

Shock: Fracking Used to Inject Nuclear Waste Underground for Decades

By [Aaron Dykes](#) and [Melissa Dykes](#)

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Unearthed articles from the 1960s detail how nuclear waste was buried beneath the Earth's surface by Halliburton & Co. for decades as a means of disposing the by-products of post-World War II atomic energy production.

Fracking is already a controversial practice on its face; allowing U.S. industries to inject slurries of toxic, potentially carcinogenic compounds deep beneath the planet's surface — as a means of “see no evil” waste disposal — already sounds ridiculous, dangerous, and stupid anyway without even going into further detail.

Alleged fracking links to the contamination of the public water supply and critical aquifers, as well as ties to earthquake upticks near drilling locations that are otherwise not prone to seismic activity have created uproar in the years since the 2005 “[Cheney loophole](#),” which allowed the industry to circumvent the Safe Drinking Water Act by exempting fracking fluids, thus fast tracking shale fracking as a source of cheap natural gas.

Now, it is apparent that the fracking industry is also privy to many secrets of the nuclear energy industry and, specifically, where the bodies are buried, err... dangerous nuclear waste is buried, rather — waste that atomic researchers have otherwise found so difficult to eliminate.

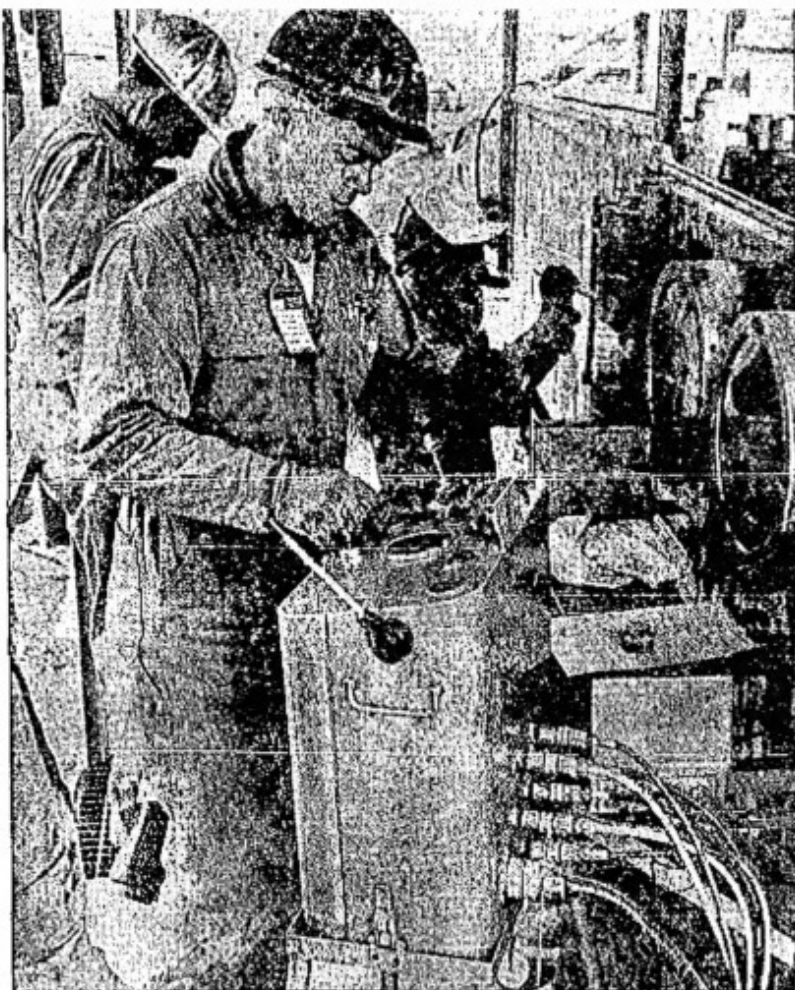
[TruthstreamMedia.com](#) uncovered several published newspaper accounts from the Spring of 1964 concerning a then-newly disclosed plan to dump nuclear waste produced by the atomic energy industry into hydraulic fracturing (fracking) wells using a cement slurry technique developed by Halliburton & Co. The top two fracking companies in the nation at the time were Halliburton and Dowell, a subsidiary of Dow Chemical.

