GlobalResearch
Center for Research on Globalization

America's "Secret Fukushima": Uranium Mining is Poisoning the Bread Basket of the World

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Global Research, June 07, 2013
Truthout

Region: USA
Theme: Environment

Early in the morning of July 16, 1979, a 20-foot section of the earthen dam blocking the waste pool for the Church Rock Uranium Mill caved in and released 95 million gallons of highly acidic fluid containing 1,100 tons of radioactive material. The fluid and waste flowed into the nearby Puerco River, traveling 80 miles downstream, leaving toxic puddles and backing up local sewers along the way.

Although this release of radiation, thought to be the largest in US history, occurred less than four months after the Three Mile Island partial nuclear meltdown that sent radioactive gases and iodine into the air, the Church Rock spill received little media attention. In contrast, the Three Mile Island accident made the headlines. And when the residents of Church Rock asked their governor to declare their community a disaster area so they could get recovery assistance, he refused.

What was the difference between the Church Rock spill and the Three Mile Island partial meltdown? Church Rock is situated in the Navajo Nation, one of the areas in the US sacrificed to supply uranium for the Cold War and for nuclear power plants. That area and many others in the Navajo Nation are contaminated to this day. Another sacrifice area is the Great Sioux Nation where thousands of open uranium mine pits continue to release radiation and heavy metals into the air, land and water.

This poisoning of the people in the Navajo and Great Sioux Nations has been going on for decades and has had serious effects on their health. Even today, it is unknown what the full effects are and what the impact is on the rest of the nation because the contaminated air and water are not limited by borders. Most Americans are unaware of the story of uranium mining on tribal lands because it is a difficult story to accept. It is a story that includes the long history of human rights abuses by the US against native Indians and recognition of the full costs of nuclear energy – two stories the government and big energy have suppressed.

Many people think of nuclear power as a clean source of energy. It has been promoted as part of the transition from fossil fuels. But the reality is that nuclear power comes at a heavy price to the health of people and the planet. Like other forms of extractive energy such as coal, oil and gas, uranium needs to stay in the ground. Radiation and heavy metal poisonings are a hidden environmental catastrophe that is ongoing and must be addressed. But rather than studying the health effects and cleaning up the environment, private corporations are pushing once again to lift the ban on uranium mining.

Is Uranium Mining Poisoning the Bread Basket of America?

Thousands of open uranium mines excavated beginning in the 1950s continues to release

radiation today. There have been inadequate measurements but the limited measures done show ongoing leaks larger than Fukushima. How did we get here?

It is estimated that 60 to 80 percent of uranium in the US is located on tribal land, particularly in the lands of the Navajo and Great Sioux Nations. After WWII, the United States Atomic Energy Commission (AEC) was created so that the US could obtain uranium for weapons production domestically. The AEC guaranteed that it would purchase all uranium that was mined. A uranium boom ensued. Private corporations jumped in and, in areas of South Dakota, individuals started mining for uranium on their private lands unaware of the dangers.

Private corporations set up thousands of underground and open pit uranium mines on tribal lands and hired local native Indians at low wages. Other than jobs, the uranium mines brought little benefit to these nations because the lands were given to non-Indian companies such as Kerr-McGee, Atlantic Richfield, Exxon and Mobil. Native Indians had little control over what took place.

Two Acts in the 19th century took the rights of self-determination away from the native population. The Indian Appropriations Act of 1851 allocated money to move Indians onto reservations, ostensibly to protect them from white settlers, but more likely to give settlers access to natural resources. The reservations are also known as prisoner of war camps. In fact, the reservation in Pine Ridge, SD is registered as POW Camp 344.

A second Indian Appropriations Act in 1871 changed the legal status of native Indians to wards of the Federal government, stripping them of recognition as sovereign nations and the right to make treaties. In order to make contracts for uranium mining on tribal lands, the Bureau of Indian Affairs created Tribal Councils to conduct negotiations. But the resulting contracts were not made in the best interests of the tribes.

