Los Alamos Study Group

Nuclear disarmament • Environmental, economic, and social resilience • Peace, not war

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My name is Greg Mello. I am the director of the Los Alamos Study Group in Albuquerque, NM.

We will post these oral comments and other written comments to be submitted to NNSA [National Nuclear Security Administration], at lasg.org. To those in the audience, please write me if you have any questions.

I have come to speak in favor of the SRS "single site" alternative – or, alternatively, the "capability based" minimum-production variant of the Multiple Sites Alternative, which is nearly equivalent. [For a description of these alternatives, see the Pit PEIS Summary at pp. S-10 through S-12.]

This alternative would provide enough flexibility and capacity to fulfill all of NNSA's pit production needs, assuming a nuclear arsenal of the present size or smaller, *with the minimum possible financial investment, environmental impact, and nuclear production.*

In every alternative NNSA analyzes in this draft PEIS an adequate SRPPF [Savannah River Plutonium Processing Facility] would be built. We agree that there are no reasonable pit production alternatives that do not involve the timely completion and start-up of SRPPF. [Note 1]

For those who have spoken so eloquently about the need for nuclear disarmament, a goal for which we have worked for 35 years, choosing this alternative would delay pit production and the portion of the new arms race that relies upon it for at least 9 years, the maximum available.

Conversely, those seeking "LANL-only" production are making a number of misjudgments, the result of which is to maximize, not minimize, pit production. These parties have played into the hands of congressional hawks and pork-barrel interests. Pit production at LANL for the W87-1 is particularly valuable to the Livermore nuclear weapons program.

The "all LANL" alternative is neither legal nor physically possible. LANL alone cannot maintain any realistically foreseeable arsenal. [For physical impossibility see note 1, below.] LANL's pit facilities are neither adequate, enduring, or adequately supported by infrastructure on and off the site. DoD and Congress are not going to choose unilateral nuclear disarmament.

So if LANL hosts a pit factory, SRS must also build and operate one. Also, if LANL hosts a factory, that factory is likely to need help from Livermore's Superblock, the Device Assembly Facility in Nevada, and possibly the K Area at SRS.

Pit production at LANL has much greater social and environmental impacts than at SRS, regardless of what this PEIS may say.

There are no augmentations or replacements of LANL pit production facilities which could be brought on-line at LANL faster than SRPPF. There is limited real estate if any for a new Hazard Category II, Security Category I plutonium facility at LANL. If a site for such a facility could be found, a greenfield pit facility at LANL would likely cost at least as much as the estimated forward cost of SRPPF.

The FY26 NDAA, at Section 3112, requires that LANL have a capability to produce at least 30 pits per year (ppy), and SRS a capability to produce at least 50 ppy.

To meet the new legal requirement, SRS production could be kept at the minimum level necessary to demonstrate a 50 ppy capability, which NNSA says is 50 ppy [Summary, p. S-12]. If deemed necessary, production could be expanded up to 125 ppy.

SRS production can occur no earlier than 2035, 9 years from now. [NNSA budget request, p. 122, assuming a 3-year startup period per Hruby 2024, p. 3] This is sufficiently timely to address any pit aging issues that might arise. The SRS single-site alternative, if chosen, would help prevent an arms race during the coming decade while not foreclosing maintenance of a nuclear arsenal.

It behooves us all to work to prevent a nuclear arms race, and to achieve compliance with the NPT, which requires good faith efforts to negotiate, and then to achieve, the elimination of nuclear arsenals. [International Court of Justice 1996, p. 1]

In this alternative, LANL production would be kept at or below 10 ppy, which NNSA says is the minimum necessary to maintain the 30 ppy capability required by law. [Summary, p. S-12] There is no law which requires actual sustained LANL production above 10 ppy. [See 50 U.S. Code § 2538a.]

There is however a law requiring NNSA – meaning LANL – to produce at least 30 pits this fiscal year and at least 80 pits during 2030. [Ibid] It would be wise for NNSA to enter discussions with Congress to eliminate at least the 80 ppy requirement, which adds billions of dollars in unnecessary costs and may or may not be achievable without further loosening of safety standards.

Since there is no law requiring the "reliable" production of 30 ppy at LANL, the installation of the so-called "reliable" equipment set to do so is not needed. Only a base capability is required. [Ibid, executive branch commitments notwithstanding.]

Considerations of pit aging and pit reuse do not enter into the decision of whether or not to complete SRPPF construction, which must be completed to create an enduring, adequate pit production capability for any foreseeable arsenal size. [Note 1]

As of last year, the total estimated acquisition cost of reliable pit production capability at LANL was expected to exceed the estimated cost of doing so at SRS. (See "Current & historical cost estimates for reconstituting plutonium pit production, details," Aug 29, 2025). Estimated future costs are greater at SRS.

There is no NNSA analysis of alternatives or other comparative analysis supporting either LANL production, or splitting production between two sites.

Note 1: First, an abbreviated informal sketch of why LANL alone cannot make all the required pits.

