Weapons Activities

Weapons Activities
($K)

FY 2025 Enacted	FY 2026 Enacted	WFTC Funding	FY 2027 Request	FY 2027 Request vs. FY 2026 Enacted	
				$	%
19,293,000	20,378,000	3,885,000	27,441,159	+7,063,159	+35%

Proposed Appropriation Language

For Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other incidental expenses necessary for atomic energy defense weapons activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. § 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, including the purchase, maintenance, and operation of not to exceed one aircraft, purchase of not to exceed four ambulances for replacement only, and purchase of not to exceed one passenger vehicle for replacement only, $27,441,159,000, to remain available until expended: Provided, That of such amount, $143,996,000 shall be available until September 30, 2028, for program direction.

Public Law 119-21 (Working Families Tax Cut Act, or WFTC) provided $3.885 billion in funding to DOE/NNSA.

ENACTED P.L. 119-21 Section Ref.	NNSA Programmatic Area	Application of Funding ($M)
Sec. 20008(b)(1)	"to perform National Nuclear Security Administration Phase 1 studies"	200
Sec. 20008(b)(2)	"to address deferred maintenance and repair needs"	540
Sec. 20008(b)(3)	"to accelerate the construction of National Nuclear Security Administration facilities"	1,000
Sec. 20008(b)(4)	"to accelerate the development, procurement, and integration of the warhead for the nuclear-armed sea-launched cruise missile"	400
Sec. 20008(b)(5)	"to accelerate primary capability modernization"	750
Sec. 20008(b)(6)	"to accelerate secondary capability modernization"	750
Sec. 20008(b)(7)	"to accelerate domestic uranium enrichment centrifuge deployment"	120
Sec. 20008(b)(8)	“for NNSA evaluation of spent fuel reprocessing technology”	10
Sec. 20008(b)(9)	"to accelerate nuclear national security missions through AI "	115
	TOTAL	**3,885**

Weapons Activities

Overview

The FY 2027 Budget Request supports the current and future nuclear stockpile, production facilities and capabilities modernization efforts, the scientific tools necessary to execute these efforts, and recapitalization of physical infrastructure and essential facilities to ensure the deterrent remains robust. Weapons Activities provides for the maintenance, modernization, and production of nuclear weapons to continue sustained confidence in their safety, reliability, and military effectiveness; continued investment in scientific, engineering, and manufacturing capabilities to enable production and certification of the enduring nuclear weapons stockpile; and manufacture of nuclear weapon components. Weapons Activities also provides for continued maintenance and investment in the National Nuclear Security Administration (NNSA) nuclear complex to be more responsive and resilient.

NNSA's laboratories, plants, and sites employ approximately 60,000 people across the Nuclear Security Enterprise, primarily at eight geographical sites, to execute these programs managed by a Federal workforce composed of civilian staff supplemented with a small number of military assignees.

The FY 2027 Budget Request supports execution of seven simultaneous warhead modernization programs, including the B61-13 variant, while coordinating with Department of War (DoW) to plan for future systems; continues restoring and refurbishing production capability, including the capability to produce 80 pits per year as close to 2030 as possible; and expands Stockpile Research, Technology, and Engineering capabilities, including design, certification, and assessment infrastructure, that are used every day to execute NNSA programs.

Highlights and Major Changes in the FY 2027 Budget

Stockpile Management

The mission of the Stockpile Management program office is to modernize, maintain, and manage a safe, secure, reliable, and effective nuclear weapons stockpile and to operate the production activities required for the stockpile. Through five major subprograms, NNSA program managers provide assurance that U.S. forces can deliver militarily effective weapons to deter the nation's adversaries and assure our allies. As part of this mission, NNSA is modernizing the existing nuclear stockpile, fielding new capabilities, and ensuring America's strategic deterrent remains unrivaled.

