THE SECRET 'WHITE TRAINS" THAT CARRIED NUCLEAR WEAPONS AROUND THE U.S.

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TODAY THE UNITED STATES RELIES ALMOST ENTIRELY ON MILLION-DOLLAR, LOCKEED MARTIN TRACTOR TRAILERS, KNOWN AS SAFEGUARD TRANSPORTERS (SST'S) TO MOVE NUCLEAR MATERIAL. BUT FROM THE 1950'S THROUGH THE 1980'S, THE GREAT HOPE FOR SAFE TRANSIT WAS SO CALLED WHITE TRAINS

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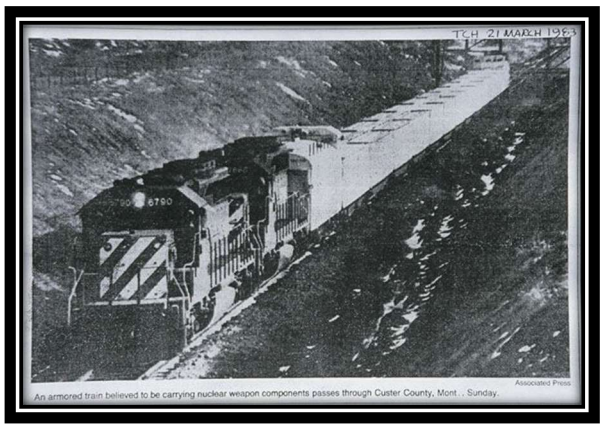

NOW

For as long as the United States has had nuclear weapons, officials have struggled with how to transport the destructive technology.

THE HISTORY CHANNEL

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At first glance, the job posting looks like a standard help-wanted ad for a cross-country trucker. Up to three weeks a month on the road in an 18-wheel tractor-trailer, traveling through the contiguous 48 states. Risks include inclement weather, around-the-clock travel, and potentially adverse environmental conditions. But then the fine print*: Candidates should have "experience in performing high-risk armed tactical security work…and maneuvering against a hostile adversary."*

The U.S. government is hiring "Nuclear Materials Couriers." Since the 1950s, this team of federal agents, most of them ex-military, has been tasked with ferrying America's roughly 6,000 nuclear warheads and extensive supply of nuclear materials across the roads and highways of the United States. America's nuclear facilities are spread out throughout the country, on over 2.4 million acres of federal real estate, overseen by the Department of Energy (DOE)—a labyrinth of a system the *Bulletin of the Atomic Scientists* called "highly scattered and fragmented…with few enforceable rules."

Some sites are for assembly, some are for active weapons, some are for chemicals, some are for mechanical parts. *What this means in practice is that nuclear materials have to move around—a lot.*

For as long as the United States has had nuclear weapons, it has struggled with the question of how to transport America's most destructive technology throughout the country without incident. *"It's the weak link in the chain of nuclear security*," said Dr. Edwin Lyman of the Union of Concerned Scientists.

Today the United States relies almost entirely on million-dollar, Lockheed Martin tractor-trailers, known as Safeguard Transporters (SGTs) and Safe Secure Trailers (SSTs) to move nuclear material.

But from the 1950s through the 1980s, the great hope for safe transit was so-called "white trains."

These trains looked entirely ordinary, except for a few key details. They featured multiple heavily armored boxcars sandwiched in between "turret cars," which protruded above the rest of the train. The turrets had slit windows through which armed DOE guards peered out, prepared to shoot if they needed to defend the train.

Some guards had simple rifles, while others reportedly had automatic machine guns and hand-grenade launchers. Known in DOE parlance "safe, secure railcars," or SSRs, the white trains were highly resistant to attack and unauthorized entry. *They also offered "a high degree of cargo protection in event of fire or serious accident," the DOE assured a wary Congress in 1979.*

Though nuclear trains staffed by snipers guarding powerful weapons sounds like something out of an action-adventure film, the trains were far from glamorous. *They moved slowly, maxing out at 35 miles per hour—*a virtual crawl compared to the average Amtrak train. This meant very long cross-country journeys for their seven-member crews. One of the most common routes for the train took nuclear bombs from Texas to Bangor, Washington, delivering the weapons at a submarine base on the banks of the Puget Sound. Another frequent route took bombs from Texas to Charleston, South Carolina, where a set of submarines sat poised for missions in the Atlantic.

