

TO THE RAMPARTS!

An Alert To Mobilize

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John Wilks, Chair, Environmental Committee
Veterans For Peace (Chapter #63-Albuquerque)

This is the third in a series of updates on the status of the pit (the plutonium component to a trigger in a thermonuclear munition's fissile core) production program mandated by Congress. The nature of the subjects addressed in this issue, as well as in the two preceding issues, necessitates an educational perspective. The issue will include a Call to Action and identify specific remedies and recommend strategies for responsible advocacy. This issue comes on the heels of intensive lobbying by the military-industrial complex and lame duck legislation in the closing weeks of the 116^h Congress and the Trump Administration.

1. A new Cold War and international nuclear arms race is underway. At the end of last year, the United States began deploying a low-yield nuclear warhead on its ballistic missile submarines. Around the same time, the Russian military put its Avangard hyper-sonic missile into service atop modified SS-19 intercontinental ballistic missiles. For its part, North Korea rolled out some new hardware as well, including a massive new intercontinental ballistic missile and a submarine-launched ballistic missile. Iran continued to gradually ramp up the country's nuclear enrichment program.
2. The United States has begun to modernize its nuclear triad, which is made up of airplanes carrying nuclear bombs or cruise missiles; submarines carrying ballistic missiles; and land-based ballistic missiles housed in silos. DOD is developing new delivery systems for all three legs of the triad; the National Defense Authorization Act (NDAA) for FY2021 passed in late December 2020 included funding for the new delivery systems. The Navy requested \$4.4 billion to replace the Ohio-class submarines with 12 Columbia-class ballistic missile submarines (SSBNs). The NDAA provided funding to construct the first Columbia-class sub. *Note:* The estimated total cost of the SSBN program is \$128 billion! The Air Force sought \$2.8 billion to continue development of the B-21 Raider strategic bomber to replace the B-2/ALCM bomber, \$500 million for the long-range standoff weapons program to replace the existing air-launched cruise missile, and \$1.5 billion for the program to replace the Minuteman III intercontinental ballistic missile with a missile system called the Ground-Based Strategic Deterrent. The Pentagon is also asking for \$4.2 billion to sustain and upgrade nuclear command, control, and communications systems.
3. Responsibility for U.S. nuclear weapons resides with both the DOD and DOE. DOD develops, deploys, and operates the missiles and aircraft that can deliver nuclear warheads. It also generates the military requirements for the warheads carried on those platforms. The National Nuclear Security Administration (NNSA), a semi-autonomous agency within the DOE, oversees the research, development, test, and acquisition programs that produce, maintain, and sustain the warheads. NNSA is also responsible for storing and securing the warheads that are not deployed with DOD delivery systems and for dismantling heads that have been retired and removed from the stockpile. Congress authorizes funding for both the DOD and NNSA nuclear weapons activities in the annual NDAA; it funds the NNSA budget through the Energy and Water Development Appropriations Act. In other words, to fully understand the annual expenditures of the NNSA both Acts must be consulted. NNSA's

budget request for FY2021 sought \$15.6 billion for Weapons Activities, an increase of 25% over the enacted funding of \$12.6 billion in FY2020, with a *total* budget of \$19.8 billion for NNSA. Congress provided \$15.35 billion for Weapons Activities and \$19.73 billion overall on December 22, 2020, in H.R. 133, the Consolidated Appropriations Act of 2021.

