation scanning, and soil and water sampling," in an effort to "help to determine the extent of contamination." *Cleaning Up Abandoned Uranium Mines*, U.S. EPA, https://www.epa.gov/navajo-nation-uranium-cleanup/cleaning-abandoned-uranium-mines (last updated Apr. 15, 2020).

[138] As communicated in a multi-authored U.N. Human Rights Council submission on Indigenous Peoples' rights, "governmental 'remediation measures' consist only of leveling out the abandoned uranium mines and bulldozing dirt over the poisoned Earth. The groundwater upon which the Peoples and wildlife depend can never be restored." Indigenous Envtl. Network et al., *Indigenous Peoples Rights*, 9th Sess. of the Working Group on the UPR Human Rights Council (Nov. 2010), https://cutt.ly/cyboYRQ.

use."[139] Control over Indigenous lands also implicates Indigenous efforts in environmental conservation. Article 29(1) of UNDRIP recognizes:

> Indigenous Peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programmes for Indigenous Peoples for such conservation and protection, without discrimination.[140]

Following these principles, U.S. nuclear policy should follow the lead of the environmental goals and initiatives of Indigenous Nations. In addition, the United States should seek to restore control of Indigenous lands to Indigenous Peoples. As Tsosie observes, the "guarantees" contained in UNDRIP "are the essence of an Indigenous right to environmental self-determination."[141] The United States is urged to follow Indigenous Peoples' leads to determine what nuclear redress should look like across different contexts keeping in mind these concepts of Indigenous environmental self-determination.

Another non-binding mechanism to consider alongside UNDRIP is one of its precursors, the ILO Convention 169. ILO 169 has been considered one of "'the international human rights instruments most relevant to the protection of Indigenous rights,'" and informs the "interpretation of the scope of the rights of Indigenous and tribal peoples and their members."[142] According to ILO 169 Article 15, Indigenous Peoples have "the right . . . to participate in the use, management and conservation of [their] resources" as well as the right to prior consultation in decision-making in the "exploration" or "exploitation" of resources located on Indigenous lands.[143] As a general principle, ILO 169 maintains that with respect to Indigenous land rights, "governments shall respect the special importance for the cultures and spiritual values of the peoples concerned of their relationship with the lands or territories, or both as applicable, which they occupy or otherwise use, and in particular the collective aspects of this relationship."[144] With respect to environmental integrity, ILO 169 Article 7 states:

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[139] The Declaration, *supra* note 102, art. 25; *See also id.* art. 32, addressing Indigenous rights to control Indigenous traditional lands.
[140] *Id*. art. 29.
[141] *Climate Change, Sustainability and Globalization*, *supra* note 29, at 203. For a thorough discussion of UNDRIP articles in relation to the concept of environmental self-determination, see *id.*
[142] Inter-Am. Comm'n on H. R., *supra* note 104, at ¶ 12.
[143] Int'l Labor Org. [ILO], Convention (No. 169) Concerning Indigenous and Tribal Peoples in Independent Countries, art. 15, June 27, 1989, 1650 U.N.T.S. 384 (entered into force Sept. 5, 1991).
[144] *Id.* art. 13.

> Governments shall ensure that . . . studies are carried out, in co-operation with the peoples concerned, to assess the social, spiritual, cultural and environmental impact on them of planned development activities . . . [and] Governments shall take measures, in co-operation with the peoples concerned, to protect and preserve the environment of the territories they inhabit.

The United States should engage in FPIC in its efforts to create more responsive remedial solutions for Indigenous nuclear harms. Although the United States is not bound by the Declaration or ILO 169, both instruments provide additional frameworks with which to understand other binding international mechanisms. Importantly, both mechanisms discuss the standard of Indigenous consent (FPIC) as a baseline norm that should govern intergovernmental consultations.

5. International Mechanisms Binding on the United States

The International Covenant on Civil and Political Rights (ICCPR), which has been ratified by the United States, imposes human rights commitments on its Member States that are pertinent to Indigenous contexts. Article 1 of the ICCPR defines the right to self-determination for all peoples, echoing the language used in UNDRIP to describe Indigenous self-determination.[145] Article 27 of ICCPR calls for States not to interfere with the rights of religious and ethnic minorities to enjoy their cultures and practice their religions.[146] As the UN Human Rights Committee (HRC) has clarified, for Indigenous Peoples, a full realization of these rights requires that Indigenous Nations have control over their lands and resources.[147] Control over Indigenous lands facilitates Indigenous Peoples' maintenance and exercise of their cultures and religions.[148] The U.N. Special Rapporteur on the rights of Indigenous Peoples explains the harm that mining can do sacred places:

> [Due to] loss of land, *[I]ndigenous peoples have lost control over places of cultural and religious significance*. Particular sites and geographic spaces that are sacred to [I]ndigenous [P]eoples can be found throughout the vast expanse of lands that have passed into government hands. The ability of [I]ndigenous [P]eoples to use and access their sacred places is often curtailed by mining, logging,

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[145] International Covenant on Civil and Political Rights (ICCPR), art. 1, sec. 1, Dec. 16, 1966, 999 U.N.T.S. 171 (entered into force Mar. 23, 1976) ("All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.").