The native Indians who worked in these mines were not protected from exposure to radiation, nor were they adequately warned about the dangers. Though it was clear that radiation exposure was linked to cancer in the early 1950s, around the same time that the US Public Health Service also started studying the health of uranium miners, it was not until 1959 that lung cancer was mentioned as a risk in pamphlets given to the workers. In an unpublished doctoral dissertation, A.B. Hungate writes that the reasons for this are: “The government had two interests. First, it needed a steady supply of domestic uranium, and it felt that warning the workers of the hazards would result in the loss of the workforce. Secondly, it wanted an epidemiological testing program to study the long term health effects of radiation.”

Don Yellowman, president of the Forgotten Navajo People, described the extent of exposure to radiation and toxic metals. Native Indian miners would drink radioactive water that had contained heavy metals, dripping off of the walls deep in the mines. Some of the miners had to travel long distances to the mines, so their families would come with them. Children would play in the area around the mine and family members would prepare and eat meals there. Other reports state that workers, primarily non-whites, were ordered into the mines shortly after explosions were set off to gather up rocks and bring them out for processing. Also, miners would go home at night covered in toxic radioactive dust, exposing their families to health risks.

Uranium mining started in South Dakota on land included in the original treaties with the

Great Sioux Nation in the 1960 and 70s. The Sioux were not included in negotiations for the mining and are still refusing to settle with the US government over land in the Black Hills that was mined. During the boom, the land was mined without regard for contamination as "large mining companies [were literally] pushing off the tops of bluffs and buttes."

A few decades after uranium mining began in the Navajo Nation, increased numbers of cancer cases, lung cancer in particular, began to show up in the miners. A 2008 literature review in New Mexico found that the "Risk of lung cancer among male Navajo uranium miners was 28 times higher than in Navajo men who never mined, and two-thirds of all new lung cancer cases in Navajo men between 1969 and 1993 was attributable to a single exposure — underground uranium mining. Through 1990, death rates among Navajo uranium miners were 3.3 times greater than the U.S. average for lung cancer and 2.5 times greater for pneumoconioses and silicosis."

Though the health effects of radiation exposure were known, it took decades before steps were taken to protect workers. The mines were operated under lax laws established in the 1872 Mining Act. Health and safety regulation of the mines, such as requirements for ventilation, was not passed in Congress until the late 1960s. But even once they were law, the regulations were not enforced.

Beginning in the 1970s, miners and their families began to pursue legal solutions through the courts and Congress so they could be compensated for the effects of their radiation exposure. Many court cases failed and native Indians were excluded from hearings in Congress on the miner safety. Finally, the Radiation Exposure Compensation Act (RECA) passed Congress in 1990.

RECA is desperately inadequate and restrictive. Until 2000, RECA only covered miners, not mill workers, and it does not cover families and others who lived near the mines. It also requires a very strict application process which is impossible for some to complete. A summary of RECA by academics Brugge and Goble states: " We believe that it is not possible to simultaneously apologize, set highly stringent criteria, and place the burden of proof on the victims, as did the 1990 RECA."

Uranium Mine Pits Continue to Leak Radiation Today

Radiation and heavy metals from uranium mines continue to pollute the land, air and water today and very little action is being taken to stop it.

In the upper great plain states of Wyoming, Montana and the Dakotas, there are 2,885 abandoned uranium mines that are all open pits within territory that is supposed to be for the absolute use of the Great Sioux Nation under the 1868 Fort Laramie Treaty with the US. These open mines continue to emit radiation and pollutants that are poisoning the local communities.

According to a report by Earthworks, "Mining not only exposes uranium to the atmosphere, where it becomes reactive, but releases other radioactive elements such as thorium and radium and toxic heavy metals including arsenic, selenium, mercury and cadmium. Exposure to these radioactive elements can cause lung cancer, skin cancer, bone cancer, leukemia, kidney damage and birth defects."

There are currently 1200 abandoned uranium mines in the Navajo Nation and 500 of them

require reclamation. The greatest amount of radioactive contamination on Navajo land comes from solid waste called 'tailings' which sit in large open piles, some as tall as 70 feet high, and were incorporated into materials used to build homes. Dust from these piles of waste blows throughout the land causing widespread contamination.

