TO THE RAMPARTS!

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This is the first in an anticipated long series of updates on the status of the pit (the plutonium component to a trigger in a nuclear munition) production program mandated by Congress in 50 USC 2538a (Public Law 115-232, sec. 3120), "The Act". Because some of the information pertaining to the pit program is confidential, some segments of the information contained in these updates are mere inferences based on relevant facts. This first volume is necessarily long and technical, as readers may not yet have any familiarity with the topics addressed. Further volumes may well be shorter and concise.

1. The future of the pit program hangs on the annual spending authorizations contained in the National Defense Authorization Act (NDAA). The requested National Nuclear Security Administration's (NNSA) budget for pit production in FY 2021 is $15.6 billion. Fundamental technical and political issues remain unresolved in the plan to produce new plutonium pits for U.S. nuclear weapons. Congress has mandated that the Los Alamos National Laboratory (LANL) will produce no fewer than 30 pits annually beginning in 2030, and concurrently the Savannah River Plutonium Processing Facility (SRPPF) will produce 50 pits annually beginning 2030. Both manufacturing sites must demonstrate the capability to meet those production quotas by 2027. It is conceivable that the LANL will produce no more than 5 pits annually beginning 2021 through 2030. *Note:* The NEPA Compliance Office in DOE in 2020 stated that LANL should not produce more than 20 pits until certain infrastructure upgrades are made in the lab.

2. There are three major barriers to LANL meeting its statutorily mandated production target: budget, mission conflicts, and infrastructure. Despite full funding in 2020 by the NNSA for pit production, Congress and the GAO remain unsure about NNSA's approach, due to lack of a detailed production plan and schedule. Secondly, Congress believes that a higher priority mission for LANL should be assigned and accomplished by LANL before starting full production of pits. Congress signaled in the NDAA mark-up that it may order a 5-year delay in pit production at LANL, to enable LANL to perform a surplus plutonium oxidation mission at LANL's main plutonium facility (PF-4). The Senate Armed Services Committee desires that LANL oxidize surplus plutonium in pits now stored at Pantex in Texas so that they can be shipped to the Savannah River Site in South Carolina for repackaging and transportation to the Waste Isolation Pilot Plant (WIPP) in New Mexico. Lastly, the planned five-building complex, with subterranean connecting tunnels, needed for full pit production has not been completed (new buildings and buildings requiring retro-fitting).

3. Potential intentional delays in the production of pits should be understood in the context that until 2030, the pits to be manufactured in LANL and/or SRRF are "reserves." There is no requirement for them to be mounted on any nuclear weapons in the U.S. arsenal until 2030. The Administration's budget request for FY21 for pit production ("Plutonium Modernization") was $1.39 billion, a dramatic increase from the $0.80 billion and $0.41 billion spent in FY20 and FY19, respectively. An additional $0.24 billion in FY21 was requested for other infrastructure improvements (Refer to Paragraph 2, above) for pit production at LANL by Senator Martin Heinrich (D-NM), bringing the nationwide FY21 total to $1.62 billion. The only authorized warhead program needing new pits is the W87-1 warhead for Ground Based

Strategic Deterrent (GBSD), to begin production in 2030. The Congressional Budget Office (CBO) 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 estimated 540 W87 warheads available are not enough to provide this capability, if deployed on GBSD directly; neither can they provide enough previously deployed pits to build W87-1s for the same purpose. Even if rushed, planned pit production may be unable to meet the W870-1 schedule. Aside from the competing mission of plutonium oxidation of surplus pits by LANL, the GAO recently cited a classified LANL study which found that LANL was only "marginally capable" of reaching 30 pit production by 2026 "and sustaining that rate thereafter." Most shocking is the option that Congress is willing to accept a five-year delay in pit production at LANL with the notion of "temporarily surging the production of such PITS at LANL and other mitigation strategies" to make up any shortfall of the 30 units annually in arrears. In 2017 the NNSA found that "the feasibility of any LANL surge is however uncertain at best." Continuing, "A surge of any type at PF-4 is infeasible." NNSA's engineering analysis (EA) found that "the alternative involving a surge has *by far the highest risk."* (Emphasis added). In 2019 the Institute for Defense Analysis found that any surge in PF-4 would be *"very high risk."* (Emphasis added).

4. A short note on safety concerns of the current and planned enhanced operation of the LANL's plutonium operations is in order. The most recent, scathing review of LANL by the Defense Nuclear Facilities Safety Board (DNFSB) was memorialized in the Board's report to the Secretary of the Department of Energy on September 24, 2020. The Board's inspectors reviewed the operational areas of (1) hazardous analyses, (2) accident analyses, and (3) storage of transuranic wastes. The referral letter read, in part, "The attached technical report further details these topics. The concerns mirror those outlined in the Board's letter dated January 29, 2020, regarding revision to DOE Standard 5506, Preparation of Safety Basis Documents for Transuranic (TRU) Waste Facilities, and highlighted in the Board's June 20, 2019, public hearing." Do we have a pattern here and a problem handling, storing, and dealing with nuclear, albeit low level, waste?! It is not possible to credibly predict future pit production at LANL, nor will it be, at least not until 2025, given the unresolved problems flagged by the DNFSB, some of which may be resolved by then. For the long-standing issue of legacy TRU waste disposition, there is no timely solution. There are roughly 19,000 drums and other containers of TRU stored at LANL, with thousands of these in an unsafe condition above ground near the public, and other thousands in long-term but temporary shallow burial, subject to corrosion. *Storage capacity for new TRU waste from pit production is also inadequate.*

5. The Congressional delegation from New Mexico is solidly supportive of the activities at LANL. Historically, since the proposal for pit production was surfaced in 1989, they have acted in favor of the lab's existence and mission expansion. Almost the entire current crop of elected officials at the state level also tacitly supports the proposals for mission shift at LANL from research to manufacturing. They hold to the "just following orders" rationale in not demanding concessions from the federal authorities to accommodate the strain on infrastructure that the build-out and operation of the lab's plutonium handling will place on the state, counties, and local tribal areas. Apparently, the delegation believes it is its patriotic duty to acquiesce to the federal government and to silently allow the further colonization and militarization of the state begun in 1942. Certain Tribal activists and various NGOs within the state continue to advocate for more transparency in the Los Alamos and Sandia labs plus WIPP operations, as well as persistently lobbying for a clean-up of the legacy nuclear wastes at the labs, test sites, mines, milling sites, and storage sites. State and local politicians hold

out the promise of LANL needing 4,000 production and support staff to achieve a production rate of 30 pits annually, with projections for hiring at a rate of 1,200-1,500 employees annually for many years into the future.

Note: After the fate of the FY 2021 NDAA and the fate of the recently introduced “American Nuclear Infrastructure Act of 2020” (S. 4897) is known, I will issue volume #2 of *To The Ramparts!*