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Toxic Utah: A land littered with poisons

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The Cold War was hot in Utah, though few realized it.

The government chose the remote, low-population state for secretive weapons tests that bombarded it with nerve gas, germ weaponry and radioactive fallout.

Oleta Nelson of Cedar City was among the thousands of unwitting civilian casualties in Utah.

Fallout from atomic bomb tests in Nevada — conducted by design of federal officials only when the wind was blowing toward Utah — killed her after 12 years of agony from brain cancer. The fallout hit not only southern Utah, but also the heavily populated Wasatch Front — a fact few suspect.

Another casualty was Ray Peck's family in Skull Valley. They were likely hit with low doses of the nerve gas from a Dugway Proving Ground test that accidentally killed 6,000 sheep near their home in 1968. The Pecks lived but haven't been the same since.

On the other hand, Rolland Bivens was a voluntary human guinea pig intentionally infected by germ weaponry in Utah's desert with other Seventh-day Adventists who had avoided combat duty as conscientious objectors. The same germ clouds that sickened him floated toward major highways and some small cities.

Much of the waste — and suffering — from Cold War tests and military work remains in Utah. New secretive military testing raises even more concerns.

And wastes from more conventional arms testing and training also litter vast areas of the state.

That's not a new story. It is one that has been closely watched and reported by the Deseret News for 25 years, with some cleanup and compensation for victims achieved. But an update now shows much remains undone.

'Downwinders'

Energy Department records show the Nevada Test Site conducted 141 tests of atomic bombs that likely spread radiation toward Utah — just a portion of the 930 tests (both above and below ground) conducted there through 1992.

The bomb tests are the only class of Cold War weapons testing that the government has acknowledged likely killed or sickened civilians downwind. But it acknowledges that fact for only a small portion of people who think they are victims.

For example, studies show significant fallout from tests not only hit southern Utah, but also heavily populated Salt Lake County — and even every county in America. Congress never made these areas eligible for compensation, in part, because it simply would be too expensive.

As of Nov. 15, Justice Department figures show 7,138 "downwinders," uranium workers and Nevada Test Site workers with claims settled — but 3,574 (30 percent) were rejected.

The case of Oleta Nelson demonstrates how many victims had to wait for the government to acknowledge fault and offer compensation — and why many may never receive it.

Isaac Nelson, her husband, remembers that neighbors called them outside on May 19, 1953, to watch a fallout cloud. It was from an atomic bomb test later nicknamed "Dirty Harry" because of its heavy fallout. They didn't worry because the government falsely told residents it was safe.

Later that night, Oleta Nelson suffered a headache that would pound for six months. A few weeks later, she would scream when much of her hair simply slipped off her scalp. She would soon develop brain cancer and die 12 years later.

Isaac Nelson joined early lawsuits seeking to make the government acknowledge that fallout caused such deaths and to pay for it. But judges ruled the government was immune from suits for actions it made for national defense.

In 1990, Sen. Orrin Hatch, R-Utah, and Rep. Wayne Owens, D-Utah, passed a law that apologized to downwind cancer victims and offered compensation. But Isaac Nelson didn't qualify. The brain cancer that killed his wife was not included among a list of cancers recognized as likely caused by the atomic tests.

With better research in recent years, Hatch passed another bill last year to expand the type of

cancers covered — including the brain cancer Oleta Nelson suffered. Her survivors could finally now qualify for \$50,000 in compensation.

Isaac Nelson was pleased when that bill passed but still bitter. "No amount of money will restore one hair to her head at this point. The government murdered my wife."

Obtaining money for people such as Isaac Nelson may be difficult the next few years. The Justice Department ran out of money for claims last spring — and has approved \$20 million worth of claims since then that it has been unable to pay.

To make matters worse, the department only requested \$13.9 million worth of funding for claims this year — not enough to cover even those claims already approved.

On top of that, changes that Hatch made to allow more people to qualify are expected to bring \$70 million worth of claims a year, beginning in 2001. That means the Justice Department will likely be \$76 million short of money to fund all claims this year.

Other radiation

Utah wasn't hit by radiation only from atomic bomb fallout. The government also spread radioactive dust via artillery shells, bombs and airplane spraying — and even intentional nuclear reactor meltdowns at Dugway Proving Ground.

