



Los Alamos Study Group

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

Current and historical cost estimates for reconstituting plutonium pit production -- details

Aug 29, 2025

Key takeaways:

- **At LANL:**
 - **The staggering cost of acquiring pit production at LANL, when program costs are included.**
 - **The [forward cost of acquisition](#) can be seen to increase with every estimate. The more work that is done and the more money that is spent on pit production at LANL, the more money needs to be spent to arrive at the promised "30 ppy" production goal.**
- **At SRS:**
 - **The staggering cost, and**
 - **The tremendous cost uncertainty at this relatively late stage in preliminary design.**
 - **The question of how the recent cost escalation will affect the SRPPF schedule.**

On July 12, we [provided](#) what we believe to be the most accurate current estimates for reconstituting plutonium pit production. Here, we want to explain those estimates in more detail and compare them with prior estimates.

By way of background, we compiled actual and then-projected pit production costs by site and fiscal year in these tables:

- [Plutonium Pit Modernization Spending, Actual, Proposed, and Estimated, by Site and Fiscal Year](#), update, Sep 24, 2024
- [Plutonium Pit Modernization Spending, Actual, Proposed, and Estimated, by Site and Fiscal Year](#), May 11, 2023
- [Plutonium Pit Modernization Spending, Actual and Proposed by Site](#), May 6, 2022

We could not produce a similar table this year because NNSA has not provided a FY2026 Future Years National Security Program (FYNSP) spending plan.

Our [best current estimates](#) use NNSA's 2024 FYNSP and our extrapolations from it to reach NNSA's projected date of FY2032 to acquire reliable 30 pit per year (ppy) ("30R") capability at LANL, and NNSA's earliest projected date of FY2035 to reach "rate production" at SRS, as shown here and in our [July 12 press release](#).

| LANL then-year costs 2005-2032, as of June 2025, \$B | | | | | | | |
|--|--------|----------|-------------------|--------|----------|------------|-------------------|
| LANL program | | | LANL construction | | | Total LANL | Total future cost |
| Sunk | Future | Subtotal | Sunk | Future | Subtotal | | |
| 7.6 | 8.9 | 16.5 | 5.7 | 6.1 | 11.8 | 28.3 | 15.0 |

If costs through 2034 are included due to the newly-increased scope and protracted completion date of the CMRR project, as explained below, LANL costs are as follows.

| LANL then-year costs 2005-2034, as of June 2025, \$B | | | | | | | |
|--|--------|----------|-------------------|--------|----------|------------|-------------------|
| LANL Program | | | LANL construction | | | Total LANL | Total future cost |
| Sunk | Future | Subtotal | Sunk | Future | Subtotal | | |
| 7.6 | 11.9 | 19.5 | 5.7 | 6.1 | 11.8 | 31.3 | 18.0 |

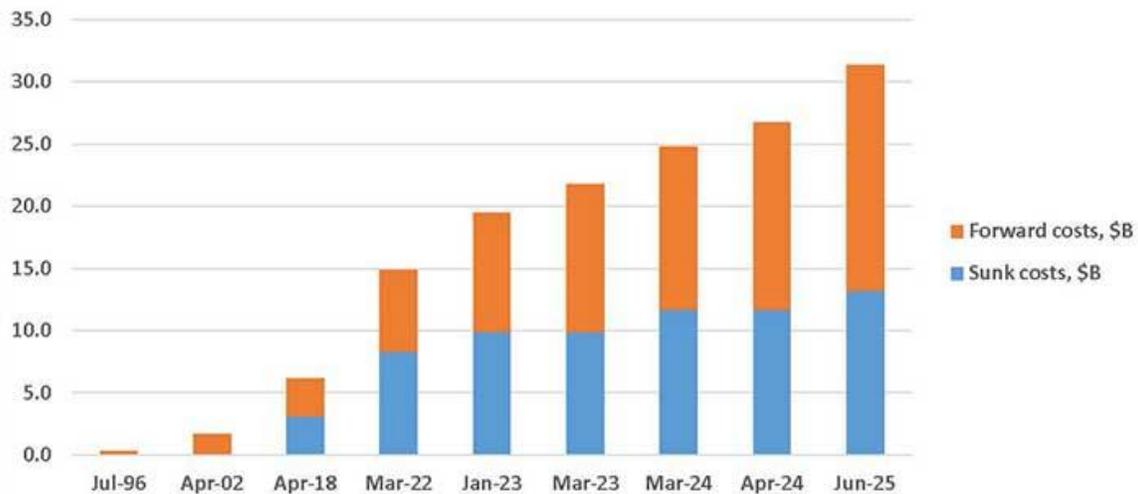
| SRS then-year costs through 2035, as of June 2025, \$B | | | | | | | |
|--|-------------|-------------|-------------|--------|----------|-------------|-------------------|
| SRPPF | | | SRS Program | | | Total SRS | Total future cost |
| Sunk | Future | Subtotal | Sunk | Future | Subtotal | | |
| 4.1 | 14.2 - 21.3 | 18.3 - 25.4 | 1.0 | 2.9 | 3.9 | 22.2 - 29.3 | 17.1 - 24.2 |

