

**SENATE COMMITTEE ON INDIAN AFFAIRS**

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**Testimony  
Oversight Field Hearing on “America’s Nuclear Past: Examining the Effects  
of Radiation in Indian Country”**

**October 7, 2019**

Good morning. The Pueblo of Laguna extends its gratitude to Vice Chairman Udall for chairing this hearing, to Representatives Lujan and Haaland for your interest and attendance, to Chairman Hoeven and the Committee, and to the Committee staff who made the journey here. The Pueblo deeply appreciates the opportunity to testify on the Effects of Radiation in Indian Country, a subject of great, longstanding, and ongoing concern to the Pueblo of Laguna.

This statement is submitted by the Pueblo of Laguna (“Pueblo” or “Laguna”) to apprise the Committee of the impact of radiation exposure on the Pueblo’s tribal lands. The needs of Pueblo members and families afflicted by mine-related diseases must be addressed. Further, the Pueblo’s lands, contaminated by past uranium mining, must be remediated as required under federal statute.

**The Pueblo**

The Pueblo of Laguna is a federally recognized Indian tribe located 45 miles west of Albuquerque, New Mexico. The Pueblo has approximately 8,200 members who are affiliated with six different villages. The Pueblo’s lands consist of more than a half million acres in Cibola, Sandoval, and Bernalillo counties. Those lands contain the site of what was once the world’s largest open pit uranium mine: the Jackpile-Paguate Mine.

**Summary**

In an effort to develop nuclear capability for military purposes at the end of World War II and throughout the Cold War, the United States promoted and encouraged uranium exploration and mining. The Pueblo of Laguna was a very early focus given its location in the Grants Mineral Belt, which stretches from the Pueblo to east of Gallup and has especially rich uranium deposits. During this period, the United States exercised extensive control over the domestic uranium industry, including exploration, production, processing, and marketing. For example, the United States set the price for uranium and established itself as the sole purchaser of uranium ore until the late 1960s. The rapid development of uranium mining in the Southwest during the Cold War left a long legacy

of contamination. That price, paid for our national defense, was and is borne significantly by American Indian tribes.

Beginning in 1952, Anaconda Mining Company entered into BIA-approved leases to mine uranium on the Laguna Reservation. Under the federal government's oversight, Anaconda mined 24 million tons of uranium-bearing ore from Laguna tribal lands over a 30-year span, during a time when environmental controls were unsophisticated and undeveloped.

Mining ended on the Pueblo's lands in 1982, and the mining company left. Despite Anaconda's resistance, the Bureau of Indian Affairs required reclamation of the mine after its closure. But, lacking federal standards that would adequately address a uranium mine cleanup, BIA and BLM developed a reclamation plan intended primarily to restore the site back to its natural state, or as close to it as practicable. That limited reclamation was completed in 1995, but the Pueblo's members are still suffering profound health effects from past exposure and ongoing contamination.

To understand the horrible and lasting effects radiation and other uranium-related contamination have had for decades, and continue to have, on the Pueblo and its members, it is important to understand the history of the mine. That history spans almost seventy years, from the early 1950s when mining began through the mine's closure in 1982, followed by reclamation, post-reclamation, and finally the CERCLA remediation period beginning under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") in 2013 and still in its early stages.

### **Mining at Laguna**

Consistent with the United States' aggressive promotion of uranium mining, in May 1952, the Anaconda Mining Company (later Atlantic Richfield or ARCO) entered into a lease with the Pueblo, approved by the Secretary of the Interior, to mine uranium on 4,988 acres of Laguna land near the Village of Pagate. Additional BIA-approved leases were signed in 1963 and 1976 bringing the total to almost 8,000 acres. As a result, Anaconda operated what was then the world's largest open pit uranium mine at the Pueblo from 1953 until 1982. The vast majority of uranium produced on Indian land between 1950 and 1968 was purchased by the U.S. Atomic Energy Commission.

Anaconda utilized three open pit mines and nine underground mines at Laguna to produce 24 million tons of uranium-bearing ore. More than 400 million tons of earth had to be moved to obtain that ore. The pit located next to the Village of Pagate was the deepest at 625 feet. Mining conducted from the underground mines primarily began in the 1970's. The mine employed as many as 800 tribal members, the majority of the Laguna workforce.

Anaconda closed the mine on March 1, 1982, after the United States had the stockpile of uranium it needed for military purposes, international competition increased, and concerns about the nuclear power industry were growing.