[146] *Id.* art. 27.

[147] U.N. Human Rights Comm. (H.R.C.), *CCPR General Comment No. 23: Article 27 (Rights of Minorities)*, U.N. Doc. CCPR/C/21/Rev.1/Add.5 (Apr. 8 1994), http://www.refworld.org/docid/453883fc0.html.

[148] *See* Indigenous Environmental Network et al., *supra* note 138.

> hydroelectric and other development projects, which are carried out under permits issued by federal or state authorities. *In many cases, the very presence of these activities represents a desecration***.**[149]

The ICCPR also urges States to adopt positive legal measures to protect Indigenous lands and to "ensure the effective participation of members" of Indigenous Nations "in decisions which affect them."[150] As a party to ICCPR, the U.S. Government has obligations to pursue policies ensuring Indigenous Peoples control the fate of their lands because their lands are inseparable from the exercise of their human rights.

The International Convention on the Elimination of Racial Discrimination (ICERD) provides another example of a legally binding treaty ratified by the United States.[151] This treaty established the United Nations Committee on the Elimination of Racial Discrimination (CERD), which oversees the implementation of ICERD.[152] CERD makes general recommendations to State Parties in order to clarify and expand upon the rights outlined in ICERD.[153] In General Recommendation XXIII, CERD makes several recommendations about upholding Indigenous Peoples' rights, urging:

> State parties to *recognize and protect the rights of Indigenous Peoples to own, develop, control and use their communal lands, territories and resources and,* where they have been deprived of their lands and territories traditionally owned or otherwise inhabited or used without their free and informed consent, *to take steps to return those lands and territories.* Only when this is for factual reasons not possible, the right to restitution should be substituted by the right to just, fair and prompt compensation. *Such compensation should as far as possible take the form of lands and territories*.[154]

In response to its harmful nuclear policies, the United States should seriously consider returning Indigenous lands as an alternative form of compensation. "Understanding . . . the centrality of land and geographic spaces to the physical and cultural well-being of [I]ndigenous [P]eoples" suggests that "restorative action" should be taken, including the return of sacred places and

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[149] Anaya, *supra* note 122, at ¶ 43.
[150] *See* H.R.C., *supra* note 147.
[151] International Convention on the Elimination of All Forms of Racial Discrimination (ICERD), *opened for signature* Dec. 21, 1965, 660 U.N.T.S. 195 (entered into force Jan. 4, 1969).
[152] *Id.* art. 8.
[153] *Id.* art. 9.
[154] U.N. Committee on the Elimination of Racial Discrimination (CERD), CERD G.A. Recc. 23, 51st Sess., ¶ 5, U.N. Doc. A/52/18 (Aug. 18, 1997) (emphasis added).

other lands.[155] Considering ICERD alongside the principles of self-determination and FPIC outlined in UNDRIP, the United States could also consider taking measures to protect and expand Indigenous environmental rights to develop and control their traditional lands. Indigenous Nations should determine the parameters of nuclear remediation and "cleanup" efforts as well as decisions regarding nuclear sites. These changes would help work toward remedial frameworks beyond monetary compensation alone.

The United States can also look to the Inter-American system to refer to its jurisprudence on Indigenous Peoples' rights. Although the United States has not agreed to submit to the jurisdiction of the Inter-American Court, it still has obligations as a Member State of the Organization of the American States (OAS) to uphold the American Declaration of Rights and Duties of Man ("Bogota Declaration").[156] Several relevant sections of the Bogota Declaration can shed light on international human rights standards in relation to the rights of Indigenous Peoples.

Although the Bogota Declaration does not directly discuss Indigenous rights, Inter-American organs interpret it through the lens of UNDRIP[157] and ILO 169.[158] To this end, the obligations imposed by the Bogota Declaration on the United States should be contextualized through these mechanisms. For example, Article I describes the right to life; Articles III and XIII note the right to religious freedom and cultural expression; Article XI discusses the right to health; and Article XXIII describes the right to property.[159] The Bogota Declaration reinforces Indigenous land rights because it recognizes "familial and social relations, religious practices, and the very existence of [I]ndigenous communities as discrete social and cultural phenomena."[160]

As such, the Inter-American Commission on Human Rights (IACHR) has found that cases of environmental degradation can constitute violations of

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[155] *See* Anaya, *supra* note 122, at ¶ 78.

[156] American Declaration of the Rights and Duties of Man ("Bogota Declaration"), art. 1, O.A.S. Res. XXX (May 2, 1948), https://www.refworld.org/docid/3ae6b3710.html.

