

How America's push for the atomic bomb spawned enduring radioactive waste problems in St. Louis

July 15 2023, by MICHAEL PHILLIS and JIM SALTER



Coldwater Creek flows Friday, April 7, 2023, in Florissant, Mo. The creek was contaminated when nuclear waste from the Manhattan Project flowed into the waterway past homes, schools and businesses. St. Louis played an important role in the country's effort to build the first nuclear weapon. Credit: AP Photo/Jeff Roberson

The federal government and companies responsible for nuclear bomb production and atomic waste storage sites in the St. Louis area in the mid-20th century were aware of health risks, spills, improperly stored contaminants and other problems but often ignored them, according to documents reviewed by The Associated Press.

Decades later, even with much of the cleanup complete, the aftereffects haunt the region. Federal health investigators have found an increased cancer risk for some people who, as children, played in a creek contaminated with uranium waste. A grade school closed last year amid radiation concerns. A landfill operator is spending millions to keep underground smoldering from reaching [nuclear waste](#) illegally dumped in the 1970s.

The AP examined hundreds of pages of internal memos, inspection reports and other items dating to the early 1950s, and found nonchalance and indifference to the risks of materials used in the development of nuclear weapons during and after World War II.

This story is part of an [ongoing collaboration](#) between The Missouri Independent, the nonprofit newsroom MuckRock and The Associated Press. The [government documents](#) were obtained by outside researchers through the Freedom of Information Act and shared with the news organizations.

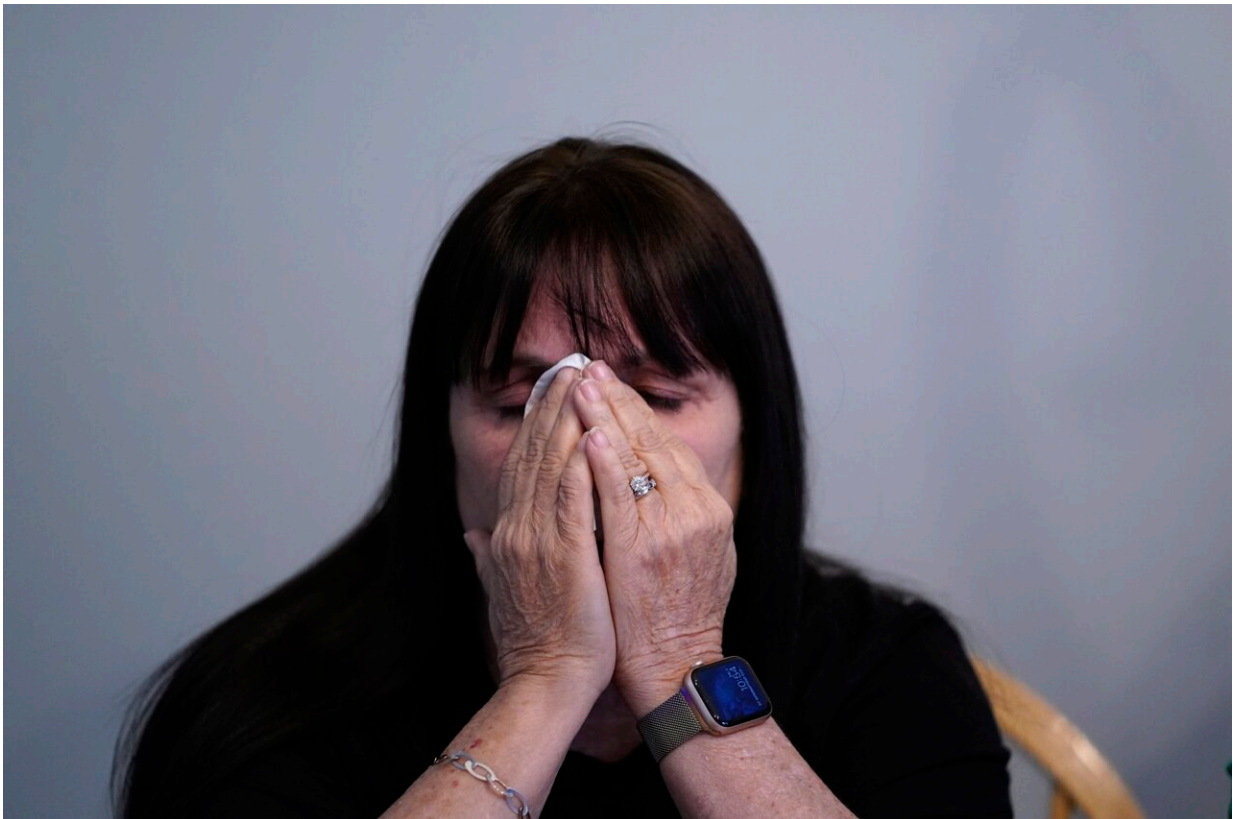
Consider a 1966 government inspection report on a site in St. Louis County, which noted that "in a number of places along the roadway" material that later tested positive for radioactivity "appeared to have fallen from vehicles."