Stockpile Modernization will continue with B61-13 Phase 6.6 (*Full Scale Production*) activities and support all required deliveries to the DoW; obtain Phase 6.5 (*First Production*) authorization and achieve warhead Frist Production Unit (FPU) for the W80-4 Life Extension Program (LEP); continue Phase 6.3 (*Development Engineering*) activities for the W87-1 Modification Program; continue Phase 6.3 (*Development Engineering*) for the W80-5 Modification Program (funded using WFTC carryover); and commence Phase 3 (*Development Engineering*) for the W93. The B61-12 LEP and W88 Alteration (ALT) 370 completed transitions to Stockpile Operations in FY 2026. In FY 2027 Stockpile Modernization is planning to authorize new future concept programs for Phase 2/6.2.

Stockpile Operations will execute the activities necessary to maintain and manage a safe, secure, reliable, and effective stockpile. The Office of Stockpile Operations was formerly called the Office of Stockpile Sustainment; the duties and responsibilities remain the same, and the change in title more accurately reflects the scope of the office. Stockpile Operations will support planning, provisioning, and Limited Life Component (LLC) production activities, including continued expanded activities for service life extensions, acceleration of W88 ALT 376 activities, support for the B61-12 and W88 Alt 370 transitions to Stockpile Operations, and W76-1/2 Mk4B production. Stockpile Operations will improve digital product realization capabilities, sustain

Integrated Surety Architecture (ISA) capabilities, and develop then deploy the next generation Code Management System (CMS).

Weapons Dismantlement and Disposition (WDD) will recover critical components and materials to support existing weapon programs, Naval Reactors, and other national priority missions. The program manages the technical analysis necessary to safely store and securely dismantle nuclear weapons, then dispositions of legacy components to improve NNSA efficiency via removal of excess materials and components from constrained storage areas across the complex.

Production Operations (PO) will provide site-specific, production-enabling capabilities that are required for weapons production activities across the Nuclear Security Enterprise (NSE). PO ensures the necessary weapons production capabilities, which include equipment, trained workforce, and tools, are available, maintained, and qualified. Specific capabilities include war reserve component manufacturing, weapon assembly and disassembly, equipment maintenance, production data management, process improvements, and production calibration services. PO also maintains a breadth of tools and modeling capabilities to assess future production requirements and support risk reduction across stockpile services.

Nuclear Enterprise Assurance (NEA) will prevent, detect, and mitigate potential consequences of subversion, both to the stockpile and to the associated capabilities to design, produce, and test nuclear weapons. NEA will apply a System Security Engineering (SSE) approach that will address current and evolving adversarial threats and risks to nuclear weapons that enable responsible adoption of leading-edge technologies.

Production Modernization

The Production Modernization program is responsible for modernizing the facilities, infrastructure, and equipment that produce materials and components to meet stockpile requirements and maintain the Nation's nuclear deterrent. The program encompasses six major subprograms that sustain and modernize the base production capabilities for the Nation's nuclear weapons stockpile.

Significant changes in the FY 2027 Request include:

1. Primary Capability Modernization's increase supports pit production capability modernization in accordance with DoW requirements. In addition, supports procures energetic material to meet the production needs of the B61-13, W80-4, W87-1, and W93.
2. The Secondary Capability Modernization increase reflects additional investment in mitigating continued risk areas at Y-12 to meet future mission demand and prevent near-term failures or bottlenecks in production. One major focus is reestablishing the High Purity Depleted Uranium (HPDU) supply chain required to support depleted uranium needs ahead of existing inventory exhaustion which requires a significant uplift in funding requirements. The program is also entering the production phase of its enriched uranium purification scope and is establishing a radiography capability at Y-12 to prevent a known production bottleneck in the near future. This budget also reflects the evolving lithium strategy, which includes leveraging partnerships with commercial industry, and pursuing more cost-effective approaches to construction.
3. The Tritium and Defense Fuels increase reflects additional investments to support SRS Tritium Extraction Facility, recycle and recovery projects, and strengthen the supply delivery of purified tritium for national security needs. The Defense Fuels funding also substantially expands the pursuit of enrichment technologies and demonstration efforts to help ensure future defense fuels inventories for tritium and naval reactor production. In addition, supports completion of conceptual design, submittal of an NRC license application, and advancement of manufacturing readiness to Manufacturing Readiness Level (MRL) 5 for the Domestic Uranium Enrichment Centrifuge Experiment (DUECE) pilot plant.

