

# Nuclear Power Isn't Clean — It Creates Hellish Wastelands of Radioactive Sewage



Barrels filled with toxic waste line the walls of the Herfa-Neurode underground waste disposal site in Hessen, Germany, in a photo taken on July 12, 2022. SWEN PFÖRTNER / PICTURE ALLIANCE VIA GETTY IMAGES

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Joshua Frank's brilliant *Atomic Days*, from Haymarket Books, takes us deep into the horrific clogged bowels of the failed technology that is nuclear power.

Frank's excursion into the radioactive wasteland of the Hanford Nuclear Reservation, in eastern Washington State's Columbia River Valley, is the ultimate real-world nightmare.

Unfortunately, it serves as a wailing siren for what faces us with the atomic wastes from our commercial reactors, now joined at the toxic hip to the global weapons industry.

"Like a ceaseless conveyer belt," Frank writes, "Hanford generated plutonium for nearly four long decades, reaching maximum production during the height of the Cold War."

It is now, he says "a sprawling wasteland of radioactive and chemic sewage ... the costliest environmental remediation project the world has ever seen and, arguably, the most contaminated place on the entire planet."

Current cost estimates to clean up the place, says Frank, "could run anywhere between \$316 and \$662 billion."

But that depends on a few definitions, including the most critical: What does it mean to "clean up" a hellhole like Hanford? If you want to remove plutonium from a radioactive wasteland, what do you do so that it doesn't create another radioactive wasteland? And what does that say about the [90,000 tons](#) of high-level waste sitting at more than 50 U.S. commercial reactor sites?

To put it in perspective, we spend \$2.6 billion each year just to preserve Hanford as it is. The clean-up estimate, according to Frank, has roughly tripled in the past six years, leaving us to believe that in another six years it could easily be over \$6 trillion.

The environmental consequences are colossal. As Frank abundantly documents, Hanford is an unfathomable mess. Giant tanks are leaking. Plutonium and other apocalyptic substances are rapidly migrating toward the Columbia River, which could be permanently poisoned, along with much more. Local residents have been poisoned with "permissible permanent concentration" of lethal isotopes on vegetables, livestock, and in the air and drinking water.

Such exposures have even included a deliberate experiment known as the "Green Run" in which Hanford operatives "purposely released dangerous amounts of radioactive iodine."

Such emissions are especially damaging to embryos, fetuses and small children, whose thyroids can be easily destroyed (as we are now seeing at Fukushima). But back then the U.S. Army Corps of Engineers wanted to know how fallout would flow in wind currents.

The product was a "death mile" stretching from the Columbia River basin to the ocean, filled with casualties of radioactive poisoning.

After decades of devastating leaks from defective storage tanks, the *Los Angeles Times* reported that more radioactivity was stored at Hanford "than would be released during an entire nuclear war."

Thousands of such tanks at Fukushima may soon be given a governmental green light to dump their poisons in the Pacific, with potentially apocalyptic results.

At Hanford, "the waste was so hot it would boil ... for decades to come," i.e., right up to the present day, writes Frank.



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Despite official denials, Frank documents a terrifying range of catastrophic leaks into the soil, water tables and streams throughout the reservation. By 1985, he writes, “despite \$7 billion spent over the previous ten years, no progress had been made in ridding the aging tanks” of their deadly offal.

To this day “Hanford remains the most complex environmental mess in the United States,” riddled with problems that provide huge profits for corporations that land clean-up contracts and then fail to deliver, exceeding the complexity even of the infamous waste dump at [West Valley, New York](#), and the highly radioactive fallout zone at Santa Susana, California, just north of Los Angeles.

But Hanford’s not alone. Frank also takes us to Chelyabinsk, the site of a Soviet era disaster, and to another wasteland around Kyshtym. Like the 1000-square-mile “dead zone” around Chernobyl, Hanford is full of areas where human life is perilous at best.

To put the nuclear power industry in a larger context, Frank guides us through the “permanent war economy” birthed during WWII, and discusses Franklin Roosevelt’s ambivalent relations with the “Malefactors of Great Wealth” who often stood in the way of making the U.S. the “Arsenal of Democracy,” and who once even plotted to kill him.