A 2008 study found that "mills and tailings disposal sites caused extensive groundwater contamination by radium, uranium, various trace metals and dissolved solids. One estimate is that 1.2 million acre-feet of groundwater (or enough to fill Elephant Butte Reservoir more than twice) have been contaminated in the Ambrosia Lake-Milan area from historic mine and mill discharges, and less than two tenths of 1 percent has been treated to reduce contaminant levels." It is estimated that 30 percent of people living in the Navajo Nation lack access to uncontaminated water.

Charmaine White Face of Defenders of the Black Hills describes the situation in the Great Sioux Nation as "America's Chernobyl." She says, "A private abandoned, open-pit uranium mine about 200 meters from an elementary school in Ludlow, SD, emits 1170 microRems per hour, more than 4 times as much as being emitted from the Fukushima nuclear power plant in Japan. " In addition, "Studies by the USFS show that one mine alone has 1,400 millirems per hour (mR/hr) of exposed radiation, a level of radiation that is 120,000 times higher than normal background of 100 millirems per year (mR/yr)!" Cancer rates in Pine Ridge, SD are the highest in the nation.

This contamination escapes into the air which blows to the East and South and seeps into the water, reaching the Cheyenne and Missouri Rivers. It poisons grain grown in these areas that is fed to cattle that provide milk and beef for the rest of the nation. As White Face explains, "In an area of the USA that has been called 'the Bread Basket of the World,' more than forty years of mining have released radioactive polluted dust and water runoff from the hundreds of abandoned open pit uranium mines, processing sites, underground nuclear power stations, and waste dumps. Our grain supplies and our livestock production in this area have used the water and have been exposed to the remainders of this mining. We may be seeing global affects, not just localized affects, to the years of uranium mining."

Uranium also contaminates coal that is mined in Wyoming for power plants in the East. Defenders of the Black Hills report that "Radioactive dust and particles are released into the air at the coal fired power plants and often set off the warning systems at nuclear power plants."

People in the Navajo and Great Sioux Nations have been fighting for decades for the US Government to perform studies on the extent of contamination and to clean up both current contamination and prevent future contamination. As wards of the federal government, the US is responsible for the health and safety of native Indians. The Forgotten Navajo People have put forth a resolution which states "that all people have the inalienable right to clean air, clean water, and the preservation of sacred lands and that immediate action must be taken to Fund the Ongoing need for Remediation of Radioactive Contamination in our Air, Water, and Homelands to ensure our survival and that the named parties will Support the People's Uranium Radiation Activity Data Collection Network." The resolution also asks that the US uphold the ban on further uranium mines. They have also sought equipment that would allow them to measure radiation on their reservations, as simple request that has not been acted on.

Defenders of the Black Hills have written legislation, the Uranium Exploration and Mining

Accountability Act, calling for study and remediation, but according to White Face, no members of Congress are yet willing to sponsor the bill. She explains that state and federal legislators want to hide the fact that this ongoing contamination exists because it will hurt the states economically. Just 40 miles South of Mount Rushmore, there are 169 abandoned open mines. And there are mines in the areas of National Parks such as Yellowstone and the Grand Tetons. These mines likely contaminate water and air in those areas visited by thousands of tourists.

The Chain of Environmental Damage from Nuclear Energy Begins with Excavation

During the energy crisis of the 1970s, President Nixon called for the US to become more energy independent and to pursue renewable sources of energy through Project Independence 1980. This included increasing the use of nuclear power and resulted in the building of nuclear power plants throughout the nation. Some of those power plants, 23 currently in use, were built using the same flawed plan as Reactor One which failed at the Fukushima Daichi nuclear power plant in Japan. And many of them are reaching their 40 year lifespan and are applying for renewed permits to continue operation.