4. The Non-Nuclear Capability Modernization (NNCM) increase reflects supports completion of one project of the Kansas City Short Term Expansion Plan (KCSTEP) and supports procuring equipment for the Kansas City Non-Nuclear Expansion Transformation (KCNExT).
5. Capability Based Investments (CBI) funding modernizes sub-critical testing capabilities used for stockpile assessment, NEP design, and weapon certification activities to support planned sub-critical testing schedules.
6. The Warhead Assembly Modernization (WAM) increase reflects implementing equipment solutions to support increased build-ahead lead times for weapon modernization components.

Primary Capability Modernization
The Primary Capability Modernization program manages primary-stage material processing and component production capabilities in the National Nuclear Security Administration's (NNSA) Nuclear Security Enterprise (NSE). The program includes (1) Plutonium Modernization and (2) High Explosives and Energetics (HE&E) Modernization.

Secondary Capability Modernization
The Secondary Capability Modernization program includes the strategic materials, production capabilities, facilities, and material processing operations required to produce nuclear weapon secondary stages. The program includes (1) Enriched Uranium Modernization, (2) Depleted Uranium Modernization, (3) Lithium Modernization, 4) Advanced Materials and Capabilities Modernization, and (5) Mission Delivery Modernization.

Major Subprogram Descriptions:

Enriched Uranium Modernization stewards the existing United States inventory of weapons grade enriched uranium for Defense Programs, Defense Nuclear Nonproliferation, Naval Reactors, and Mutual Defense Agreement missions. The Program accomplishes this through ensuring material availability through uranium processing, recycle, and recovery; modernizing production capabilities and infrastructure; and developing and deploying new, safer, and resilient production technologies.

Depleted Uranium Modernization is reestablishing and modernizing lapsed capabilities so NNSA can produce radiation cases for imminent weapons delivery mission requirements. The Depleted Uranium Modernization program supports re-establishing a reliable supply of feedstock material, High Purity Depleted Uranium (HPDU) metal, before the current inventory is exhausted. Simultaneously, the program is restarting and maintaining the equipment to produce Depleted Uranium (DU) -niobium alloy, commonly called binary, at Y-12, while also modernizing the manufacturing capabilities needed to produce radiation case components. The program is increasing both capacity and reliability for HPDU and binary production in existing aging facilities to meet mission deliverables. The program is also developing and deploying new production technologies that will improve work safety, increase material efficiencies, and establish a resilient radiation case production capability to meet future demands.
Lithium Modernization is modernizing and operating NNSA's enriched lithium-6 processing capabilities to provide lithium weapons components for imminent mission requirements. Lithium Modernization re-capitalizes and operates chemical purification, metal production, and other lithium recycling processes to ensure a reliable lithium material inventory able to meet annual material requirements without necessitating hazardous and expensive enrichment.
Advanced Materials and Capabilities Modernization is developing and deploying modern production capabilities for new component technologies that will be used in future weapons. NNSA has either discontinued the legacy processes used to produce certain components due to safety concerns or has not used the process for over 30 years. These legacy materials and processes will be replaced with new technologies and materials that are less hazardous and more efficient than legacy capabilities.

Mission Delivery Modernization is modernizing Y-12 operations and facilities that affect multiple material programs including analytical chemistry operations in Building 9995 (known as the Plant Lab), General Manufacturing capability in Building 9201-1, a Manhattan Project-era facility, and the Assembly, Disassembly, Dismantlement, and Surveillance operations in Building 9204-2E. The program is also pursuing opportunities to reduce supply chain risk through the Critical Supplier Program, which leverages commercial vendor capabilities.

Modification of Reporting Requirements for Uranium Capabilities Replacement Project
Section 3123 of the FY 2024 NDAA requires DOE/NNSA to submit, concurrent with the submission of the budget of the President for FY 2025 and each fiscal year thereafter until termination, matrices on the technological maturity, scope, cost, and schedule of UPF. The following matrices are intended to meet this requirement.

