

Expanding Nuclear Pit Production: The Facts and What You Can Do

The Quick and Dirty

The Facts

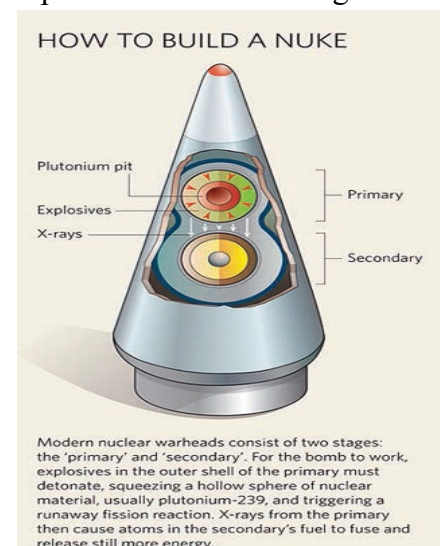
- The Biden Administration is continuing plans to produce at least 80 plutonium pits per year by 2030 without offering concrete justification for the additional nuclear bomb cores.
- Multiple studies by government agencies have found that pits last for at least 100 years. The average age of pits in the active nuclear weapons stockpile is around 40 years old.
- More than 15,000 existing pits are already stored at the Pantex Plant near Amarillo, TX.
- Independent experts find it nearly impossible that the Los Alamos National Laboratory (LANL) and the Savannah River Site (SRS) will be able to meet the unjustified legislative requirement for 80 pits per year by 2030. In the meanwhile, tens of billions of taxpayer dollars will be squandered.
- Expanded plutonium pit production is not necessary because no production is scheduled to maintain the safety and reliability of *existing* nuclear weapons.
- Future pit production will be for new-design nuclear weapons that can't be tested because of a global testing moratorium, thereby degrading confidence in the stockpile. Or it could prompt the U.S. to resume testing which would shatter the international nonproliferation regime.
- LANL has long had a small existing production capability that will always be inherently limited but nevertheless sufficient should stockpile problems arise in the future. Pit production at SRS should be vigorously opposed because it will be a completely new mission there and once established could be scaled up way beyond LANL, helping to fuel the accelerating new arms race.

What You Can Do

- Call for rigorous reviews of the claimed rationales for and the environmental impacts of expanded plutonium pit production required by the National Environmental Policy Act.
- Tell your elected representatives that you don't support expanded pit production. Congress will be deciding whether it will back or nix massive budget increases for nuclear weapons in annual Defense Authorization and Appropriations Acts. They need public pressure to make the right choice.

What Are Plutonium Pits for Nuclear Weapons?

Plutonium pits are the radioactive cores or “triggers” of nuclear weapons. Their production has always been the chokepoint of resumed industrial-scale U.S. nuclear weapons production ever since a 1989 FBI raid investigating environmental crimes shut down the Rocky Flats Plant near Denver. In 1997 the mission of plutonium pit production was officially transferred to its birthplace, the Los Alamos National Laboratory (LANL) in northern New Mexico, but explicitly capped at no more than 20 pits per year. However, in 2015 Congress required expanded pit production by 2030 whether or not the existing nuclear weapons stockpile actually needs it. This will enable new military capabilities, including new designs, and the increasing potential use of nuclear weapons in the growing arms race.



Schematic credit: Nature

The Pentagon has called expanded plutonium pit production the number one issue in its planned [\\$1.7 trillion, 30-year](#) so-called “modernization” of U.S. nuclear forces. The Department of Energy’s semi-autonomous National Nuclear Security Administration (NNSA) plans to increase production to at least 30 pits per year at LANL and establish redundant production of at least 50 pits per year at the Savannah River Site in South Carolina. Citizens have defeated four previous attempts to expand pit production, but the current effort is clearly the most serious threat. Nevertheless, expanded pit production still faces enormous hurdles that have never gone away, including lack of true need, exorbitant costs, nuclear safety and radioactive waste issues, and legally required public reviews under the National Environmental Policy Act. Citizens can use these issues to stop unnecessary expanded pit production.