Regarding the LANL estimates

We were able to find a total of 9 DOE, NNSA, and GAO cost estimates for acquiring pit production at LANL, which we have compiled and reconciled to each other as best we could using the assumptions below.

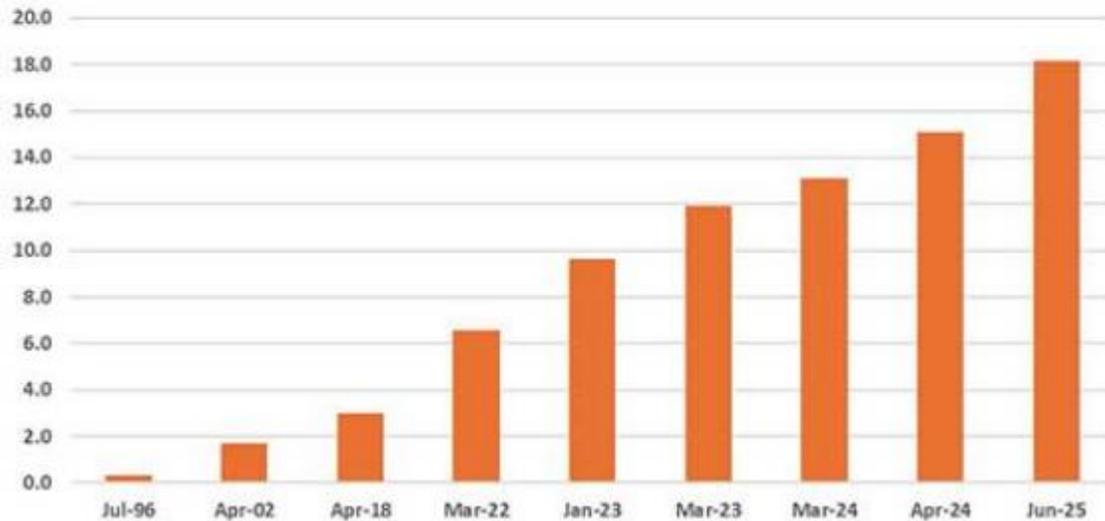
Graphically, here are the results:

Estimated costs of acquiring reliable 30 (30R) ppy at LANL, \$ billions. Sources: DOE, NNSA, GAO, LASG. June 2025 estimate may include cost increment to acquire two-shift "surge" capacity of up to 80 ppy by 2034 while producing at 30R during 2032-2033.



(Link: [Estimated costs of acquiring reliable 30 ppy at LANL, \\$ billions](#), Aug 27, 2025)

Estimated forward cost of acquiring reliable 30 (30R) ppy at LANL, \$ billions. Sources: DOE, NNSA, GAO, LASG. June 2025 estimate may include cost of acquiring two-shift "surge" capacity of up to 80 ppy while producing 30R during 2032-2033.