At least 74 tests of "radiological arms" were conducted at Dugway in the 1940s and 1950s.

Radioactive materials would be burst and scattered in a way designed to contaminate enemy battlefields. Most the materials used had short half-lives and would have ceased to have been dangerous years ago.

Also in 1959, the Air Force secretly conducted what amounted to eight intentional nuclear reactor meltdowns at Dugway. It melted reactor fuel in high-temperature furnaces and used forced air to ensure the resulting radiation would be spread to the wind. Researchers wanted to see how far radiation from then-planned nuclear-powered airplanes might spread if meltdowns occurred.

When radiation clouds left detector range, they were headed toward the old U.S. 40 (now I-80). The communities of Wendover and Knolls might also have been in the path of those clouds, according to documents obtained and reported on by the Deseret News in 1994.

Those tests release a total of 215.57 curies of radiation, or about 14 times more than that released at the infamous Three Mile Island near-meltdown.

Also between 1959 and 1965, the Atomic Energy Commission experimented with atomic-powered rockets in Nevada, which may have spread radiation downwind to Utah.

Chemical tests

Radiation wasn't the only problem. Utah was also host to 1,174 series of open-air tests or firing of munitions filled with chemical arms at Dugway Proving Ground.

Army documents obtained by the Deseret News through the years show that at least 494,700 pounds of nerve agent were spread to the winds. A pinhead-sized drop of nerve agent VX can cause death. The strongest case that some of it drifted off base came on March 13, 1968 — after a jet streaked around the Dugway base, dropping 2,730 pounds of VX on test grids. Documents said more than half of it may have traveled farther than the mile downwind that monitors tracked it.

The next day, 6,000 sheep began dying 25 miles from the base in Skull Valley. The Army paid \$1 million in restitution to ranchers but never acknowledged the VX killed those sheep.

Ray Peck, who now lives in West Valley City, was living in Skull Valley the night the VX was spread and worked outside much of that evening. He went inside when he developed an earache. The next morning, he said new-fallen snow was so pretty that he ate a handful of it. Then he saw the dead birds nearby and a dying rabbit struggling in the distance.

Soon the sheep began dying. An Army helicopter would soon land on his yard, disgorging officials who collected dead wildlife and performed blood tests on his frightened family.

Not long after the incident, Peck said he began experiencing violent headaches, numbness, a feeling of burning in his legs and "bouts of paranoia." He said others in his family also have suffered violent headaches ever since.

Peck's family suffered another problem not reported in scientific studies — high numbers of miscarriages. "We come from large families and never had problems with that before. But the girls (who were children at the time of the incident) have a real struggle with miscarriages," Peck said. In recent years, Peck also suffered skin cancer and heart problems. "I wonder if the tests didn't have something to do with that," he said in December.

Germ tests

Documents obtained by the Deseret News through the years show Dugway conducted at least 328

series of open-air tests of germ weapons during the Cold War.

Some tests used agents that cause such diseases as anthrax, botulism, the plague, tularemia and Q fever.

Rolland Bivens, who now lives in Colorado, was intentionally attacked by germ weapons spreading Q fever in one 1955 Dugway test along with 29 other Seventh-day Adventists who had avoided combat as conscientious objectors.

"It was night. I remember hearing in the distance some motors running. We were told they were creating a cloud of Q fever germs. The cloud came toward us and passed by. It was invisible, though; all we saw was clear air," Bivens remembered in a 1991 Deseret News interview.

Documents said the clouds headed toward the old U.S. 40 (now I-80), along which the Army had placed guinea pigs in cages in what the Army called "peripheral sampling stations."

The soldiers were flown to Ft. Detrick, Md., where some became sick with Q fever — which can be deadly, but usually is not.

Bivens and others seemed not to have suffered long-term effects.

Dugway commander Col. Edward A. Fisher said earlier this year, "Presidential directives, originating in 1969, forbid open-air testing with any toxic chemical or biological agents. For this purpose, we have built state-of-the-art test chambers and laboratories" that he says safely contain deadly germs.

Other threats

Not surprisingly, the military says a third of Dugway Proving Ground may be contaminated with old unexploded bombs, rockets and artillery shells and most of the vast Utah Test and Training Range is considered contaminated by similar ordnance from airplanes.