## **The 1980s**

Despite requirements in the mining leases and federal mining regulations, Anaconda resisted its responsibility to reclaim the mine after its closure, even threatening litigation. As a result, the site lay dormant for seven years before efforts to reclaim the mine began. More than 2,000 acres of land and several pits needed to be reclaimed. Some pits were filled with contaminated water that had seeped up over the years. During that time, stockpiled waste blew into surrounding areas, including the Paguete Village, located just 30 yards from the mine. In addition, rain water washed waste from the mine into surface water tributaries.

A draft environmental impact statement recommended reclaiming the mine because the site was a public health and safety hazard, noting that more serious hazards would develop if the site was not reclaimed.

Reclamation would eventually begin only after Anaconda, the United States, and the Pueblo reached an agreement in 1986, approved by the Secretary of Interior, by which the Pueblo would perform the limited reclamation work under a contract with Bureau of Indian Affairs (“BIA”) funded by Anaconda (now Atlantic Richfield).

## **Reclamation**

There were no standards for reclaiming a closed uranium mine in place at that time. CERCLA was in its infancy and was not even mentioned in the almost 1,000-page environmental impact statement prepared by BIA and BLM. Accordingly, the reclamation was conducted with BIA and BLM oversight according to a Record of Decision and Management Plan developed by BIA in cooperation with other federal agencies and according to regulations under which BIA and BLM controlled mining and reclamation on tribal lands. The limited reclamation work by the Pueblo’s newly created tribal corporation, Laguna Construction Co., began in 1989 under a Public Law 638 contract between the Pueblo and the BIA.

As the Pueblo’s trustee, the BIA is responsible for monitoring the site and its ongoing health and environmental impacts, and much remains to be done to mitigate the health and environmental impacts. Even then, nothing can erase the scar in the land, bring back the lives that have been lost, restore broken families, or heal the terminally ill.

## **EPA Designation of the Jackpile-Paguete Mine as a Superfund Site**

EPA listed the Jackpile Site on the National Priority List (“NPL”) by publication in the Federal Register on December 12, 2013, thereby making it a Superfund site. In summary, the results from EPA’s preliminary site investigation showed that despite the surface reclamation of the mine areas, releases of hazardous materials from the site are still occurring and elevated levels of isotopic uranium have been detected in the surface waters of Rio Paguete, Paguete Reservoir, and downstream in the Rio San Jose. Surface water is used for fishing, livestock and wildlife consumption, and traditional/cultural activities.

The first major step in the CERCLA process, the Remedial Investigation/Feasibility Study, is underway to identify the options for the ultimate CERCLA cleanup. But forty years after the mine's closure is forty years too long.

### **Radiation Impacts at Laguna**

Given this tortured history and the hazardous materials inherent in uranium mining, it was perhaps inevitable that members of the Pueblo would suffer from serious, all-too-often fatal, diseases.

The Village of Paguete, situated on the edge of the largest open pit in the mining area, was significantly affected by the mining activity. In the village, often-daily blasting caused old stone and mud houses to crack apart. Paguete residents recall dust that seemed to linger for hours after a blast before settling on their homes, crops, and clothes.

Little is yet understood about the stability of the radioactive pollutants and additional risks, including their migration into local groundwater supplies or into the atmosphere. Of the 24 million tons of ore mined from the Jackpile-Paguete Mine, approximately 23.7 million tons were left as waste, which is still dangerous because of radioactive elements it contains. In addition, water that flows through the site, including the Rio Moquino and the Rio Paguete, is contaminated from radioactive elements. Communities and families lost their water wells because of unsafe levels of radiation. Because water is so scarce in our arid part of New Mexico, the contamination of our water resources is particularly devastating to our people and to the entire region.

Miners and mill workers were largely unaware of the dangers of radiation exposure. Even as the understanding of those dangers grew, the Federal Government failed to protect uranium workers and their families from the hazards of exposure to radioactive materials. Radiation exposure can cause disease that may not show up for 10-40 years, and recall that Pueblo members worked actively on reclamation efforts as recently as 1995.

Former mining and reclamation employees, as well as Pueblo members living in Paguete and downwind or downstream continue to report growing numbers of mining- and cancer-related illnesses. Many Laguna members have died, and many more suffer from disease linked to radiation exposure attributed to uranium mining. The United States is indebted to those Pueblo members who sacrificed their health and even their lives to provide uranium for America's Cold War nuclear arsenal.