Why Expanded Plutonium Pit Production Is Not Needed

- No pit production is scheduled to maintain the safety and reliability of the existing U.S. nuclear weapons stockpile. Instead the new pits are intended for a new warhead (the W87-1) pushed for by the nuclear weapons labs (principally the Livermore Lab). As weak justification, [NNSA states](#) “required [pit production] capacity must happen even if the W87-1 program must, for some unplanned reason, deploy with a reused pit. If that were to be the case, then the pit manufacturing campaign would provide new pits for the LEP [Life Extension Program] or replacement program that follows the W87-1.” But NNSA does not specify what that next Life Extension Program would be or why it needs a new pit.
- Moreover, exact replicas of existing pits will NOT be built. Since pits cannot be full-scale tested under the current international testing moratorium, heavily modified pit designs could actually endanger national security by undermining confidence in nuclear weapons reliability. Or it could pressure the United States to resume nuclear weapons testing, which would have severe proliferation consequences.
- The U.S. government has offered no justification for the exorbitant expense and environmental and safety risks associated with expanded production, other than to say that it is an undisclosed military requirement. But expanded plutonium pit production will enable the ongoing evolution of the U.S. stockpile, giving nuclear weapons new military capabilities. This feeds the growing nuclear arms race with Russia and China and provides a terrible example as the United States tries to keep other countries from acquiring nuclear weapons.
- A [2006 study](#) by independent experts found that plutonium pits have minimum lifetime of 100 years. A 2008 publication entitled “National Security and Nuclear Weapons in the 21st Century” by the Department of Energy and Department of Defense [wrote](#) that the best estimate of *minimum* plutonium pit life is 85-100 years. A [2012 study by Lawrence Livermore National Laboratory](#) concluded that “no unexpected aging issues are appearing in plutonium that has been accelerated to an equivalent of ~ 150 years of age.” The Trump Administration’s 2018 Nuclear Posture Review and other documents indicate that the [average age of plutonium pits](#) in the active U.S. stockpile is around 40 years.
- Up to 15,000 “excess” existing pits and 5,000 pits in “strategic reserve” [are already stored](#) at the Pantex Plant near Amarillo, TX.
- The costs to the American taxpayer are astronomical. [A 2018 NNSA engineering assessment](#) estimated that pit production will cost around \$43 billion over 30 years. These estimates are almost always low and do NOT include all related waste disposal, cleanup, environmental and health costs,



The Pantex Plant (Defense Nuclear Facilities Safety Board)

which will also be huge. Nor do they factor in the enormous amounts of taxpayer money that NNSA simply wastes. For example, NNSA blew nearly a half-billion dollars on designing a new plutonium facility at LANL before abandoning it altogether because its projected costs exploded 10-fold to \$6.5 billion. Similarly, after wasting 7 billion dollars on the MOX Fuel Fabrication Facility at the Savannah River Site, NNSA now proposes to “repurpose” it to pit production. But “repurposing” it to pit production has already more than doubled in estimated costs to \$11 billion.

- It won't be easy for the Los Alamos Lab to expand plutonium pit production, given regional citizen opposition, legal requirements and problems of its own making, arguably due to its own incompetence. For example, in 2013 the Lab's main plutonium facility [was shut down](#) for over three years because of chronic nuclear criticality safety concerns. Significant safety lapses in the plutonium operations at the Savannah River Site [also have been documented](#) in recent internal government reports. [An April 2019 independent study](#) by the Institute for Defense Analysis, commissioned by the Defense Department, concluded that NNSA's plans for expanded plutonium pit production are potentially achievable but “will be extremely challenging,” are not possible by 2030, and are at “very high risk.”



PF-4, the main plutonium facility at the Los Alamos Lab (LANL)

- Further, in 2014 a radioactive waste barrel improperly prepared by LANL [ruptured](#) at the Waste Isolation Pilot Plant (WIPP) in southern New Mexico, contaminating 21 workers and shutting down the only repository for plutonium wastes from pit production for almost three years. Waste disposal operations at WIPP remain seriously constrained, even as there are increasing demands on its capacity from all across the country. It's not clear where all future radioactive wastes from expanded pit production will be disposed.
- Plutonium pit production will be a completely new mission at the Savannah River Site, raising new budget, safety, waste and environmental problems. Moreover, the Department of Energy is [legally required](#) to remove plutonium from South Carolina, not add plutonium because of pit production.
- Finally, the federal National Environmental Policy Act (NEPA) legally requires meaningful environmental review of expanded plutonium pit production, with the opportunity for public comment that the government must consider. The public interest groups [Nuclear Watch New Mexico](#), [Savannah River Site Watch](#) and [Tri-Valley Communities Against a Radioactive Environment](#) have teamed up with attorneys at the [South Carolina Environmental Law Project](#) in a [lawsuit](#) to compel NNSA to complete a nation-wide programmatic environmental impact statement (PEIS) on pit production. NNSA has refused to complete an updated PEIS or a new site-wide environmental impact statement for the Los Alamos Lab, arguing in both cases that it can rely on outdated versions completed in 2008.

