SRS WATCH
Savannah River Site Watch

Heart of a New Nuclear Arms Race: Plutonium "Pit" Production at the Savannah River Site – SRS Assumes Key Role in Making Plutonium Cores for New Nuclear Weapons

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The Savannah River Site, now operated by the U.S. Department of Energy, was created - as the Savannah River Plant - in rural South Carolina in the early 1950s. The 310-square-mile site near Aiken, SC - for which 5000 people were relocated - made plutonium and tritium (a radioactive gas) for use in nuclear weapons in five nuclear reactors, all of which have been closed since around 1990. Now, with almost no discussion in South Carolina, SRS is taking on a bigger role in production of new nuclear weapons, which will have global implications for a nuclear arms race.

SRS produced about 36,000 kilograms of plutonium, enough for well over 10,000 nuclear weapons. At its Cold War peak, over 25,000 people worked at the site. Now the number of workers is above 11,000 and could rise due to increased nuclear weapons work.

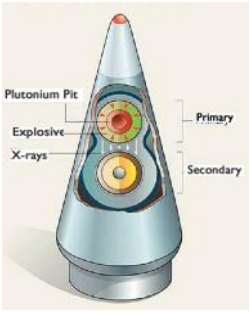
Since its inception SRS has been key to U.S. nuclear war planning, something always claimed to have "deterrence" as its basis. From a high of over 30,000 nuclear weapons in the mid-1960s we are down to around 5000 active weapons now, with the Russians having somewhat more. This amount remains far beyond what might constitute a nuclear "deterrent." And, the talk of fighting a nuclear war has increased, with the largest nuclear countries - US, Russia and China - all seeking to expand their nuclear capabilities.

The nuclear weapons part of DOE, the National Nuclear Security Administration (NNSA), will take over lead management of the SRS in 2025. The Office of Environmental Management, which manages a vast quantity of nuclear waste left over from the Cold War, will no longer be the main agency at SRS as the focus shifts from "clean-up" to nuclear weapons.

Nuclear materials were separated at SRS in two reprocessing plants, with by-product high-level nuclear waste (HLW) being dumped into 51 tanks of up to around 1 million gallons in size. That waste, still around 35 million gallons, in aging carbon-steel tanks is a threat to groundwater. The H-Canyon reprocessing plant at SRS, which separated nuclear weapons materials, is almost 70-years old and remains operable. Dozens of contaminated production facilities and disposal sites at SRS are still being partially "cleaned up." Low-level waste dumping in unlined trenches remains active.

The dates for the "emptying" and "closing" the HLW tanks have constantly shifted into the future and now the date for closing all 51 tanks is 2037. Eight of those tanks have been emptied and closed. High-level waste being removed from the tanks is being mixed with hot glass and poured into large, robust containers. The mostly empty tanks are left in place and filled with a concrete-like material. Around 4500 containers have been filled with the vitrified waste, half the total to be filled, in the Defense Waste Processing Facility (DWPF). But there is no site for final "disposal" of such high-level nuclear waste, supposedly to go to the geologic repository required by law, so it remains indefinitely at SRS.

Since its start, SRS produced tritium gas in its 5 now-closed reactors, extracted it and packaged it into small reservoirs that are inserted into nuclear warheads. Tritium is used to boost the explosive power when the plutonium core in the "primary" part of the weapon is compressed to the point of criticality, thus triggering the "secondary" part of the weapon into a thermonuclear fusion explosion. SRS supplies tritium for all U.S. nuclear weapons, already making it a key nuclear weapons site. SRS halted tritium production at the end of the 1980s when the last reactors were closed but SRS still processes and packages tritium made from irradiating special targets in the two Watts Bar commercial reactors owned by the Tennessee Valley Authority, a violation of sound proliferation policies. Those tritium targets, or rods, are made at the commercial Westinghouse fuel plant near Columbia, SC.



Weapon-grade plutonium produced at SRS was shipped until the late 1980s to the DOE's Rocky Flats site near Boulder, Colorado, to be made into "pits," the hollow spheres used in a nuclear warhead to trigger a fission explosion. The Nagasaki weapon, produced during the Manhattan Project, used plutonium made at the Hanford site in Washington State. Rocky Flats, which suffered plutonium fires that contaminated the area near the plant, was raided by the FBI in 1989

due to illegal disposal of chemicals, and was shuttered. Production of pits on a limited basis was eventually transferred to DOE's Los Alamos National Lab (LANL) in New Mexico, with plutonium from Rocky Flats being shipped to SRS for storage. SRS currently stores 11.5 metric tons of plutonium.