A follow-up inspection three months later found the material was still sitting on the road. The company, Continental Mining and Milling Co., said it was having trouble with the contractor—a lone man who used a

shovel and broom to pick up the atomic waste and put it in a pickup truck.

The company was not penalized.

The AP review didn't uncover evidence of criminal wrongdoing. What it did find were repeated instances where companies, contractors or the government could have addressed significant problems but didn't.



Karen Nickel pauses at her dining room table as she discusses nuclear contamination in and around the St. Louis area with fellow activists Friday, April 7, 2023, in Maryland Heights, Mo. In 2007, she and Dawn Chapman were so concerned about cancer and other unusual illnesses in their St. Louis County neighborhoods that they formed Just Moms STL. Credit: AP Photo/Jeff Roberson

Dawn Chapman of the activist group Just Moms STL—a group pushing for cleanup and federal buyouts in an area near the airport—said the region "saved our country" with its work on the [nuclear program](#) but paid a terrible cost.

"We are a national sacrifice zone," she said.

The historic role of St. Louis

St. Louis was part of a geographically scattered national effort to build a nuclear bomb that was tested in New Mexico. Much of the work in the St. Louis area involved uranium, where Mallinckrodt Chemical Co. was a major processor of the element into a concentrated form that could be further refined elsewhere into the material that made it into weapons.

"This is an enterprise of heavy industry," said Gwendolyn Verhoff, a historian at St. Louis Community College.

Just months after the Japanese attacked Pearl Harbor on Dec. 7, 1941, Mallinckrodt began processing uranium near downtown. In 1946, the government bought land near the airport and began trucking nuclear waste from the Mallinckrodt facility.

Meanwhile, starting in 1941, the government began making explosives at a new plant in Weldon Spring. Production there ended in 1945, but not before soil, sediments and some springs were contaminated.

In 1957, the Atomic Energy Commission opened a plant in Weldon Spring and Mallinckrodt moved its uranium processing there. Radioactive waste contaminated the area, including a large quarry that eventually became a Superfund cleanup site in 1987. The rest of the

Weldon Spring site was added two years later.



Karen Nickel, left, and Dawn Chapman, co-founders of Just Moms STL, a group created to bring attention to nuclear contamination found in the metropolitan area, pause while sharing stories Friday, April 7, 2023, in Maryland Heights, Mo. Credit: AP Photo/Jeff Roberson

Alison Carrick, co-director of "The First Secret City," a documentary about the region's nuclear history, said after the war some companies thought that byproducts of the radioactive material could be sold.

But that didn't work. So the waste moved to new sites, contaminating more land, near more people.

In 1966, the Atomic Energy Commission demolished and buried buildings at the airport site. Continental Mining and Milling Co. moved the waste to 9200 Latty Ave. in nearby Bridgeton, piling it in a heap, the commission said at the time. Radioactive barrels lay outside the fence. Storage was so haphazard that even the path to the site was contaminated by trucks that spread waste on their hauls from 1966 to 1969.

Tons of that nuclear waste flowed into Coldwater Creek, contaminating the often-flooding waterway and adjacent yards for 14 miles, state and federal investigators determined.

In 1973, the uranium processor Cotter Corp. took hazardous leached barium sulfate from Latty Avenue to the West Lake Landfill, also in Bridgeton. The material contained uranium residue.

The government cleanup of Weldon Spring is complete, but the site is considered permanently damaged and will require oversight into perpetuity. Rather than remove the waste, the government built a 75-foot-tall mound, covered in rock, to serve as a permanent disposal cell for much of the waste. The government said the site is safe, but some local residents still worry. About 5,300 people live in Weldon Spring, but tens of thousands more live within a few miles in neighboring O'Fallon.

Federal officials plan to remove some of the waste at West Lake Landfill and cap the rest. Cleanup of Coldwater Creek is far along, but isn't expected to finish until 2038. Cleanup efforts have cost taxpayers more than \$1 billion, and millions more will be needed to finish the job.

The AEC, historically responsible for the nation's nuclear weapons program, was abolished in the 1970s, in no small part because of public criticism of its handling of nuclear safety. The Department of Energy is now responsible for overseeing the country's nuclear weapons and waste. The department has publicly detailed the environmental damage earlier

waste mismanagement caused to people and the environment. Now, the Army Corps of Engineers handles cleanup at several former nuclear program sites, including in St. Louis.