4. The Nuclear Weapons Complex, as it is known in legislative terms, consists of eight sites in seven states. These sites include three laboratories (Los Alamos, Lawrence Livermore, and Sandia); four production sites (Kansas City Plant, Pantex Plant, Savannah River Site (SRS), and Y-12 National Security Complex); and the Nevada National Security Site. NNSA manages and sets policy for the complex; contractors operate the eight sites. NNSA is requesting \$7.6 billion for pit production startup at LANL through FY2025 and apparently will incur costs through 2030 in the \$14-billion range. No funding for any warhead sustainment program, modernization program, or production capability was cut from HR 133: plutonium warhead core (“pit”) production at the Los Alamos National Laboratory (LANL) at \$837 million, the Savannah River Site (SRS) at \$442 million, and elsewhere at \$91 million, for a total FY2021 pit production commitment of \$1.37 billion. It is exceedingly important to note that LANL pit production costs do not include all related construction, which if included, take LANL’s FY2021 funding for plutonium modernization to \$1.08 billion. Complex-wide, total plutonium modernization expenses from FY2019 through FY2025 are expected to be \$11.67 billion, with much more to follow. Nuclear weapons activities will also increase for FY2021 at Sandia National Laboratories (SNL), DOE funding for which will rise roughly 11%. The U.S, in constant-dollars is now spending annually on Weapons Activities more than three times what the U.S. spent for comparable activities during the Cold War.

5. Since April 2019 the speed rather than the scope of the U.S. nuclear weapons modernization program has significantly increased.

Accelerated, massive hiring is occurring across the “nuclear weapons enterprise”:

More than 41,000 people work on the NNSA mission today. Since March 2019 more than 4,700 employees work in that group of federal employees in labs, plants, and sites. Projections are for another 20,000 more hires by 2025.

Parallel investment in warhead core (“pit”) factories has begun, to front-load production in the 2020s to support new warhead (W87-1) production.

Accelerated and earlier than needed development of a new submarine warhead (W93) is beginning, budgeted at \$53 million for FY21 with first production in 2034, a two-year advancement at both ends of the development period. Production of the first W93 is now projected for 2032. *Note:* Production rates are no longer available to the public.

An unusually early—years-ahead—sole-source contract has been awarded for the Long Range Stand Off (LRSO) cruise missile.

Despite the \$8 billion already available in unspent prior appropriations, unprecedented near-term spending increases for FY2021 have been requested to enable accelerations in B61-12 and W88 Alt 370 upgrades. *Note:* These accelerations may affect the W87-1 warhead program. Further, delays in several other programs, which include the warhead core (“pit”) production, special explosives production, and infrastructure projects, are likely.

6. Congress, with the passage of 50 United States Code 2538a in December 2014, as amended in December 2019, mandated that the Secretary of Energy ensure that the Nuclear Security Enterprise begin production of qualified plutonium pits during 2021; and produce no less than 10 reserve plutonium pits during 2024, 20 war reserve pits during 2025, 30 pits during 2026, and 80 pits during 2030. In an effort to meet these quantities, the DOE faces challenges associated with staffing and the construction and modernization of required facilities. Currently, the Nuclear Security Enterprise has only one plutonium facility, which is located at LANL. Due to the significant lapse in pit production, the nation lost much of its expertise in pit manufacturing following the cessation of pit manufacturing at Rocky Flats in 1989. DOE must develop and maintain an expert workforce of sufficient size and quality to meet the challenging and changing needs of new processes, prototype demonstrations, capacity production, and the building of special items for the growing sub-critical plutonium experiment program. Additionally, DOE must simultaneously complete modernization of the Plutonium Facility within the Los Alamos Plutonium Pit Production Project at LANL, while re-purposing the former Mixed Oxide Fuel Fabrication Facility at the Savannah River Site.

7. As of November 9, 2020, the only authorized warhead program needing new pits is the W87-1 warhead for the Ground Based Strategic Deterrent (GBSD), to begin production in 2030. The Congressional Office of Budget Management (OMB) noted in August 2020 that GBSD missiles would have the capability to carry three warheads each, up to 1,200 deployed warheads in all. The approximate 540 W87 warheads available are not enough to provide this capability, if deployed on GBSD, directly; neither can they provide enough re-used pits to build W87-1s for the same purpose. Even if rushed, planned pit production may be unable to meet the W87-1 schedule. *Obviously, the frantic rush for LANL to go into production is going to put a strain on the safe construction of the manufacturing plant, the ability to adequately train new staff, and the capability to handle, store, and remove radioactive wastes generated by the new manufacturing effort, much less the legacy waste already on site at LANL.*