And here we thought fracking was a relatively new industrial phenomenon growing in popularity over just the last couple of decades. Boy were we wrong. Revealed within these articles is Halliburton's long-standing relationship with the secret government and deep ties between the oil and nuclear industries.

Teaming up with the U.S. Government and Union Carbide Corp., who operate nuclear materials divisions at the Oak Ridge National Laboratories in Tennessee, Halliburton was then credited with “solving” the radioactive waste problem faced by America's secretive nuclear industry. Dumping waste via fracking had apparently been going on since 1960, according to the reports, but was only made public here in 1964.

Out of Sight, Out of Mind

Each of the articles Truthstream found carries the same account under different headlines, with four of them using identical copy; and the fifth, published in the *San Antonio Express*, slightly rewritten based upon the same source information. The photo captions of each story also add some useful tidbits:



NO OIL FIELD, THIS—Working behind shielding, Halliburton Co. personnel use dismantled oil field service units to dispose of radioactive waste at Oak Ridge nuclear site. The disposal process is based on two oil field techniques—cementing and fracturing.

Oilmen Help Dump Radioactive Waste

A couple of techniques used by oilmen when they have hopes of production may soon be used by the Atomic Energy Commission for — of all things — radioactive garbage disposal.

Final tests now are under way at Oak Ridge National Laboratory in Tennessee, in trying a combination of oil well cementing plus hydraulic fracturing to entomb radioactive wastes in an impermeable shale formation a thousand feet underground.

Researches at the Halliburton Co. Technical Center in Duncan, Okla., working with government and Union Carbide Co. scientists at Oak Ridge, have been working on the disposal problem from since 1960. They think they have it solved through combination of conventional oil well cementing which provides a protective sheath of cement between the casing and the hole, and the fracture treat-

ment which breaks and prop open the formation to allow hydrocarbons to flow into the well bore.

A key part of the new method is an unusual cementing slurry developed by Halliburton, which pioneered oil field cementing. The new slurry is low in cost, retains the radioactive constituents which are present in the waste and remains fluid up to 48 hours before setting, thus allowing injection of large quantities of waste.

At Oak Ridge, the waste is mixed with the cement slurry, pumped down a hole drilled into the Consanguine Shale, which then is fractured to create a horizontal crack. The crack fills with the mixture, forming a thin horizontal sheet several hundred feet across. When the mix is set the radioactive waste is permanently held in the formation. Subsequent injections form

parallel sheets 10 to 20 feet above the preceding injection. Extensive experimental runs and test borings using radioactive tracers have confirmed location and extent of the sheets.

Mixing and pumping equipment at Oak Ridge are similar to Halliburton's oil field service units but are dismantled and remotely controlled to protect employees against radiation.

Oak Ridge's radioactive waste disposal problem is typical of the nation's nuclear sites. Each year waste amounts to about four million gallons, including such fission products as strontium 90, cesium 137 and ruthenium 106.

Disposal methods already tried have been dumping of concrete-encased barrels into the ocean or burying the waste in lead-lined containers. These are considered either too dangerous or too expensive or both, the AEC said.

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May 3, 1964 edition of the San Antonio Express News. Click for larger image view.

These ran in the:

April 19, 1964 edition of the *Great Bend Tribune*,

the April 22, 1964 edition of the *Warren Times-Mirror*,

the April 26, 1964 edition of the *Lubbock Avalanche Journal*,

the May 3, 1964 edition of the *San Antonio Express News* (original)

and the June 15, 1964 edition of the *Denton Record Chronicle*.

The story read, in part:

Two techniques originated by the petroleum industry for its own uses are expected to solve a major problem in the development of nuclear energy for peaceful purposes. The problem is the disposal of dangerous, sometimes deadly, radioactive waste by-products.

Researchers at Halliburton Co's. Technical Center here working with Oak Ridge National Laboratory scientists, have combined the oil well cementing technique with the hydraulic fracturing production stimulation technique to entomb radioactive wastes in an impermeable shale formation a thousand feet underground.