We asked the Southwest Research and Information Center ("SRIC"), an organization with significant expertise in uranium impacts, to help us prepare for this hearing by cataloging and analyzing available research on the health impacts of uranium, particularly on Laguna members. We hope to supplement this written testimony with a written report from the SRIC, but from the preliminary memorandum already provided to the Pueblo, at least four conclusions can be highlighted.

First, the health impacts on Pueblo members specifically are profound. For example, a startling 88 percent of 402 Pueblo home health patients who worked at the mine site after 1971 have been diagnosed with pulmonary fibrosis, a RECA-compensable disease. That

number alone is staggering and confirms what the Pueblo has known for decades: mining has had a devastating and ongoing effect on our community.

Second, at least three studies on uranium mine workers show that there is little to no difference in the health effects on workers who were in the industry before and after 1971, the current RECA cutoff and when safety conditions supposedly improved. For example, a recent 2017 study conducted in our area showed that 66 percent of mine workers employed after 1971 had abnormal chest X-rays indicative of pneumoconiosis, a RECA-listed lung disease. That is only two percent less than the pre-1971 workers in the same study. In a survey of some 1,300 post-1971 mine workers in our region only a decade ago, more than 70 percent reported “uranium-related medical conditions” as defined by federal agencies, but only nine percent of those illnesses would have been compensable under RECA because of the restrictive list of covered conditions. RECA must be amended, not only with respect to the time period, but also with respect to the scope of conditions covered.

Third, the focus on mine workers is too narrow. The same regional survey found that 40 percent of women living with mine workers reported a wide range of adverse effects on their reproductive health, including miscarriages, stillbirths and children with birth defects, primarily because they were the ones who washed the contaminated work clothes worn by mine workers. And the risks of exposure to non-mine workers are ongoing. Seventy-two percent of Paguate homes tested over a three-month period in 2011 had excessive radon levels, with a cancer risk equivalent to smoking between a pack and two packs of cigarettes a day, and often more.

Fourth, more research is nevertheless necessary. No comprehensive and focused study has been done on the health effects at the Pueblo. At a listening session in Paguate last month conducted by the University of New Mexico METALS Superfund Research Center, Village residents expressed a wide range of concerns about chronic health problems. Primary concerns included lung cancer and other cancers; respiratory diseases, asthma, and other breathing problems; potential health effects of ingesting crops grown in contaminated soils or meat from livestock and game exposed to mine wastes; and hypertension and cardiovascular disease. Pueblo members stand ready to volunteer for community-based health studies and medical screening programs, and to implement interventions to lessen the effects of exposure. There was strong demand for programs that include the generations that have followed the uranium workers of the 1950s through the 1980s.

In short, the health effects and environmental dangers are real, they are ongoing and multigenerational, and they are not confined to mine workers. We at the Pueblo have known this for decades. If the United States needs still more data to understand and believe the endemic health and environmental damage its nuclear program has unleashed, then please fund the research.

### **Radiation Exposure Compensation Act (RECA)**

The Pueblo has worked with the New Mexico Congressional delegation to amend the Radiation Exposure Compensation Act to cover former uranium workers beyond the

1971 cutoff period. Again, the Jackpile-Paguate Mine did not close until 1982, ten years after the cutoff date under RECA, and many Pueblo members worked on the reclamation project, which continued until 1995. As shown above, post-1971 mine workers suffer the same health effects at virtually the same rates as pre-1971 workers. They should be afforded the same benefits under RECA. The Pueblo therefore is grateful that S.947, the Radiation Exposure Compensation Act Amendments of 2019, would extend coverage through 1990.

While the Pueblo strongly supports the legislation, it should also be apparent from this testimony that it does not go far enough. What of the ill Pueblo members who worked on the reclamation project, which continued until 1995? What of the Pueblo women and children in Paguate who have died or are ill because they lived within a stone's throw of the largest uranium mine pit in the world? What of the Pueblo members of all ages and genders who have been exposed through other pathways? Justice does not end with the current RECA amendments.

### **Conclusion**

The Pueblo deeply appreciates the Committee's attention to this issue and the opportunity to testify, and hopes that finally real progress can be made. Sadly, not a whole lot has changed since, for example, our testimony in support of amendments to the Surface Mining Control and Reclamation Act seven years ago. The Pueblo is encouraged by the preliminary steps that have been taken toward remediation of the Jackpile-Paguate uranium mine under CERCLA and appreciates the cooperation of its federal trustee in facilitating the CERCLA process. The Pueblo is hopeful that RECA will be expanded, but much more remains to be done, and it must be done.

Thank you for allowing the Pueblo to testify before this Committee. If you have any questions, please do not hesitate to contact me.