In 2018, DOE and the Department of Defense revealed a plan by which both Los Alamos and SRS would become the sites where pits for nuclear weapons were made. The aim is to produce 30+ pits at LANL and 50+ at SRS, by 2030, as required by Congress but that's totally unachievable and the date for SRS pit production is 2036 or later. At production of 80 pits per year, pits for new weapons would initially be made and after 50 years all pits in all active weapons would be replaced, revealing that significant disarmament is not in the plans. That SRS has zero experience with fabricating or handling pits and has all but forgotten experience it had in the past in casting plutonium into pucks (shipped to Rocky Flats) reveals the daunting and unrealistic challenge facing this risky project. Savannah River Nuclear Solutions, the private company managing the project, claims that about 1800 permanent production and support staff would be needed for SRS pit production, largely from local technical schools.

The SRS Plutonium Processing Facility would make new pits and would be located in a partially finished building that was central to pursuit of a failed project to make plutonium fuel for use in nuclear power plants. That project to make mixed plutonium-uranium oxide (MOX) wasted over $5 billion on the construction of a building at SRS before being terminated in 2018. The MOX building is being proposed to be converted into the Plutonium Processing Facility, at a DOE estimated cost in March 2024 of up to $25 billion. Expensive equipment, piping, plumbing, wiring and duct work is now being torn out of the MOX building but construction to convert it into the **SRS Plutonium Bomb Plant** won't start until 2025.

A new, official cost estimate for the SRS pit plant, being designed by Savannah River Nuclear Solutions - a consortium of Fluor and Newport News Nuclear - is not expected until mid-2025, meaning that the project will have been pursued for 5 years without an updated cost estimate. The SRS pit plant is on track to be the single-most costly building in U.S. history and is already approaching $30 billion in sunk cost and construction costs! Contractors stand to get wealthy from this.

A document obtained via the Freedom of Information Act reveals that the start date for the SRS pit plant has slipped to at least 2036. The plant would initially make pits for two new nuclear warheads, the W87-1 for land-based ICBMs, housed in silos in the northern plains, and for a new warhead, the W93, for a new Submarine Launched Ballistic Missile.

The SRS pit plant was funded by Congress to the startling amount of $1.25 billion in Fiscal Year 2023 and the request by President Biden for Fiscal Year 2025, now before Congress is $1.3 billion. Funding over 50 years could reach $40 billion.

Biden affirmed the U.S. nuclear weapons policy in the 2022 Nuclear Posture Review, which claims deterrence as justification for irresponsible spending in planning for a full-scale nuclear war on something with the sole purpose of destruction of life and property and, in the end, our ecosystem. It is shockingly clear that the U.S. stands ready to fight the threatened full-scale nuclear war, as we have seen with Biden's threat of World War III in the event that Putin would use a nuclear weapon in Ukraine. In such a war, or in any nuclear exchange, SRS would have a key role via providing the nuclear materials - plutonium pits and tritium - both essential to the warheads in use.

We have a lawsuit before federal court in Columbia, SC asking for a "programmatic" Environmental Impact Statement (PEIS) about the plans to produce plutonium pits at SRS and Los Alamos. DOE has so far dodged reviewing impacts at all **DOE sites, including where plutonium waste is disposed. The lawsuit is demanding a PEIS** to cover all sites impacted by the pit program. The judge has allowed the June 2021 lawsuit to continue and we had a big filing on May 3, 2024.

For details on US plans to expand pit production, with an argument why SRS pit production is not necessary, see Bulletin of Atomic Scientists article, April 27, 2023: *Dealing with a debacle: A better plan for US plutonium pit production*

> Take Action to stop this immoral, unjustified project: Representative Jim Clyburn has been publicly silent about the plutonium pit project at SRS but behind the scenes we are hearing he supports it as it means jobs for his district. Please write to him (or other officials) and ask for him to clearly state his position on the proposed SRS Plutonium Bomb Plant and oppose it. **Write to: Representative. Jim Clyburn, 274 Cannon Building, U.S. House of Representatives, Washington, DC 20515.**