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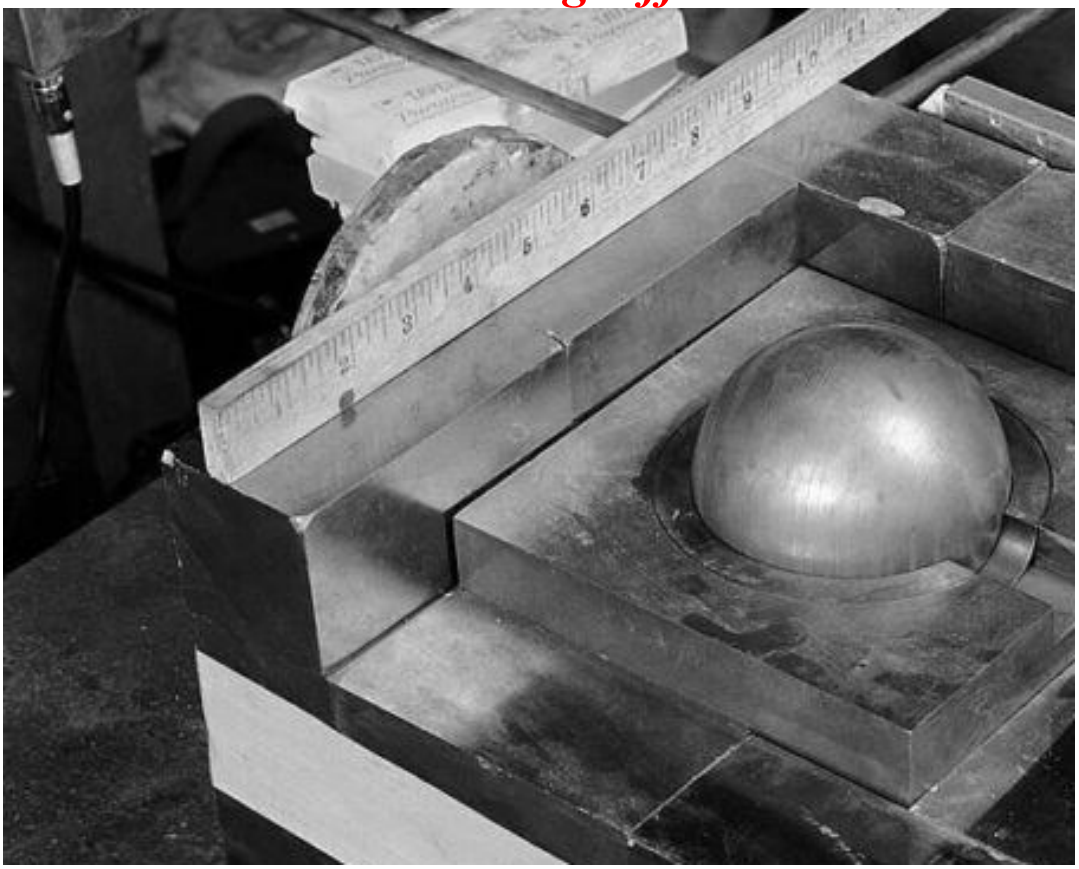
Plutonium Pit Bomb Plans Excoriated by General Accounting Office



Photograph Source: Los Alamos National Laboratory

The independent General Accounting Office (GAO) issued a scathing report last week about the plan underway to refurbish plutonium pit triggers for nuclear weapons decades into the future. The GAO gave the National Nuclear Safety Administration a failing grade for its master plan to build “pit” factories in Los Alamos N.M. and Savannah River Site

S.C., warning that costs, safety and quality controls could not be confidently verified by NNSA's current management strategies.

NNSA is a semiautonomous branch of the Department of Energy tasked with maintaining the potency of the U.S. nuclear deterrent. NNSA is also described by the GAO as an agency "at high risk of fraud, financial waste, abuse, and mismanagement".

What does it mean when GAO issues a scathing report about the National Nuclear Safety Administration?

It means NNSA has already spent $3 billion at Los Alamos National Laboratory with little or nothing to show for the cost. It means that preliminary plans for plutonium pit bomb production at two sites designated to manufacture "pits", Savannah River Site in South Carolina and Los Alamos National Laboratory in New Mexico, have already committed up to $24 billion, before a single pit would be manufactured. It means NNSA has disregarded standard accounting procedures and best management practices required of such giant federal projects.

It means that NNSA has failed to estimate a final cost of the manufacture of eighty plutonium bomb pits per year by the year 2030 mandated by Congress in 2016.

Congress can share the blame as it has ignored the best advice from the Institute for Defense Analysis: "No available productive options considered by NNSA could be expected to provide capacity to produce 80 plutonium pits per year by 2030". Fabricating 80 plutonium pit triggers per year by the year 2030 "is impossible, regardless of how much money Congress spends on the pit project".

The former commander of U.S. Strategic Command, Commander Charles Richard, testified in 2022 that "No amount of funding will allow NNSA to achieve 80 plutonium pits per year by 2030".

Congress has also neglected and ignored its own pit aging studies that demonstrate the dependability of existing plutonium pits in the U.S. nuclear arsenal far into the future. The JASON advisory group calculated that plutonium pits currently installed in U.S. nuclear war heads could reliably last another 60 years. The Livermore National Laboratory demonstrated that the pits in use today have a functional life of 150 years.