[157] Inter-Am. Comm'n on H. R., *supra* note 104, at ¶ 19 (noting how "[UNDRIP's] provisions, together with the System's jurisprudence, constitute a corpus iuris which is applicable in relation to [I]ndigenous peoples' rights, and specifically in relation to the recognition and protection of the right to communal property").

[158] Inter-Am. Comm'n H. R., Report No. 40/04, Case 12.053, Maya Indigenous Communities of the Toledo District (Belize), fn. 123 (Oct. 12, 2004) (reasoning that although Belize was not a party to ILO 169, "the [Inter-American] Commission…considers that the terms of that treaty provide evidence of contemporary international opinion concerning matters relating to [I]ndigenous peoples, and therefore that certain provisions are properly considered in interpreting and applying the articles of the American Declaration in the context of [I]ndigenous communities.").

[159] Bogota Declaration, *supra* note 156, art. 1, 3, 11, 13, 23.

[160] S. James Anaya & Robert A. Williams, *The Protection of Indigenous People's Rights over Lands and Natural Resources Under the Inter-American Human Rights System*, 14 HARV. HUM. RTS. J. 33, 49 (2001).

Indigenous Peoples' rights to life and collective rights to property and survival.[161] The IACHR has expressed that Member States may have obligations to take appropriate actions to redress harms in cases of environmental degradation in violation of the right to life.[162] These obligations to provide environmental redress for Indigenous Peoples is underscored by the principles that:

> [I]ndigenous and [T]ribal [P]eoples have the right to participate in the determination of the environmental damages caused by projects for the exploration or exploitation of natural resources . . . [as well as] the right to participate in the process of determining the indemnity for the damages caused by such exploration or exploitation of natural resources projects in their territories, according to their own development priorities.[163]

In creating redress policies, States should utilize FPIC as a guiding practice to ensure Indigenous Peoples can communicate their needs and goals in crafting remedies.[164]

IV. Conclusion

Indigenous Peoples' experiences of radiation exposure implicate complicated historical and ongoing relationships with the United States. The U.S. government has historically violated the human rights of Indigenous Peoples, from perpetrating land theft to genocide. Radiation exposure fits within this framework of colonial violence. This in turn calls for contextualized approaches to redress and a transformation of U.S. nuclear policy.

The United States is obligated under the ICCPR and ICERD to create policies in furtherance of the human rights enumerated in those treaties. Moreover, in order to create more comprehensive redress for Indigenous Peoples, U.S. policy must look beyond the conceptual scheme of tort compensation underlying the logic of RECA. Instead, it should center Indigenous leadership and legal approaches and look to reparative and restorative models for additional guidance.

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[161] *See* Inter-Am. C.H.R., Report on the Situation of Human Rights in Ecuador. Doc., Chapter IX, OEA/Ser.L/V/II.96, Doc. 10 rev.1 (Apr. 24, 1997); *See* Inter-Am. C.H.R., Report on the Situation of Human Rights in Brazil, ¶ 47, ¶ 82(f), OEA/Ser.L/V/II.97, doc. 29 rev. 1 (Sept. 29, 1997).

[162] *See* Inter-Amer. Comm'n on H. R., *supra* note 104, at ¶ 194 (quoting "severe environmental pollution may. . . give rise to an obligation on the part of a state to take…necessary measures to respond when persons have suffered injury" [citing Rep. on the Situation of H. R. in Ecuador, *supra* note 161]).

[163] *Id.* at ¶ 219.

[164] *See* Inter-Am. C.H.R., Access to Justice and Social Inclusion: The Road Towards Strengthening Democracy in Bolivia, ¶ 248, OEA/Ser.L/V/II, doc. 34 (June 28, 2007).

Given the multitude of unresolved claims and the extent of the unaddressed claims of non-eligible nuclear victims, the U.S. should, at a minimum, pursue options to expand RECA that account for the real experiences of Indigenous and rural people. This would require measures such as extending the years of exposure eligibility, diversifying the types of acceptable documents to support claims to reduce barriers to Indigenous applicants, and allocating more funding for the program. As of the writing of this Note, RECA is set to sunset in 2022.[165] The U.S. Congress needs to extend the trust fund to allow victims to continue filing claims.

Monetary compensation, however, falls short. In order to address the colonial legacy of nuclear contamination, the U.S. government should defer to the judgment and leadership of Indigenous Nations. This calls for policy shifts anchored by the principle that Indigenous Peoples are members of sovereign Nations that may exercise their own sovereign rights over the use of their lands. From issues of nuclear remediation, to disposal of nuclear waste, and other nuclear policies, Indigenous Nations ought to lead in the development of these policies and programs. While RECA has provided an initial step in remedying nuclear injuries, redress in the context of Indigenous Peoples calls for more specific measures. Most importantly, nuclear redress should be determined by and in consultation with Indigenous Peoples. The United States is urged to promote Indigenous self-determination as a means to pursue meaningful and effective nuclear remedies.

[165] CONG. RESEARCH SERV., *supra* note 78, at 1.