8. On October 1, 2020, the Los Alamos Study Group, a non-profit research organization in New Mexico, published a document entitled, “NNSA pit production strategy: no clear goals, plan, or likelihood of success—Production at LANL has high risks and costs, few or no program benefits.” With respect to LANL, the document contains many key observations and conclusions, among them three conclusions important to New Mexicans:

After 24 years with the pit mission assignment, LANL has no pit production capability at all. It is not yet known if establishing any significant capability, even temporarily, with modern safety and environmental standards, in LANL’s old Plutonium Facility 4 (PF-4), located 0.6 miles from residences, will be possible. The PF-4, which will be 50 years old in 2028, cannot be an enduring pit production facility, assuming it can be brought up to modern safety standards. Replacement of PF-4 may not be possible given LANL’s geology, topography, seismology, and proximity to residences, businesses, sacred tribal lands, highways, and the national monument which borders LANL on portions of two sides.

Technical Area 55 (TA-55) is a staging site for radioactive materials. The subsurface geology and topography of TA-55, in combination with the site’s seismicity, make large nuclear facilities with safety-class systems impractical on the steep south side of that small technical area, as these factors and others did for the Chemical and Metallurgy Research

Replacement Nuclear Facility (CMRR-NF). The proposed TA-55 “modules” would lack safety-class systems, which would consume too much real estate on the narrow mesa. TA-55 is a problematic location.

The large quantities (about 19,000 55-gallon drums) of legacy transuranic (TRU) low-level waste stored approximately 100 meters from potential public receptors at LANL are dangerous! This protracted situation is concerning to state and local governments, and to tribes, and is now a *first-level concern*. Pit production wastes would consume most, if not essentially all, the space in the available Waste Isolation Pilot Plant (WIPP) shipment schedule, stranding legacy waste at LANL.

9. In my opinion, the status of radioactive waste is a key issue with regard to current and future activities at LANL. In October 2020 the NNSA published a fact sheet in conjunction with public discussions of venting tritium at LANL. The purpose of the fact sheet was to explain why tritium venting was necessary prior to shipment by truck of low level waste to the WIPP. Under the section on “Frequently Asked Questions,” the NNSA wrote, in part, “Q. Why is venting necessary? A. The laboratory has a goal of reducing the volume of waste on site.” Regrettably, this policy goal has not been borne out in past practice. LANL is currently shipping only recently generated low level wastes to the WIPP. The low level legacy waste remains on site without a published removal target date. With the shut-down, for purely political considerations, of the Yucca Mountain Nuclear Waste Depository in 2010, high level waste disposal remains a tremendous, unsolved challenge for LANL. DOE continues to deny allocation of funds necessary not only to remove the legacy radioactive wastes at LANL, but also to clean up the site. In my judgment, only pressure from the State of New Mexico through conditioning future permits of all sorts on aggressive, immediate, and comprehensive clean-up of LANL with the goal of achieving the removal of waste, as well as the clean-up, remediation, and monitoring of the 1942-2021 footprint of LANL will accomplish our desired result.

10. Pressure on LANL to expand its plutonium activities is constant and not limited to weapons research and production. On December 16, 2020, the NNSA announced its intent to prepare a Surplus Plutonium Disposition Program (SPDP). Allegedly, the safe and timely disposition of plutonium surplus to “defense” needs may require the dilution (“down blending”) of plutonium at LANL, as well as surplus plutonium stored elsewhere and transported to LANL for dilution. If implemented this would require the construction or modification of existing structures. Because there are no permanent, national storage sites for high-level nuclear wastes on the horizon, the NNSA seeks to reduce the lethality of surplus plutonium in an effort to facilitate alternate storage options. This maneuver seems to be analogous to a family renting a mini-warehouse storage site after the residential garage is full! LANL is filling to the gills; pit production will only accelerate the current, dangerous situation!