In opposition, Nuclear Watch strongly believes that an updated programmatic environmental impact statement for expanded pit production *is* required for three reasons.

- 1) The 1997 Stockpile Stewardship and Management programmatic environmental impact statement only sanctioned 20 pits per year, while the current proposal calls for 80 or more pits per year.
- 2) The current proposal calls for redundant plutonium pit production at a new site (the Savannah River Site), inherently making it a nation-wide proposal and therefore requiring programmatic study.
- 3) The legal standard under NEPA for requiring new environmental impact statements is substantial new information and changed circumstances, both of which we believe clearly apply here.

In closing, don't be fooled by the national security arguments that proponents of expanded plutonium pit production put forward, intertwined with promises of jobs and economic development. The existing nuclear weapons stockpile has been extensively tested and is safe, secure and reliable. Intentional, unnecessary changes to plutonium pits may undermine confidence in the stockpile and perhaps prompt the U.S. to return to full-scale testing. Moreover, nuclear weapons are the existential threat to our country. America should demonstrate global leadership towards their ultimate abolition, as it pledged to do in the 1970 NonProliferation Treaty, instead of embarking upon a \$1.7 trillion "modernization" program of keeping nuclear weapons forever.

What You Can Do

Tell your congressional delegation what you think of expanded plutonium pit production, particularly as Congress decides on future nuclear weapons spending. NNSA's plans to increase funding for "Plutonium Modernization" (i.e., expanded pit production) to \$1.7 billion in FY 2022 and then spending \$2 billion each year over the next 4 years. All that money does nothing to protect us against our current national security threat, the coronavirus, and will only add to the burgeoning national debt. It is especially important that New Mexicans convey their opinion of expanded plutonium pit production to their congressional delegation, particularly Senator Martin Heinrich who sits on Senate Appropriations. He has the power to make a positive difference but needs to be persuaded to do so because he strongly supports expanded pit production at the Los Alamos Lab (but not SRS).

Tell Congress that it must require independent cost estimates of NNSA's plans for expanded plutonium pit production. NNSA has shown time after time that its cost estimates cannot be trusted.

Tell Congress that it must hold NNSA's feet to the fire for already required updated independent pit lifetime studies. NNSA is dragging its feet, likely because it knows the conclusions will not support its drive for expanded pit production.

Weigh in directly with NNSA on environmental reviews of expanded pit production required by the National Environmental Policy Act.

- 1) In a collaborative effort, the public interest groups Nuclear Watch New Mexico, Tri-Valley CAREs, and SRS Watch have sued NNSA to compel completion of a programmatic environmental impact statement on expanded pit production. Support our litigation and if successful be active in the required process of public hearings and formal comment. We hope that a nation-wide pit production programmatic environmental impact statement can become a public referendum on the \$1.7 trillion "modernization" plan and the accelerating global nuclear arms race.
- 2) Stay tuned for future actions to compel NNSA to complete a new site-wide environmental impact statement for LANL. The last one was in 2008. Much has changed since then, such as an estimated \$5 billion in new plutonium facility upgrades, another major wildfire and increasing drought and climate change.

Stay informed at www.nukewatch.org. We have the latest news on expanded plutonium pit production and schedules, suggested comments for formal comment under the National Environmental Policy Act and significant related items on the \$1.7 trillion "modernization" program and the growing nuclear arms race. Plus, you can help support us and other worthy organizations.

This fact sheet is available at <https://nukewatch.org/plutonium-pit-production-fact-sheet/> and will be updated as needed. The online version has hyperlinks to quoted reference documents, indicated by being underlined in the hard copy version. For a history of successful citizen activism against expanded plutonium pit production see <https://nukewatch.org/facts/nwd/Pit-Production-History.pdf> *Updated November 2021*