Plutonium, Pu94, is a metallic element. It is entirely man-made, not occurring in nature. Plutonium can be purified, molded, melted, cast, welded and annealed like other metals. It is pyrogenic, igniting in oxygen, as has occurred in several serious fires at LANL. Plutonium is one of the most carcinogenic substances on Earth. Plutonium is radio-active,

fissile, meaning it can sustain a nuclear fission reaction causing a nuclear explosion. The U.S. currently has 50 metric tons of surplus plutonium in storage.

Plutonium pits are the trigger mechanisms for nuclear weapons. Developed during World War II at Los Alamos National Laboratory in New Mexico by the leading minds in physics, chemistry, and engineering, "pits" are the fundamental component in any nuclear weapon. A plutonium pit is a hollow sphere the size of a grapefruit with the explosive potential of 200 thousand tons of TNT (200K).

Thousands of plutonium pits per year totaling tens of thousands of pits were manufactured at the Rocky Flats Plant, near Denver, Colorado from 1953 to 1989. Whistleblower (Karen Silkwood's) information led to FBI raids on the Rocky Flats Plant where ground water contamination and illegal incineration of plutonium waste were discovered. Huge fines against Rockwell International were levied.

Rocky Flats was closed in 1992 after George H.W. Bush cancelled the manufacture of W88 nuclear war heads. The manufacturing complex remains a superfund site and is listed as a Department of Energy "legacy site" which may never be accessible to the public again.

Few plutonium pits have been manufactured in the U.S. in the past 30 years since the closure of Rocky Flats; around 30 pits, all produced at Los Alamos, cost more than $3 billion.

Whether the United States nuclear arsenal (currently 1,550 deployed war heads and an equal number of war heads in reserve) requires new plutonium pits remains scientifically controversial but will be massively funded.

Congressional legislation from 2015 onward has mandated the replacement of plutonium pits currently installed in nuclear war heads. Plutonium decays over time, rendering in doubt the efficacy of older plutonium pits to trigger nuclear explosions. Most pits in the U.S. arsenal are at least forty years old. The plan is to refine and re-mill at LANL and SRS some of the 20,000 surplus pits stored at the PANTEX facility in Texas.

Congress also mandated that "pit aging tests" should be funded and conducted but never followed its own directive, ignoring other independent studies that determined the current plutonium pit arsenal is reliable.

Congress mandated in 2016 that two new pit production facilities fabricating 80 new pits by the year 2030 should be constructed at Savannah River Site S.C, and Los Alamos, N.M.

The proposed Savannah River Site plutonium pit facility would be constructed in the abandoned 400,000 square foot reinforced concrete building originally designed to reprocess plutonium from Russian nuclear weapons after the collapse of the Soviet Union.

The Mixed Oxide Plant, MOX, at SRS was partially built to down-blend highly enriched plutonium and fabricate fuel assemblies for domestic nuclear power plants. Congress finally terminated the MOX project after huge cost overruns nearing $10 billion, engineering scandals, and a non-existent market for its fuel products. SRS has never manufactured plutonium pits in 70 years of operation.

The Los Alamos National Laboratory invented and manufactured the first plutonium pits used in the Trinity nuclear test and in the atomic bomb that destroyed Nagasaki Japan in 1945. The majority of LANL's work since is research oriented—designing new war heads and creating plutonium power plants for NASA satellites.

The fabrication building at LANL, PF-4, was never designed to house the extensive equipment required to meet the goal of 30 pits by 2030. Criticality Issues of crowding fissile materials together, a poor safety record, and the highest worker exposure to radiation of any U.S. radiological lab remain unresolved issues at LANL.

If Congress hopes to decrease spending by cutting programs this year and avoid a default on the nation's debt, pausing the plutonium pit bomb projects at Los Alamos and Savannah River Site should be a prime candidate for cost cutting. Pausing the pit production fund would save tens of billions of dollars. These projects received failing scores, 7 out or 20 points in the recent GAO report, and deserve no more funding at this time.

Instead Congress should reinstitute the pit aging research at LANL and Livermore and halt any new plutonium pit production until a certifiable need exists. As the Department of Defense calculated, a nuclear arsenal of 1,000 war heads would provide a sufficient nuclear deterrent, then reducing the number of warheads in the U.S. arsenal by nearly half could save hundreds of billion dollars more.

Much of the momentum to build new plutonium pits seems to involve a drive to design nuclear war heads. The Air Force's new fleet of intercontinental ballistic missiles based in the Midwest U.S., the Sentinel, costing $250 billion over the next 30 years, could carry a new W 87-1 warhead with multiple target capabilities (MIRV). The W 87-1 would require a new and untested plutonium pit trigger.

Lost in all the nuclear equations, appropriations and performance scandals is the consideration that the U.S. is treaty bound by the Nuclear Non-Proliferation Treaty, 1968,

to reduce and eventually eliminate its nuclear arsenal, as are the other nuclear armed signatories of the NPT. The great majority of the world's nations oppose nuclear weapons and expect nuclear armed countries to eliminate their nuclear weapons per Article VI of the NPT. Reviving plutonium pit production and redesigning new nuclear warheads that use these pits cannot fulfill the U.S. obligation to reduce and eliminate its nuclear arsenal.

Should President Biden and the 118th Congress decide to adhere to its nuclear treaty obligation to reduce nuclear weapons, save hundreds of billions of dollars and avoid the renewal of a nuclear arms race it has embarked upon, then defunding the NNSA's plutonium pit bomb projects at Los Alamos and Savannah River Site is the perfect first step.

Previous Congresses and presidents have defunded or cancelled numerous nuclear weapons projects in the past. The plutonium pit bomb project should be the next.

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