The method used at Oak Ridge begins by mixing the waste with a cement slurry, pumping the mixture down a hole drilled into the Conasuaga shale and then fracturing the shale to create a horizontal crack. The crack fills with the mixture to form a thin, horizontal sheet several hundred feet across. The mix sets to permanently hold the radioactive waste in the formation.

Union Carbide Corp., which operates facilities at Oak Ridge for the U.S. Atomic Energy Commission, and Halliburton, which provides specialized oil field services such as cementing fracturing worldwide, have collaborated on the project since 1960.

The mix remained liquid for 48 hours before it was supposed to permanently set and remain there, entombed, forever.

The articles make clear that the Atomic Energy Commission was preparing to use fracking as a means of disposing of nuclear wastes at additional facilities, with Oak Ridge being simply one of the largest, and the first to publicly disclose these out-of-sight disposal procedures:

Oak Ridge has a radioactive waste disposal problem typical of the nation's nuclear sites. Each year about four million gallons of waste, including such fission products as strontium 90, cesium 137 and ruthenium 103, are generated at Oak Ridge.

Among the disposal methods already tried have been dumping concrete-

encased barrels of waste in the ocean or burying the waste in lead-lined containers. These are considered either too dangerous or too expensive or both.

Unfortunately, the ocean has been used as a giant trashcan not only by the nuclear industry, but municipal garbage and landfill companies and many other entities as well, without any real concern about its significant effects on the food supply and larger ecosystem of the planet.

If this process is successful for disposal of Oak Ridge National Laboratory intermediate-level wastes, it has potential application at other atomic energy sites where suitable geological conditions exist," the Atomic Energy Commission says.

The slightly different version in the San Antonio Express News added these details:

A couple of techniques used by oilmen when they have hopes of production may soon be used by the Atomic Energy Commission for - of all things - radioactive garbage disposal.

Final tests are now under way at Oak Ridge National Laboratory in Tennessee, in trying a combination of oil well cementing plus hydraulic fracturing to entomb radioactive wastes in an impermeable shale formation a thousand feet underground.

Meanwhile, the *Great Bend Tribune* added information about the Halliburton executives involved in the plan in their caption for a photo which shows businessmen looking at a diagram explaining how nuclear waste like strontium 90 is mixed with cement and injected into shale formations:

Halliburton engineer Mack Stogner, left, reviews the project with Harry P. Conroy, senior vice president and general manager of the oil field service firm, and W.D. Owsley, senior vice president.

The process includes remote controlled operation of the hydraulic fracturing drill in order to shield workers from the "medium level" radioactive substances being dumped into the Earth's crust, as the Warren Times Mirror in Pennsylvania notes in the caption:

Disposing of Waste - Working behind shielding and wearing film badges, Halliburton Company personnel use demounted oil field service units to dispose of radioactive waste generated at the Oak Ridge, Tenn. nuclear site.

How often this procedure has been used at other facilities since then is not entirely clear, though we know from reports discussed below that the practice continued and there is no indication that it ever stopped.

Five years later, the October 22, 1969 edition of the *San Bernardino County Sun* carried a report titled, "3 Ways to Manage Radioactive Waste."

It discussed the ongoing and growing problems with nuclear waste, naming three principle strategies for managing the toxic stuff, summed up as "(1) delay and decay, (2) concentrate

and confine and (3) dilute and disperse,” discussing how materials with lower half lives can supposedly be safely sequestered and later dumped, while other materials can be simply diluted and poured into existing groundwater supplies and systems.

The UPI story originating out of Oak Ridge states, in part,

Since the start of the atomic era in the 1940s, nuclear reactors around the nation have produced 75 million gallons of hazardous high level radioactive waste materials.

And scientists here and elsewhere around the nation still are wrestling with the problems of what to do with this material, which promises to become even more plentiful as more and more commercial nuclear reactors go into power production.

