

Plutonium (Pu) Modernization Spending, Actual, Proposed, and Estimated, by Site and Fiscal Year, \$M, from FY25 Congressional Budget Request (CBR) and other sources, 9/24/24 update, Los Alamos Study Group																											
	Prior years	2019	2020	2021	2022	2023	2024 enacted	Through 2024	2025 requested	FYNP 2026	FYNP 2027	FYNP 2028	FYNP 2029	Total 2025-2029	Total through 2029	2030	2031	2032	Total 2025-2032	Total through 2032	2033-2035 (3 years)	Total 2025-2035	Total through 2035	2036-2039 (4 years)	Total 2025-2039	Total through 2039	Notes
LANL Pu Modernization Program; ~\$3.0 B in pre-2019 costs omitted (GAO 2023: \$3.6 B through 2020); assumes linear cost growth post-2029 @ \$87.1 M/year as seen from FY28 to FY29	-	271.6	287.0	610.6	660.4	767.4	833.1	3,430.1	984.6	945.5	972.1	1,018.5	1,105.6	5,026.3	8,456.4	1,192.7	1,279.8	1,366.9	8,865.7	12,295.8	4,623.3	13,489.0	16,919.1	7,383.8	20,872.8	24,302.9	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
LANL Plutonium Pit Production Project (LAP4), 21-D-512		1.9	58.1	226.0	350.0	588.2	670.0	1,894.2	470.0	770.0	900.5	905.0	510.0	3,555.5	5,449.7	-	-	-	3,555.5	5,449.7	-	3,555.5	5,449.7	-	3,555.5	5,449.7	Assumes no further escalation
Chemistry Metallurgy Research Replacement (CMRR) Project, 04-D-125		1,713.0	237.0	168.4	169.4	138.1	138.1	2,791.1	-	100.0	110.0	110.0	20.0	340.0	3,131.1	-	-	-	340.0	3,131.1	-	340.0	3,131.1	-	340.0	3,131.1	Assumes no further escalation
LANL Transuranic (TRU) Liquid Waste Facility, 07-D-220-04		93.3	1.0	1.7	37.7	30.0	24.8	-	-	-	-	-	-	-	188.5	-	-	-	-	188.5	-	-	188.5	-	-	188.5	Assumes no further escalation
LANL TA-55 Reinvestment Phase III (TRP-III), 15-D-302		43.2	1.8	0.5	32.0	32.0	30.0	169.5	39.5	12.9	-	-	-	52.4	221.9	-	-	-	52.4	221.9	-	52.4	221.9	-	52.4	221.9	Assumes no further escalation
Subtotal LANL Pu Modernization, incl. line item construction listed	1,849.5	513.3	515.7	1,075.7	1,210.5	1,548.5	1,760.2	8,473.4	1,494.1	1,828.4	1,982.6	2,033.5	1,635.6	8,974.2	17,447.6	1,192.7	1,279.8	1,366.9	12,813.6	21,287.0	4,623.3	17,436.9	25,910.3	7,383.8	24,820.7	33,294.1	
23-D-518, Plutonium Modernization Operations & Waste Management Office Building					1.3	48.5		49.8	0.2					0.2	50.0	-	-	-	0.2	50.0	-	0.2	50.0	-	0.2	50.0	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
24-D-511, Plutonium Production Building (\$49.5 M) (not funded in FY24 or requested in FY25, status unknown)														0.0	0.0	-	-	-	0.0	0.0	-	0.0	0.0	-	0.0	0.0	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
25-D-510, Plutonium Mission Safety & Quality Building					0.5			0.5	48.5		0.5			49.0	49.5	-	-	-	49.0	49.5	-	49.0	49.5	-	49.0	49.5	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
26-D-XXX, Plutonium Program Accounting Building												48.7		48.7	48.7	-	-	-	48.7	48.7	-	48.7	48.7	-	48.7	48.7	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
27-D-XXX, Plutonium Engineering Support Building													98.7	98.7	98.7	-	-	-	98.7	98.7	-	98.7	98.7	-	98.7	98.7	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
27-D-XXX, Protective Forces Support Facility													98.7	98.7	98.7	-	-	-	98.7	98.7	-	98.7	98.7	-	98.7	98.7	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
28-D-XXX, Radiography/Assembly Complex Replacement (RACR) (being revised, status unknown)														-	-	-	-	-	-	-	-	-	-	-	-	-	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
Pu-supporting line item construction, average \$50 M/yr 2030 and after														-	-	50.0	50.0	50.0	150.0	150.0	150.0	300.0	300.0	200.0	500.0	500.0	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
Any Pu-supporting small capital construction projects and equipment not included above														-	-	-	-	-	-	-	-	-	-	-	-	-	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
Remote leased spaces, potential regional mini-campus (not included)														-	-	-	-	-	-	-	-	-	-	-	-	-	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