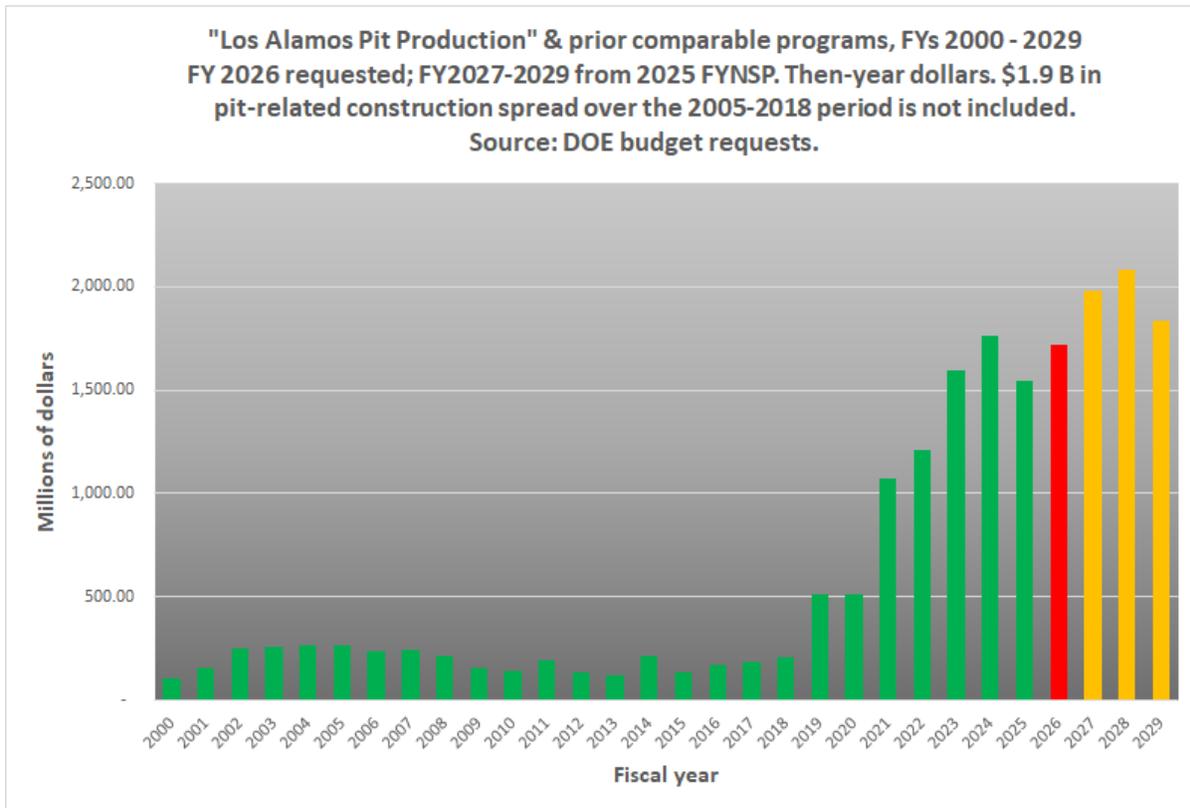


(Link: [Estimated forward costs of acquiring reliable 30 ppy at LANL, \\$ billions](#), Aug 27, 2025)

The biggest takeaway here is not just the staggering costs of acquiring pit production at LANL, but also the fact that the [forward cost of acquisition](#) can be seen to increase with every estimate. Apparently, according to our best lights and closely following NNSA's own estimates, the more work that is done and the more money that is spent on pit production at LANL, the more money needs to be spent to arrive at the promised "30 ppy" production goal.

In these estimates,

- We do not include any costs incurred prior to 2005.
- For sunk program costs at LANL over the years 2005 - 2018, we use \$3.16 B (\$226 million (M)/yr for 14 years), following [GAO's 2023 estimate](#) (p. 12). We updated [this graph](#) of actual and NNSA-projected pit production costs at LANL through FY2029 made from NNSA budget requests. For the 2000-2018 period, these are program costs only. GAO's estimate is reasonable, especially when these historic costs are corrected for inflation (not shown).



- We include actual and then-requested plutonium modernization (now called "pit production") program pending at LANL. For 2030 and after, we extrapolate per this [schedule](#).
- For sunk capital expenses prior to 2019, we include only the \$1.9 B spent on these four projects, the same projects NNSA includes in its plutonium modernization budget line at LANL:
 - 04-D-125, Chemistry Metallurgy Research Replacement (CMRR) Project;
 - 07-D-220-04, LANL Transuranic (TRU) Liquid Waste Facility;
 - 15-D-302, LANL TA-55 Reinvestment Phase III (TRP-III); and
 - 21-D-512, LANL Plutonium Pit Production Project (LAP4).
- For 2019 and after we include actual and then-requested spending on these same four capital projects.
- We also include actual and requested spending on these smaller pit production-related projects:
 - 23-D-518. Plutonium Modernization Operations & Waste Management Office Building (\$48.5 M, funded in FY2023)
 - 25-D-510, Plutonium Mission Safety & Quality Building (\$48.5 M, requested for FY2025, but this number now applies to a non-LANL project so this project may have been cancelled. It's too much trouble to make the small correction of taking it out.)
 - 26-D-XXX, Plutonium Program Accounting Building (\$48.7 M, pushed back to FY2028 in 2024)
 - 27-D-XXX, Plutonium Engineering Support Building (\$98.7 M, scheduled for FY2029 in 2024)