Oak Ridge proclaims that it found a solution to dealing with high level nuclear wastes, which has thus far been to keep it,

...buried a few feet underground in storage tanks - tanks which must be periodically replaced because of the natural deterioration of the steel and other materials of which they are fabricated.

It is in this area of confining the high level wastes, whose radioactive half life ranges up to 30 to 50 years, that the Atomic Energy Commission is pushing dramatic new concepts.

One disposal system, involving materials in the medium range of radioactivity, is the hydraulic fracturing procedures. This system is now being used at Oak Ridge and involves mixing the liquid radioactive waste with concrete to form a grout which is pumped into shale formations 500 to 800 feet underground.

Note, this article cites a shallower depth, at levels as shallow as 500 feet, after the 1964 articles claimed a further removed depth of 1,000 feet to 5,000. The even “higher level wastes” were disposed of in abandoned salt mines, according to Oak Ridge.

Nuclear Waste ‘Safely Flushed Away’ into the Water Supply

The 1969 article states that “low level waste” is “material which can safely be flushed away into rivers and lakes or released into the atmosphere because the level of radioactivity is so low that it presents no hazard when diluted and flushed into man’s natural environment. The more difficult problem is involved in the high level, liquid and solid wastes which are produced in the reprocessing of used fuel elements from nuclear reactor cores.”

The idea that the waste dumped into water supplies was so “low level” as to be completely harmless is likely dubious and hopeful at best. Fluoride, a by-product of the nuclear power industry, was one of those constituents, and was transformed from being known as a rat poison to being known as a dental benefit by the original spin doctor and propagandist, Edward Bernays.

In his book [*The Fluoride Deception*](#), author Christopher Bryson revealed how the nuclear industry also used fluoridation of the public water supply as a means of secretly dumping industrial waste after fluoride was a major by-product in the uranium enrichment process for

building the atomic bomb. [Bryson told Democracy Now:](#)

The Manhattan Project needed fluoride to enrich uranium. That's how they did it. The biggest industrial building in the world, for a time, was the fluoride gaseous diffusion plant in Tennessee the Manhattan Project and Dr. Hodge as the senior toxicologist for the Manhattan Project, were scared stiff less that workers would realize that the fluoride they were going to be breathing inside these plants was going to injury them and that the Manhattan Project, the key — the key of U.S. Strategic power in the Cold War Era, would be jeopardized because the Manhattan Project and the industrial contractors making the atomic bomb would be facing all these lawsuits from workers, all these lawsuits from farmers living around these industrial plants and so Harold Hodge assures us that fluoride is safe and good for children.

More recently, an [Associated Press investigation](#) found in 2011 that 48 of 65 nuclear sites in the United States were leaking tritium, a radioactive form of hydrogen, into groundwater supplies via corroded pipes and tunnels. AP found at least 37 locations were in direct violation of federal drinking water standards for tritium, in some cases hundreds of times over.

Fracking Nuclear Waste 'Safe for Millions of Years'... Unless It Leaks

Some 30 trillion gallons of toxic waste has been kept out of sight, out of mind by U.S. industries that have injected it hundreds and thousands of feet underground into wells since the 1960s.

Scientists who work for these corporations have used computer modeling to assure the Environmental Protection Agency that this waste poses no threat to our aquifers and that layers of rock deep within the Earth would safely store this stuff like Tupperware for millennia.

Already, several incidents have proven that scientific computer models are no match for reality.

It is clear from a December 21, 1973 article that disposal of nuclear waste via fracking continued, along with promises that it would be safe for millions of years to come.

The *Dixon Evening Telegraph* wrote in "Geologists look at energy crunch":

The U.S. Government is disposing of approximately 250,000 gallons of intermediate-level wastes each year using a technique called hydraulic fracturing. Liquids are pumped into impervious shales 1,000 to 5,000 feet below the surface. High pressure is applied causing the rocks to fracture and the liquid moves out laterally. Because the rock and radioactive wastes it contains will not be exposed to the biosphere for millions of years, this method should be safe unless leakage into an overlying aquifer occurs.

That is, as the article points out, *unless* there are leaks.