With the decision to build an A-Bomb, the giant Bechtel Corporation used the 120-square-mile reservation at Hanford to produce 103.5 metric tons of plutonium, perhaps the deadliest substance known to humanity.

But there was no effective solution for what might happen to the place in the aftermath. The Waste Treatment Plant meant to “vitrify” rad wastes into glass began construction in 2002, with plans to open in 2011. It has become, in both cost and area, “the largest single construction operation taking place anywhere in the United States,” now with an estimated price tag of \$41 billion and a projected opening in 2036.

With “a string of bungled jobs under its belt,” Bechtel’s failed “Big Dig” in Boston — a much-vaunted tunnel from Logan Airport to downtown — reflected its work at Hanford when a collapse killed a 39-year-old woman and resulted in \$357.1 million settlement exempting management from criminal prosecution.

As the U.S.’s fourth-largest privately held company, Bechtel spending \$1.8 million on D.C. lobbying in 2019-20 was par for the course. The payback, Frank writes, comes in the tragic diseases suffered by Hanford workers like Abe Garza and Lawrence Rouse, usually amid terse, well-funded official denials. Researchers like Karen Wetterhahn and veterans like Victor Skaar have joined Vietnam victims of Agent Orange in being victimized by exposures they were repeatedly assured were “safe.” Whistleblowers like Ed Bricker were even subjected to intense spying and sabotage by close associates he was deceived into accepting as friends.

Meanwhile activists like Russell Jim of the Yakama Tribe began to force “an immeasurable amount of transparency” around the Hanford disaster. Their decades of hardcore community organizing came with a growing demand for accountability that has changed the political atmosphere surrounding the cleanup.

The debate has carried into the use of commercial atomic power.

Because of Hanford’s nuclear presence, five atomic reactors were constructed in Washington State, promising electricity that would be “too cheap to meter.”

But like the soaring costs of plutonium production and clean-up, the Washington Public Power System plunged into the biggest public bankruptcy in U.S. history, due to massive delays and cost overruns. Only one of the nukes now operates.



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Sadly, some self-proclaimed climate activists have [fallen into the atomic pit](#), arguing that in the face of the acute threat of climate change, nuclear power should be pursued as a way to lower emissions.

But they all ignore the big lesson Joshua Frank teaches us about Hanford: All the rhetoric in the world can't cover for the physical realities of dealing with atomic radiation. And atomic fires burning at 571 degrees Fahrenheit will never cool the planet. The mines, the mills, the fuel fabrication, the reactors themselves, the waste dumps, all that horrendous multitrillion-dollar paraphernalia — they together comprise the most lethal and expensive technological failure in human history.

Many reactor promoters have long vehemently denied any connection between their “peaceful atom” and the scourge of war, but [anti-nuclear activists have exposed the falsity of those claims](#). For example, the Campaign for Nuclear Disarmament, a British advocacy organization that opposes both nuclear weapons and the building of new nuclear power facilities, [writes](#):

The civil nuclear power industry grew out of the atomic bomb programme in the 1940s and the 1950s. In Britain, the civil nuclear power programme was deliberately used as a cover for military activities.... The development of both the nuclear weapons and nuclear power industries is mutually beneficial. Scientists from Sussex University confirmed this once again in 2017, stating that the government is using the Hinkley Point C nuclear power station to subsidise Trident, Britain's nuclear weapons system.

As the atomic energy business is increasingly priced out of the electricity market by wind, solar, batteries, and increased efficiency and conservation, we will likely see the nuclear power industry increasingly admitting to what it always was — a [necessary servant](#) of the nuclear weapons industry.

Fittingly, the only future for atomic reactors will be as a bottomless pit for ecological suicide and massive public subsidies — exactly like Hanford.

Indeed, for readers truly interested in the future of atomic energy, take a good look at how it plays in Joshua Frank's *Atomic Days*. Then ask how soon we can cover the whole damn place with solar panels.