In addition, because of the reduced availability of fossil fuels and the climate crisis, nuclear power is back on the table as part of President Obama's, who has been well-funded throughout his career by Excelon Energy, "All of the Above" energy strategy. Earthworks reports that "According to the Nuclear Regulatory Commission, there are currently 26 proposals to start, expand or restart in situ projects in the states regulated by the commission (Wyoming, Nebraska, South Dakota, New Mexico). Of these, nine will be new operations."

In situ uranium mining is being promoted as a safer method of extracting uranium. In this type of mining process, deep holes are drilled into the Earth's surface and fluids are injected into them to dissolve the uranium so that it can be collected. This method of mining is certainly less destructive to the surface of the Earth than open pit mining, but the report also states that "Any in situ operation risks spreading uranium and its hazardous byproducts outside the mine, potentially contaminating nearby aquifers and drinking water sources. This has been a major problem with almost all in situ projects in the U.S."

Current uranium mines have a history of noncompliance with regulations. There continue to be spills. Mining corporations do not clean up areas that they are required to clean up. They do not pay fines. And they influence local governments to loosen requirements once they receive a mining permit.

In addition to contamination of land, air and water, uranium mining, particularly in situ mining requires large amounts of water. In the current environment with extended droughts and reduced aquifers, in situ mining places greater strain on the water crisis.

Nuclear power is another form of extractive energy that is not only extremely unsafe but is also more expensive than safer forms of energy. Beyond the human and environmental costs, the cost of building new nuclear reactors has quadrupled since 2000 to an average of $13 to 15 billion each. Physicians for Social Responsibility report that "New reactors are estimated to cost homeowners and businesses between 12 cents and 20 cents per kilowatt hour on electric bills—more than cleaner, safer alternatives."

And the International Physicians for the Prevention of Nuclear War passed a resolution in 2010 calling for a ban on all uranium mining worldwide, which states that "As well as the

direct health effects from contamination of the water, the immense water consumption in mining regions is environmentally and economically damaging – and in turn detrimental for human health. The extraction of water leads to a reduction of the groundwater table and thereby to desertification; plants and animals die, the traditional subsistence of the inhabitants is eliminated, the existence of whole cultures are threatened.

Expose the Truth and Create a Carbon Free Nuclear Free Energy Economy

Uranium mining in the US and worldwide is a hidden environmental catastrophe that must be exposed. It is not acceptable to ignore the ongoing poisoning of communities, particularly of indigenous communities. Three fourths of all uranium mining worldwide is on indigenous land.

Yellowman speaks of the practice of uranium mining as a form of structural violence. Structural violence occurs when a social structure or institution harms people by preventing them from meeting their basic needs. There is no doubt that widespread contamination of the air, land and water from seventy years of uranium mining has violated the basic rights of indigenous peoples to clean air and water and to live healthy lives.

It is not known at present to what extent the ongoing contamination is affecting the health of our nation. Despite the obvious need, there have not been, to date, any comprehensive studies of radiation and heavy metal contamination in the US. Uranium that is ingested by cattle and other livestock through water and feed concentrates in muscle. We do not know how safe our air, water and food are. And it is likely that the government and the nuclear industry do not want us to know.

It is becoming clearer that nuclear power is another dirty extractive source of energy that has high costs to human and environmental health. We must see through the energy industry propaganda and realize that there are clean and safer alternatives that are less costly. beginning with ending the massive energy waste through efficiency and conservation. It is time to move quickly to a carbon and nuclear free energy economy.

The first step is the ending the secret Fukushima, providing testing equipment to Native Indians, and conducting studies on the effects of radiation and other toxins on the soil, air and water in the Mid-West. Then, it is time to move quickly to a carbon and nuclear free energy economy beginning with ending the massive waste of energy through improved efficiency and conservation; then changing the American way of life by putting in place land use planning, 21st Century mass transit and dispersed energy so every home and business can become an energy producer. The call of Native Indians to restore the Earth, for the right to clean water and air, should be a rally cry taken on by all of us.

You can "The Toxic Effects of Uranium Mining on Tribal Lands with Don Yellowman and Charmaine White Face" on Clearing the FOG.

This article was first published on Truthout.

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