As we found in research, leakage is exactly what has happened time and again throughout the years, including at disposal sites for Oak Ridge National Laboratories, according to reports in the following cases. Via [ProPublica](#):

In April, 1967 pesticide waste injected by a chemical plant at Denver's Rocky Mountain Arsenal destabilized a seismic fault, [causing a magnitude 5.0 earthquake](#) — strong enough to shatter windows and close schools — and jolting scientists with newfound risks of injection, according to the U.S. Geological Survey.

A year later, a corroded hazardous waste well for pulping liquor at the Hammermill Paper Co., in Erie, Pa., ruptured. Five miles away, [according to an EPA report](#), "a noxious black liquid seeped from an abandoned gas well" in Presque Isle State Park.

In 1975 in [Beaumont, Texas](#), dioxin and a highly acidic herbicide injected underground by the [Velsicol Chemical Corp.](#) burned a hole through its well casing, sending as much as five million gallons of the waste into a nearby drinking water aquifer.

And these are hardly the only examples... in fact, it is just scratching the surface of an issue that is almost as incomprehensible as it is unfathomable.

Then in August 1984 in Oak Ridge, Tenn., [radioactive waste was turned](#) up by water monitoring near a deep injection well at a government nuclear facility.

Bingo...

There it is. The infallible, permanent, and "impermeable" deep injection wells that Halliburton and the Atomic Energy Commission considered as a solution to nuclear waste for eons to come were found turning up radioactive nuclear waste at the very Oak Ridge site where these 1960s disposal projects were taking place.

Subterranean Waste Disposal a 'Cornerstone of the Nation's Economy'

Those cemented wells, filled with injected disposal substances may be safely secured for a few years or even decades, but that is no guarantee for the years down the road and its certainly not the millennia as promised by Halliburton and others in the industry. In fact, many of the wells have been forgotten, abandoned, and are lost to the record books.

As [ProPublica reports](#):

There are upwards of 2 million [abandoned and plugged oil and gas wells](#) in the U.S., more than 100,000 of which may not appear in regulators' records. Sometimes they are just broken off tubes of steel, buried or sticking out of the ground. Many are supposed to be sealed shut with cement, but studies show that cement breaks down over time, allowing seepage up the well structure.

And many of these are injection wells, where all kinds of unwanted, toxic substances are dumped in order to be forgotten... though not necessarily gone.

Not only are these practices taking place, they are widespread... and widely defended, even with the known failures and safety issues.

Many scientists and regulators say the alternatives to the injection process — burning waste, treating wastewater, recycling, or disposing of waste on the

surface — are far more expensive or bring additional environmental risks.

Subterranean waste disposal, they point out, is a cornerstone of the nation's economy, relied on by the pharmaceutical, agricultural and chemical industries. It's also critical to a future less dependent on foreign oil: Hydraulic fracturing, "clean coal" technologies, nuclear fuel production and carbon storage (the keystone of the strategy to address climate change) all count on pushing waste into rock formations below the earth's surface. ([source](#))

Sure, maybe it's better than dumping it directly into the waterways, but still. This isn't just playing with fire, this is playing with the lives of everyone in the nation for generations to come.

Please read ProPublica's full series of reports on this, [starting here](#). Things have to change.

These people should not have started messing with something they did not know how to fully and safely manage.

How long can this madness continue until it winds up tainting every drinking glass in America?

Engineer Mario Salazar, who worked as a technical expert for 25 years with the EPA's underground injection program in Washington, told ProPublica's Abrahm Lustgarten something that should give us all pause about how radioactive nuclear waste and industrial pollutants in general are being handled, and where they may ultimately end up:

In 10 to 100 years we are going to find out that most of our groundwater is polluted. A lot of people are going to get sick, and a lot of people may die.

Aaron Dykes and Melissa Melton created [TruthstreamMedia.com](#), where this article [first appeared](#), as an outlet to examine the news, place it in a broader context, uncover the deceptions, pierce through the fabric of illusions, grasp the underlying factors, know the real enemy, unshackle from the system, and begin to imagine the path towards taking back our lives, one step at a time, so that one day we might truly be free...

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