However, it likely would surprise most Utahns that 1,421 square miles of public lands off of military bases — all on U.S. Bureau of Land Management areas — are also considered possibly contaminated with unexploded ordnance, according to a BLM study completed in 1994.

The total square miles believed to be contaminated adds up to an area roughly the size of Rhode Island.

In 1986, several campers were injured on Hurricane Mesa, Washington County — once used as an impact area for grenades and mortars. One of them found an old M-79 40mm artillery shell and threw it into a campfire, where it exploded.

Not only conventional arms may be scattered on such lands, but also germ and chemical weapons. Dugway even tried to annex two possibly contaminated areas in the late '80s, but the BLM opposed the move and simply wanted them cleaned instead.

Other military wastes have "wandered" off military bases in Utah.

For example, Department of Defense environmental studies found that nitrates from explosives at the old Tooele Army Depot had contaminated regional groundwater between the 1940s and 1980s, when problems were discovered.

Nitrate poisoning is potentially fatal to infants, but Army representatives said the situation poses no immediate danger and contamination had not spread far.

The Army also took steps to stop further contamination, which it said had come from some unlined ponds where wastewater was drained — often after washing off equipment contaminated with explosives.

Similarly, military environmental studies reported contamination in groundwater near Hill Air Force Base and the now-closed Defense Depot Ogden, including fuel, solvents and toxic metals. The military has taken steps to contain and clean such underground sources of pollution.

Navy tools and machine parts contaminated with explosives are also buried near western Salt Lake County suburbs. The Navy says the explosives present no risk as long as they remain buried and relatively dry so they do not contaminate groundwater beneath the Naval Industrial Reserve Ordnance Plant near Magna.

Chemical arms

Deseret Chemical Depot — formerly known as Tooele Army Depot's South Area in Rush Valley — was the long-time home to 40 percent of the nation's chemical arms stockpile. Originally the government stored a massive 13,616 tons of it in 1.1 million separate containers, rockets, bombs and artillery shells.

As of Oct. 15, the Army had destroyed 4,775 tons of chemical agent (in 584,231 containers) at a \$1 billion incinerator at the Tooele County base, said John Pettebone, public affairs specialist at Deseret Chemical Depot.

But critics say incinerating those arms presents great risks — accidents at the plant have released nerve agent — and other communities near similar stockpiles nationwide are fighting incinerators

there. The incinerator's existence raises the possibility that more arms could be transported to Utah for destruction, although that is now banned by law.

One accident at the depot in 1998 allowed unburned nerve agent to escape the smokestack as workers figured alarms must be in error. The incident shut down the plant for months and led to congressional hearings.

Deseret and Dugway are also home to some "non-stockpile" chemical arms — a fancy name for old weapons that were dug up at long-forgotten storage sites, or arms captured from foreign countries. Pettebone said Deseret has 297 such arms stored there — 296 rocket warheads plus one 1-ton container. Dugway spokeswoman Melanie Moore said her base has 40 such arms in storage — all but one of which were recovered on Dugway grounds. The other was discovered at Denver's Rocky Mountain arsenal and sent to Utah.

Congress has not yet decided how to dispose of such "non-stockpile" weapons.

Continuing tests

Not all chemical testing ended with the Cold War. Some continues today.

Dugway Proving Ground is continuing experiments with poisonous chemicals inside the Melvin Bushnell Materiel Test Facility, a \$30 million structure built in the 1990s. The research involves detection systems to warn when chemical attacks are launched and to improve protective clothing used by the military, police and emergency response teams.

The building's test chamber measures 50 feet by 50 feet by 30 feet, so huge that technicians can place aircraft and tanks inside to check susceptibility to chemical warfare agents. The building standards used for the duct work that carries poison gas to and from the chamber allows no detectable leakage.

Sen. Orrin Hatch, R-Utah, has pushed — but has been unsuccessful so far — to construct a mock city at Dugway, complete with buildings, subway systems and homes where the military and police could practice responding to chemical and germ attacks.

Dugway commander Fisher said earlier this year that Dugway and Utah attract such testing now for many of the same reasons they did during the Cold War.

"The installation's land mass, remoteness, test facilities and highly professional work force (make) our customers recognize that Dugway is the ideal location for testing," he said.

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