The Pantex Plant near Amarillo, Texas, 1996. It was constructed by the U.S. Army in 1942

The epicenter of nuclear transit was the Pantex Plant, about 17 miles outside of downtown Amarillo, Texas, a maze-like complex of dozens of buildings located on 10,000 acres of land. Amarillo was the final destination for almost all of America's nuclear *trains and the Pantex Plant was the nation's only assembly point for nuclear weapons, a role it maintains to this day.*

The United States built Pantex in 1941 as a World War II munitions base, and in 1951, it was quietly refurbished to serve a new Cold War role. Soon, a growing portion of Amarillo's 100,000 citizens were employed in bomb assembly and disassembly. "Inside Gravel Gertie bunkers designed to contain explosions and contamination, moonlighting farmers and silent young mechanics bolt together the warheads for Trident missiles and delicately dismantle older weapons," wrote the *Washington Post* in 1982.

While the site received materials like uranium and plutonium from around the country, only Pantex had the heavily shielded cells where the bombs' mechanical parts could be joined to nuclear material. Assemblers of nuclear warheads, clothed in blue overalls, thick gloves, and safety shoes with rubber slipcovers, worked in pairs to attach the nuclear material and the explosives. From these cells, the bombs were taken to bays where workers would add firing components, casings and tails.

Each day trucks and trains rolled in, carrying plutonium from Georgia and Washington, bomb triggers from Colorado, uranium from Tennessee and neutron generators from Florida.

They rolled out on white trains, carrying fully assembled nuclear weapons.

These trains quietly snaked along America's railroads for 30 years, a top-secret project with an impeccable track record. *Yet today, every white train sits in a junkyard or a museum*. Why did America abandon its nuclear trains, which many *Cold War* nuclear experts considered to be the safest mode of transport for sensitive weapons material?

A "white train" at the Amarillo Railroad Museum.

DERAILING THE WHITE TRAINS

Anxieties about nuclear war loomed heavily in the national psyche at the turn of the 1980s, and as a growing roster of cities became involved in U.S. nuclear development, Americans began to express *(often very justified*) fears about the materials being stealthily moved around amid the backgrounds of their lives.

In his first term in office, President Reagan quadrupled defense spending and suggested that the United States was willing to use nuclear strength against the Soviets if necessary. In March 1982, *Time Magazine* published a cover featuring a billowing red mushroom cloud and the phrase *"Thinking the Unthinkable."*

One American reckoning with the "unthinkable" was Jim Douglass, a Catholic theologian affiliated with a nuclear resistance group called *Ground Zero Center for Nonviolent Action*. In 1981, Douglass purchased a home in Washington, overlooking the Naval Submarine Base Bangor on the coast of the Puget Sound. Each day Douglass and his wife would look out their front window onto the bay, and again and again they saw the same thing: a white train entering and exiting the heavily secured base.

"It was an awesome sight," Douglass told *People*. "You feel the reality of an inconceivable kind of destruction. Anybody who sees this train experiences the evil of nuclear arms, because it looks like what it is carrying — a white night."

Jim and Shelley Douglass, with the aid of the Ground Zero Center, launched a controversial fight to stop the white trains, what Mr. Douglass called "*the most concentrated symbol we have of the hell of nuclear war."* With the aid of a train-buff friend, they determined the most likely route from Amarillo to Washington. They then contacted peace and religious groups on the route, asking them to watch for the train, to organize a prayer vigil or a nonviolent protest when the train appeared, and to inform local newspapers about the train's arrival.

Actions against the white trains took place throughout the United States, with vigils occurring in more than 300 communities. In Memphis, a white train came *inches away from hitting a nun* who stood in the middle of the tracks. In Washington, D.C. activists laid a section of railroad in front of the DOE building, and surrounded the track with a blown-up photograph of a white train, a map of its known routes, and a large banner reading, "The Nuclear Train Starts Here."

The nuclear resistance movement posed serious problems for the DOE. Not only did it generate terrible press, *it also directed public attention to what the agency had carefully designed to be a classified process*.

The DOE wasn't just worried about angry pacifists, *it was worried about someone learning the routes and hijacking a train—a worst case scenario for American nuclear security.*

The DOE's first attempt to thwart protesters involved rerouting the trains. From the DOE command center in Albuquerque, New Mexico, officials issued last minute directives to the engineers to take "the tracks of least resistance." But as the network of anti-nuclear activists grew, they became increasingly adept at tipping off the community if they saw an unmarked white train plow down their railways. *They agency proposed new regulations that would make it illegal to pass information about the routing of the white train, but got little traction.*

So the DOE undertook a logical next step: changing the color of the trains. A July 1984 memorandum titled "Color Change of Safe-Secure Railcars" noted that "the painting of these railcars will not stop dedicated protesters from identifying our special trains. However, it will make tracking our trains more difficult, and we believe, enhances the safety and security*…" The DOE painted the trains red, green, grey, and blue, but anti-nuclear activists continued to track the trains with relative ease—after all, not many commercial trains had turrets for snipers.*

The battle against the white trains reached its peak in 1985, when 146 people were arrested over the course of one train's journey from Amarillo to Bangor. Jim and Shelley Douglass, as well as many of their closest collaborators were charged with trespassing and conspiracy. But surprisingly, a Washington jury returned a not-guilty verdict for the 20 activists who sat on the train tracks and county officials announced they would no longer arrest people for protesting and obstructing the weapons trains.