Susie Gaffney poses for a photo along Coldwater Creek near where she used to live Friday, April 7, 2023, in Florissant, Mo. The creek was contaminated when nuclear waste from the Manhattan Project flowed into the waterway past homes, schools and businesses. St. Louis played an important role in the country's effort to build the first nuclear weapon. Credit: AP Photo/Jeff Roberson

Army Corps spokesman George Stringham said cleanup is their focus.

"The historic storing, hauling, and transportation methods have

contributed significantly to the challenges we face today," he said.

Phone and email messages seeking comment from Mallinckrodt and General Atomics, which acquired Cotter Corp. in 2000, were not returned. Continental Mining and Milling Co. no longer exists.

Ignoring the environment

Less than a year after victory in World War II, Winston Churchill traveled to a small Missouri town and announced a turning point in history: an "iron curtain" had descended on Europe. The brutality of global war quickly transitioned to a dangerous standoff with the Soviet Union. In America's push for nuclear dominance, across the St. Louis region, when harmful waste was dumped, officials were indifferent to the hazards posed by materials that were so vital for the nuclear program.

The focus was on speed and secrecy. The environment was secondary.

Take a March 17, 1953, memo from Merrill Eisenbud, health and safety division director for the Atomic Energy Commission, concerning a barium cake spill that left a half-mile of road, its shoulder and part of a corn field with nuclear contamination. Eisenbud wrote that in his opinion "no emergency existed."

"A decision as to what action to take will undoubtedly involve a balance between costs, potential risks, public relations aspects," Eisenbud said.



A playground sits unused outside Jana Elementary School on Friday, April 7, 2023, in Florissant, Mo. The school has been permanently closed due to its proximity to Coldwater Creek which was contaminated with nuclear material during work on the Manhattan Project. Credit: AP Photo/Jeff Roberson

In a May 27, 1966, memo from a senior radiation specialist for the Atomic Energy Commission, it was noted that at Continental, an inspector found a pile of uranium material 30 feet wide, 100 feet long and nearly 8 feet high that was not in a secure area behind fencing and a locked gate, as the contract required. About 100 barrels of "miscellaneous residues" also were found outside the fenced area.

An on-site manager said he was unfamiliar with the storage requirements, the inspector wrote. When he turned to the company's vice

president in Chicago, he got nowhere.

The vice president "immediately submitted that most of what the inspector was talking about was not understood," the memo stated. "He went on to explain that he had taken over as Executive Vice President of CMM as a protection of the money invested by a number of individuals."

Continental was not penalized.

It wasn't just in St. Louis. At the arid Los Alamos site in New Mexico where weapons were developed, for example, waste was thrown into nearby canyons.

Handling waste "was shielded from any greater public oversight or attention," Edwin Lyman, director of nuclear power safety with the Union of Concerned Scientists, told AP. Environmental standards at the time were looser and the program's secrecy allowed bad practices to continue for too long, he said.

Workers received some protection but [health risks](#) were in some cases ignored or written off.

Another 1966 report noted that Continental used the Nuclear Consultant Corp.'s field badge service to track radiation exposure among workers. The report found radiation levels so high for some workers that some at the company doubted the results.



Co-founders of Just Moms STL, Karen Nickel, left, and Dawn Chapman listen along with Ashley Bernaugh, right, as Missouri Rep. Tricia Byrnes, foreground, discusses nuclear contamination in and around the St. Louis area Friday, April 7, 2023, in Maryland Heights, Mo. Credit: AP Photo/Jeff Roberson

"They did not see how people could be getting that much exposure," it stated.

The memo showed no evidence that any action was taken.

Worker harm and advocacy

Efforts to force cleanup have been led largely by women who wouldn't

take no for an answer.

Denise Brock's father worked for years at Mallinckrodt. When he had cancer when she was young, she would sometimes stay home from school to help care for him. He died in 1978.

When Brock learned in 2001 that former Mallinckrodt workers with certain types of cancer were eligible for federal compensation, her effort to help her mother get payment grew into an activist role. In 2003, she founded the United Nuclear Weapons Workers in her home, and worked with others to convince federal lawmakers to make it easier for thousands of former workers to get compensation for their illnesses.

Brock's prodding led the government to begin offering up to \$400,000 to those who worked at nuclear facilities across the country who developed certain cancers, or their survivors. Over the past two decades, the government has paid out \$23 billion.



Jim Gaffney sits with fellow activists while discussing nuclear contamination in and around the St. Louis area Friday, April 7, 2023, in Maryland Heights, Mo. Gaffney, now in his 60s, grew up in the 1960s playing in Coldwater Creek, that was contaminated with nuclear waste — his childhood home backed up to the waterway. Credit: AP Photo/Jeff Roberson

Present-day fear

While nuclear workers had direct exposure, people who live near contamination sites worry about uncertainty. Many who grew up in the area weren't told about the risks for decades.