- 27-D-XXX, Protective Forces Support Facility (\$98.7 M, FY2029)
- We include an arbitrary \$100 M/year for Sigma Replacement project for FY2030-FY2032 (see [FY2023 Stockpile Stewardship and Management Plan](#) (SSMP), pp. 117-118; [FY24 SSMP](#) pp. 129, 131). This is described as a near-term, >\$750 M project. The Sigma complex is essential for pit production at LANL.
- We do *not* include:
 - any plutonium or pit-related maintenance and recapitalization projects;
 - any pro-rata share of site-wide infrastructure improvements;
 - any investments in a new plutonium facility or augmentation of PF-4;
 - any investments and costs for leased off-campus facilities or new off-campus "minicampuses" (contemplated) to provide the office, warehouse, and laboratory capacity needed to make room for the pit production mission at LANL.
- We consider only those costs which would be incurred up to the earliest projected date when reliable production ≥ 30 ppy ("30R") was said to be possible. Right now, that date is the end of FY2032 but in prior years 30R was said to be possible much sooner, as [Table 1](#) documents.

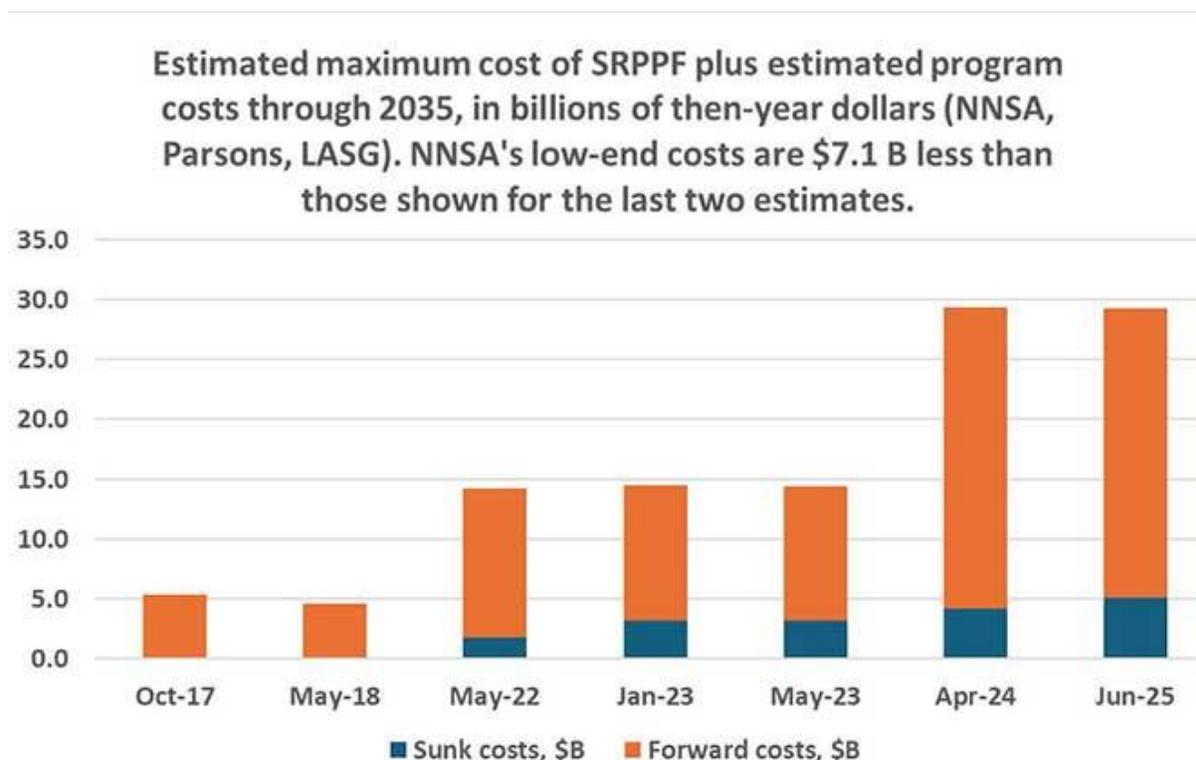
Further details regarding these 9 historic and current estimates:

- The July 1996 estimate of \$0.31 B is taken directly from DOE, "[Analysis of Stockpile Management Alternatives](#)," pp. 34-57. This was the analysis which led to LANL being assigned an interim pit production sustainment mission in December 1996. This was for single-shift production of 50 ppy, with 80 ppy available in two-shift sprint mode. Operating cost was \$29 million/year at all rates. We included no sunk costs.
- The April 2002 estimate of \$1.7 B is from NNSA 2001, "FY 2001 Stockpile Plan" and the NNSA 2001 "W88 Pit Manufacturing and Certification Integrated Plan (Pit Plan)," cited in DOE Inspector General, "[The Department of Energy's Pit Production Project](#)," April 12, 2002, pp. 1-2. This was the cost of reaching the First Production Unit (FPU) for W88 pits. We took this as the acquisition cost for 30R.
- The May 2018 estimate of \$6.2 B is the \$3 B cost for a nominal 30 ppy (now called "30 Base") estimated in the 2017 AoA, plus \$3.16 B in sunk costs per GAO as explained above. NNSA quietly changed 30 Base to 30 Reliable in May 2018 in the wake of its Engineering Assessment, which did not add any further costs at LANL for what was now not just a temporary and nominal 30 ppy, but an "enduring" and reliable 30 ppy ([slide 12](#)).
- The March 2022 estimate of \$14.9 B was constructed by the Study Group from the FY2023 congressional budget request, using the above assumptions.
- The January 2023 estimate of \$19.5 B was derived from GAO's high-end estimate of the same date ([p. 74](#)) by taking away SRPPF costs and including prior sunk program costs, per the same report.
- The March 2023 estimate of \$21.8 B was calculated by the Study Group from NNSA's congressional budget request that year, with pre-2019 program costs included, per GAO 2023.
- The March 2024 estimate of \$24.8 B was calculated by the Study Group in the same way.

- The April 2024 estimate of \$26.8 uses the high end of the April NNSA estimate, which was greater than the congressional budget request of the month before. We added in past and future program costs, which NNSA omitted.
- The June 2025 estimate shown in the graph is \$31.4 B, which includes the additional scope *and schedule*, which incurs its own additional program costs, for the PF-4 Equipment Installation Phase 2 Subproject ([pp. 277ff](#)). This additional scope of work is said to be necessary to support 30R production, but taking other statement into account it may actually be oriented more toward production beyond 30R. The comparable figure without the additional scope and time is \$28.3 B (not shown on the graph).

Regarding the SRPPF estimates

At SRS, the picture is much simpler than at LANL ([chart](#)), because until 2019, no funds were spent on pit production at SRS, and since then the only pit production capital project at SRS is the SRPPF.



The overall capital costs at SRS are greater than at LANL, while the program costs are much lower. The total costs are not, at this point, distinguishably different between the two sites, but the forward costs at SRPPF are greater.

For SRPPF, we found 7 useful cost estimates. The first two (2017 and 2018) are from NNSA's Analysis of Alternatives (up to \$5.4 B, [slide 9](#)) and Engineering Assessment (up to \$4.6 B, [slide 8](#)). The other five correspond to the last five estimates given for LANL.

Besides SRPPF's vast capital cost (whatever it turns out to be), the main takeaways in the SRPPF cost story right now are:

- **the tremendous cost uncertainty at this relatively late stage in preliminary design; and**

- **the question of how the recent cost escalation -- whatever it ends up being -- will affect the SRPPF schedule.**

Large (and increasing) costs, along with a long (and possibly increasing) schedule, increase the probability of project failure.

As at LANL, we do not include any site-wide infrastructure costs at SRS. The SRS site is almost 8 times as large as LANL (310 vs. 40 sq. miles), and there is a great deal of infrastructure there. It seems likely that a large portion of the \$1.884 B provided in emergency Weapons Activities funding in December 2024 for recovery from Hurricanes Milton and Helene will end up repairing and improving infrastructure at SRS -- including infrastructure that supports SRPPF activities.