Public pressure, activist interference, and a growing constellation of nuclear sites in the U.S. triggered the demise of the controversy-ridden trains. Shortly after the Washington lawsuit, the U.S. government began exclusively using Safeguard Transporters for moving nuclear materials. The DOE expressed confidence that a system of trucks would be easier to obscure and would provide a practical solution to reaching the many nuclear sites far away from train tracks.

A special truck for transporting nuclear weapons at the Pantex Plant March 1996

THE FUTURE OF NUCLEAR RAIL

While the white trains came to an unceremonious end in 1987, the Department of Energy didn't abandon all hope for using trains in experimental national security measures. In 1986, President Reagan approved a system *for launching intercontinental ballistic missiles from railways, an initiative known as Peacekeeper Rail Garrison*. The plan would park 25 trains carrying two missiles apiece at military bases throughout the U.S. In the case of Soviet agitation, the locomotives would move onto the nation's railroad network, where missiles could be launched from the train.

Though a group of protesters had effectively brought down the white trains, officials appeared confident that the nation's rail network could provide an effective means of hiding weapons. By the late 1980s, the United States had 120,000 miles of available track, 20,000 locomotives, and 1.2 million railcars.

At any given time, there were more than 1,700 trains on the tracks; military representatives insisted this would make it almost impossible for the Soviets to track *where in the U.S. these 50 missile-laden trains had gone*. "Rail-garrison will be the mainstay of our strategic defense well into the 21st century," predicted one Texas Senator.

The Cold War ended before a single missile could roll onto the tracks. When the Soviet Union broke apart in 1991, the U.S. began decommissioning much of its nuclear arsenal and discontinued expensive, experimental projects like Peacekeeper Rail Garrison. But in 2013, the U.S. Air Force briefly toyed with the idea of a similar system, which would move missiles around the tracks of an underground subway system. The Air Force's rationale remained much the same: if you could keep the missiles moving, you would deter attackers and make it nearly impossible to pinpoint the weapons' exact location. Critics have dismissed this proposal as a pie-in-the-sky idea, and even its proponents conceded it would likely take another 50 years to make such a project operational.

Today's nuclear infrastructure—much of which is focused on decommissioning rather than building weapons—*is reliant on Safeguard Transporters and their armed drivers.* Much like the rest of the America's nuclear arsenal, most of the trucks are antiquated; about half of the SSTs are over 15 years old. *The trucks, which log over three and a half million miles each year, are accompanied by unmarked escort vehicles and their only easily recognizable feature is their U.S. Government license plates.*

"I never had a sense there was a fear about moving things," said Dr. Robert Rosner, former director of the Argonne National Laboratory, who oversaw the lab's nuclear waste disposal efforts from 2005 to 2009. "The drivers knew what they were doing. They were accompanied by state police. We had confidence in the physical robustness in the transportation itself," Rosner recalled, pointing to videos showing how the materials respond to a train crash, a truck flipping, and other potential catastrophes.

Transportation of nuclear materials is currently overseen by the Office of Secure Transportation (OST), an agency that has attracted only minimal attention in the years since the fall of the Soviet Union. But a 2017 *Los Angeles Times* investigation suggested problems may lurk beneath the surface. OST is understaffed, with the average courier working about 75 hours a week. Turnover is extremely high. In 2010, a DOE investigation found *"widespread alcohol problems"* within the agency, including incidents that occurred while couriers were on secure transportation missions. The DOE conceded that these episodes "indicate a potential vulnerability in OST's critical national security mission."

Major challenges remain for nuclear transportation in America. Plans to "modernize" America's nuclear arsenal, supported by both the Obama and Trump administrations, means that weapons will be taking more trips than ever on American roads. Beginning in 2010, around one thousand W76 warheads traveled from Bangor, Washington back to Amarillo, Texas, for upgrades to extend the life of the weapon by 30 years—a massive undertaking, entirely dependent on the OST's fleet of Safeguard Transporters..

Whether waste or weapons, trains or trucks, the United States has been remarkably fortunate in avoiding major transportation mishaps. Since the days of the white trains, the government has insisted that nuclear materials are being moved across the American landscape in the safest possible way, persisting through crashes, fires, and interfering nuns. Yet public fears endure about whether moving such materials can ever truly be "safe."

"We've been moving this stuff since the Cold War, and we've never had a major accident," said Rosner. "But the system depends on secrecy. If we have an accident, that veil will be lifted."

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