Pit Disassembly and Processing Facility (\$1.0-\$3.4 B) (postponed, not included)														-	-	-	-	-	-	-	-	-	-	-	-	-	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
Pu-supporting pro-rata site-wide infrastructure (not included)														-	-	-	-	-	-	-	-	-	-	-	-	-	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
Sigma Replacement (FY23 SSMP pp. 117-118; FY24 SSMP pp. 129, 131; >\$750 M, FY24-34), included @ \$1 B														-	-	100.0	100.0	100.0	300.0	300.0	300.0	600.0	600.0	400.0	1,000.0	1,000.0	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
PF-4 replacement/augmentation (FY21 Campus Master Plan p. 54), not included														-	-	-	-	-	-	-	-	-	-	-	-	-	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29
Total LANL Pu Modernization	1,849.5	513.3	515.7	1,075.7	1,212.3	1,597.0	1,760.2	8,523.7	1,542.8	1,828.4	1,983.1	2,082.2	1,833.0	9,269.5	17,793.2	1,342.7	1,429.8	1,516.9	13,558.9	22,082.6	5,073.3	18,632.2	27,155.9	7,983.8	26,616.0	35,139.7	Does not include all pre-2019 LANL program and project costs (est. by GAO at an additional \$B; GAO-23-104661, pp. 11-12).
Savannah River Site (SRS) Pu Operations		76.4	410.5	200.0	128.0	58.3	62.8	936.0	75.3	139.5	165.0	186.7	212.3	778.8	1,714.8	252.3	292.3	332.3	1,655.7	2,591.7	1,356.9	3,012.6	3,948.6	2,649.2	5,661.8	6,597.8	Assumes increasing \$40M/yr through 2032, then \$60M/yr through 2035 to \$512.3M, then +\$60M/yr through 2039 to \$752.3 M in 2039
Savannah River Plutonium Processing Facility (SRPPF) Design & Construction, 21-D-511		91.3	219.9	351.9	475.0	1,200.0	1,000.2	3,338.3	1,200.0	1,480.0	1,760.0	1,930.0	2,169.0	8,539.0	11,877.3	2,200.0	2,200.0	2,222.7	15,161.7	18,500.0	-	15,161.7	18,500.01	-	15,161.7	18,500.0	Assumes \$18.5 B SRPPF per SRNS "bottom-up" estimate of 2024. CD-4 in 2032, no further expenses to this budget line after that. High-end NNSA estimate adds \$6.5 B.
Total SRS Pu Modernization	167.7	630.4	551.9	603.0	1,258.3	1,063.0	4,274.3	1,275.3	1,619.5	1,925.0	2,116.7	2,381.3	9,317.8	13,592.1	2,452.3	2,492.3	2,555.0	16,817.4	21,091.7	1,356.9	18,174.3	22,448.6	2,649.2	20,823.5	25,097.8	Assumes linear cost growth \$87.1 M/year as seen from FY28 to FY29	
Enterprise plutonium support, multiple sites		53.7	79.2	90.8	107.1	89.0	87.8	507.6	122.0	143.9	124.4	124.5	123.9	638.7	1,146.3	125.0	125.0	125.0	1,013.7	1,521.3	400.0	1,413.7	1,921.3	600.0	2,013.7	2,521.3	\$125 M/yr through 2032 after FYNP; small further increases as shown
Total Complex-wide Pu Modernization	1,849.5	734.7	1,225.3	1,718.4	1,922.4	2,944.3	2,911.0	13,305.6	2,940.1	3,591.8	4,032.5	4,323.4	4,338.2	19,226.0	32,531.6	3,920.0	4,047.1	4,196.9	31,390.0	44,695.6	6,830.2	38,220.2	51,525.8	11,233.0	49,453.2	62,758.8	LANL start-up through 2032+ SRS through 2035 = \$44.5 B. Compare NNSA acquisition cost of "\$28-37 B", 4/18/24

Enterprise Plutonium Modernization Support in FY21, from FY21 CBR	Prior	2019	2020	2021
KCNSC	unknown	3.4	7.4	8.0
LLNL	unknown	31.2	36.8	51.4
National Energy Technology Lab	unknown	0.6	2.3	2.0
NNSA	unknown	5.1	8.9	13.6
NNSA Albuquerque Complex	unknown	7.5	7.2	0.4
Total	unknown	47.8	62.6	75.4

- From NNSA congressional budget requests
- Study Group estimates
- Unknown costs not included
- Totals omitting pre-2025 sunk costs
- Totals over all years to date specified
- PF-4 Replacement/Augmentation, not included

For reference, total Manhattan Project costs through December 31, 1945 were ~\$32.7 billion in Aug. 2024 dollars. (See *Atomic Audit*, p. 60). Minimum estimated remaining pit production startup costs (\$49.5 billion) exceed this.

Canceling LAP4 after FY2024 would save \$3.6 B. Canceling 75% of LANL's Pu Modernization Program after FY2024 would save \$18.2 B through 2039. Together these cancellations would save \$21.8 B, enough to pay the forward costs of SRS startup through 2035 (\$18.2 B) plus the forward costs at other sites through 2035 (\$1.4 B).