In 2007, Chapman and Karen Nickel were so concerned about cancer and other unusual illnesses in their St. Louis County neighborhoods that

they formed Just Moms STL.

In 2019, the federal Agency for Toxic Substances and Disease Registry issued a report that found people who regularly played in Coldwater Creek as children from the 1960s to the 1990s may have a slight increased risk of bone cancer, lung cancer and leukemia. The agency determined that those exposed daily to the creek starting in the 2000s, when cleanup began, could have a small increased risk of lung cancer.

Some experts are skeptical. Tim Jorgensen, a professor of radiation medicine at Georgetown University, said the biggest risk factor for cancer is age and local radiation's contribution would be so low as to be hard to detect, he said.

"The public also tends to overestimate the risk of radiation-induced cancer," Jorgensen said.

The government's sloppy handling of nuclear contamination over decades has understandably made people doubt official promises that conditions are safe now, said Arjun Makhijani, a nuclear expert and president of the Institute for Energy and Environmental Research.

"There is zero trust," he said.



Weldon Spring disposal cell, 41-acre structure built to contain chemical and radiological waste, is visible on Friday, April 21, 2023, in Weldon Spring, Mo. The government said the site is safe, but some local residents still worry. Credit: AP Photo/Jeff Roberson

People in the St. Louis area are concerned that more illnesses are caused by the contamination and some are pushing for legislation to compensate those who are sick. Others have sued those responsible for the waste.

Several people with serious illnesses, or whose loved ones are sick, met recently at Nickel's house.

Jim Gaffney, now in his 60s, grew up in the 1960s playing in Coldwater Creek—his childhood home backed up to the waterway.

"I was always in the creek," Gaffney said. "Told not to, but we had seven kids. Mom couldn't watch us all. We just thought it was fun. We built mudslides and everything. I'm sure I got exposed."

He and his wife, Susie, loved the neighborhood so much that when they got married, they moved into a home there. Their children grew up playing in a park that backs to the creek, Susie Gaffney said.

"We had no warnings. We had no fears," she said.

Jim Gaffney was diagnosed with Stage 4 Hodgkin lymphoma in 1981 and given little chance to survive. A bone-marrow transplant saved his life, but the toll of the radiation, chemotherapy and the disease has been enormous.

"Now I've got hypertension, heart failure, I've had at least five bladder tumors removed since '95. I'm still here, but it's not been easy," he said.



A no trespassing sign hangs on a fence around the West Lake Landfill Superfund site on Friday, April 21, 2023, in Bridgeton, Mo. Federal officials plan to remove some of the hazardous leached barium sulfate that is at the landfill and cap the rest. Credit: AP Photo/Jeff Roberson

The Gaffneys' son Joe has battled thyroid cancer since 1998 when he was 18.

Tricia Byrnes swam in Weldon Spring quarries as a teenager. Eight years ago, her 15-year-old son was diagnosed with a rare cancer of the thymus, a small organ near the heart. She wonders about a connection.

Last year, she became so frustrated with the lack of acknowledgement about the health risk at Weldon Spring that she successfully ran as a

Republican for the Missouri House, where she is pushing for federal compensation for those who believe their illnesses are connected to contamination. She said it's infuriating that the federal government not only allowed the contamination that made people sick, but didn't do enough to contain it.

"What the hell is wrong with people?" she asked.

Concerns flare up, even when the government ensures safety. Last October, a private scientist hired by lawyers involved in lawsuits over Coldwater Creek contamination conducted a study that suggested radioactive contamination at Jana Elementary School in Florissant, Missouri, which sits along the creek.

The Army Corps of Engineers followed up with its own study indicating the school and playground were safe. But in March, the school board decided to close the school after calls to do so from politicians from both sides of the aisle.

The unease surrounding the grade school was evidence that decades later, the region continues to grapple with its nuclear legacy.

U.S. Sen. Josh Hawley, R-Mo., referenced the news organizations' reporting on the documents Wednesday in remarks on the floor of the Senate. He said he would introduce legislation that would pay medical bills for people with cancer, an autoimmune disease or genetic disorder connected to the contamination. However, the 2019 federal report on Coldwater Creek said that "no method exists" to link a particular cancer with exposure to local radiation.



Nancy Cashel walks on top of the Weldon Spring disposal cell, a 75-foot high structure built to contain 41-acres of chemical and radiological waste, during a visit to the site Friday, April 21, 2023, in Weldon Spring, Mo. Cleanup of the site was completed in 2001 and is now open to the public. Credit: AP Photo/Jeff Roberson

"It is clear today that further action is needed because the [federal government](#) has caused this harm," Hawley said.

Producing nuclear weapons was a concerted national effort. Cleaning up the waste requires a similarly coordinated campaign, said Verhoff, the historian.

"Can we fund our cleanups? Can we react with the same urgency?" she

said.

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