- Assume a 3,700 warhead arsenal, as at present. Four administrations have not cut this appreciably if at all. Nearly all the politics is running the other way, toward buildup.
- We are talking about a decision RIGHT NOW as to whether to build, or not build, SRPPF, i.e. whether we are certain LANL production would be sufficient to avoid building SRPPF. Notice the role played by *certainty* or its opposite, *uncertainty* -- in the known maximum pit age and in known maximum production age of LANL's plutonium facility (PF-4). The people who decide these matters are conservative and will not tolerate unnecessary risk. And they must decide now, using the data at hand, in today's political context.
- Assume, in the first case, that we are certain pits last 100 years. (We aren't.) For some technical background on pit aging see for example this page.
- Assume all stockpile pits were made between 1979 and 1989. (Some pits may have been reused from prior modifications within the same family, e.g. the B61 family).
- Notice that all potentially reusable pits not presently in the active or reserve arsenal will be at least this old. Most are older. Only some pit types are compatible with a given reuse scenario.
- Combining assumptions, 3,700 pits will need replacement by 2089. In separate case, assume a maximum pit lifetime of 80 years, meaning all pits must be replaced by 2069.
- Assume that PF-4 can achieve reliable production of 30 pits ppy in 2028. This is very optimistic.
- Assume PF-4 can continue to produce pits until 2077, i.e. PF-4 will provide unimpeded services for a century since it began operation. This we judge to be very unlikely. *Certainty* about PF-4 longevity and its ability to produce pits is hard to get, even right now. PF-4 has legacy problems that are only being "solved" by loosening safety standards. Absent those changes, PF-4's ability to make pits might well be nonexistent.
- Assume "at least 30" ppy means 36 ppy on average, as NNSA assessed in 2021 (p. 7 here).
- 2077-2028 = 49 years of production at 36 ppy provides 1,764 pits, or 48% of needed production, less than half the pits needed.
- Note that if LANL could make 60 ppy for 49 years that might be good enough, if we do not account for production inefficiencies due to changing pit types, having to prepare and manufacture pits out of the optimal order due to queuing and phasing at other plants and changing stockpile choices. We are assuming a half century of perfect, high-rate production.
- We do not discuss here the impediments to LANL pit production in general and continual high-rate production in particular.
- Now look at the 80-year maximum pit lifetime case. LANL would need to reach 3,700 cumulative pits produced by 2069. To do that, LANL would need to produce at a rate of 119 ppy, more than 3 times faster than "at least 30" ppy (i.e. an estimated average of 36 ppy), again assuming a perfect production record, with no long-term shutdowns.
- There is no certainty that LANL can produce pits in any significant quantity for any workable number of years at all. This alone mandates completion of SRPPF.
- So if LANL is to be a pit factory, both factories are needed.
- The reverse is not true. SRPPF, producing from 2035 or 2040 until 2089 (i.e. 49 to 54 years) would need only an annual production rate of 69-76 ppy to reproduce the present arsenal. Under the 80 year pit lifetime scenario, again absent any contribution from LANL at all, SRPPF would need to produce 3,700 pits in 29 to 34 years, or 109-128 ppy.

Next, we ask whether SRPPF can be delayed and still reliably produce enough pits:

- From long experience, we believe any official "pause" would be the end of the SRPPF project. If not the end, we believe it would take a minimum of 15 years to finish the project from the date it restarted, being optimistic. There are no greenfield substitutes for SRPPF, or LANL "modules" which could be built faster or cheaper than SRPPF itself. NNSA agrees. [Summary, p. S-14.]
- Assume a minimum SRPPF "pause" of 5 years. Under NNSA's pit aging study plan [Government Accountability Office 2024], that is roughly the earliest that NNSA's confidence in adequately understanding pit aging phenomena can be significantly increased, and even this date depends on the successful completion and use of advanced underground surrogate testing equipment that has been delayed and is grossly over-budget.
- So instead of starting production at SRPPF in 2035 at the earliest, the earliest date of production at SRPPF or a greenfield substitute, if SRPPF were paused, would be 2055.
- Production at SRPPF from 2055 to 2089 (assuming 100 years of pit life) is 34 years. Production at a steady 109 ppy would be necessary. This might be doable except for the long period of uncertainty involved, which would realistically never be allowed. If LANL were also producing pits all this time, the burden on SRPPF would be considerably reduced. But again, this would involve building and operating two factories.
- If we assume 80 years of pit life in the delayed SRPPF case, we would have only 11 years of production to replace 3,700 pits, requiring the annual production of 336 pits, again omitting whatever contribution LANL might make.
- These are some of the reasons why the most recent JASON product on pit aging (JASON 2019) says in conclusion:

  > Finally, we urge that pit manufacturing be re-established as expeditiously as possible in parallel with the focused program to understand Pu aging, to mitigate against potential risks posed by Pu aging on the stockpile. The reuse of aged pits in rebuilt primaries can address certain issues, but cannot change the aged pits themselves. A significant period of time will be required to recreate the facilities and expertise needed to manufacture Pu pits. Given the number and age distribution of weapons in the stockpile, it will then include some eighty-year-old pits, even under most favorable circumstances.

- The JASON group is correct. There is no reason to delay SRPPF, and every reason ***not*** to delay SRPPF, if an adequate, enduring pit facility is going to be needed, i.e. if the U.S. even ***may*** want to retain nuclear weapons. Conversely, failure to build an adequate, enduring pit facility is tantamount to setting the U.S. on the path to forced nuclear disarmament, which the Congress and national security agencies will never do. Attempting to force nuclear disarmament by removing all realistic paths to stockpile sustainment is not going to be successful.
- Notice that pit reuse -- which is happening all the time -- does not enter into the decisions at hand, except as regards whether production is required in the near term, i.e. at LANL, therefore whether investment in LANL production is needed. LANL production is simply not required to maintain the stockpile and is in any case "early to need," apart from technology demonstration and training.