Section 3123 Uranium Processing Facility Technology Maturity Matrix

UPF Final Technology Readiness Report	Technology Readiness Level (TRL)-7 Definition; Technology Readiness Assessment Key Milestones and Development Events	
UPF Microwave Casting Technology Readiness Assessment (TRA) Report for TRL-7 was issued July 2017 RP-EX-801768-A018, Rev. 0	TRL-7 is achieved when a full-scale prototype is demonstrated in a relevant operational environment, in accordance with U.S. Department of Energy (DOE) Guide DOE G 413.3-4A, Technology Readiness Assessment Guide.	The TRA review team assessed the microwave casting and product data against the TRA criteria and were unanimous in the affirmative that all criteria were met for TRL-7. The TRA team concluded there continues to be a path for certification. The TRA Report for TRL-7 was issued in July 2017, and when the UPF Project achieved its baseline approval milestone in March 2018 technologies were assessed to be at TRL-7.
	An independent TRA team was formed to evaluate Microwave Technology against established TRL-7 criteria outlined in Y17-003, Technology Readiness Assessments. The team was led by the Y-12 National Security Complex (Y-12) Chief Scientist, and included subject matter experts (SMEs) from Y-12, UPF, Lawrence Livermore National Laboratory (LLNL), Los Alamos National Laboratory (LANL), and Oak Ridge National Laboratory (ORNL). In 2025, NNSA established the Microwave Readiness and Integration Team (MRIT). The MRIT is tasked with development and oversight of those activities necessary to ensure an efficient, low-risk transition to weapons component production in the UPF. The	Risks to process qualification were identified and informed the needs for further testing. This testing is essential to ensure microwave casting technology will meet Key Performance Parameters (KPPs) and Engineering Evaluation qualification requirements. Tests completed in FY 2018 and 2019 included studies aimed at minimization of high reflected power interruptions, statistical chemistry analysis, tooling improvements, and run profile optimization. Process optimization testing in FY 2018 demonstrated that plasmas could be effectively controlled and mitigated through the right combination of an argon-helium atmosphere and furnace pressure. A summary of the status of closed and open testing activities recommended by the

UPF Final Technology Readiness Report	Technology Readiness Level (TRL)-7 Definition; Technology Readiness Assessment Key Milestones and Development Events	
	MRIT is led by the Y-12 Chief Scientist and includes weapon design physicists and engineers from LLNL and LANL; Y-12 Production, Development, and UPF Project personnel; and casting and modeling experts from DOE/NNSA National Laboratories. In July 2025, NNSA and the MRIT developed RP 9202-F-0842 000 00, Microwave Cast Manufacturing Readiness Test Plan, which plans the manufacturing, process optimization, and operator training activities necessary to support full-rate production in UPF.	TRA team is available in PLN YAREA-F-0069 000 02, Microwave Casting Integrated Risk Reduction Plan, dated May 2023. Demonstration and process method development activities completed in FY 2024 and 2025 included part demonstration castings, two heating profile optimization castings, final carbon study casting generation, and quality optimization for multi-part pours (Shape 3). Manufacturing optimization activities planned for FY 2026 include environmental, aging, and compatibility testing for Microwave cast parts; kinetic, diffusion, fluid flow, structural, and stress modeling of microwave furnace and crucible; quality analysis of Microwave Cast Parts; and final casting report on multi-part castings (Shapes 2 & 3).
Specific Performance Goal Test Attributes (additional information available at higher classification)	**Casting Attribute**	**Basis**
Microwave Performance	**Throughput**	RP-EJ-801768-A230, (U) Casting Systems Dynamic Model Design Bases; DE-PE-801768-A042, (U) UPF Casting Systems Design Criteria
	Temperature Profile	DE-PE-801768-A042, (U) UPF Casting Systems Design Criteria
Casting Test Object Product Evaluation	**Machining - Dimensional**	DD-T802302-0036, 0050, 0051
	Soundness - Radiography	OT-OP-801768-A0004
	Chemical - Impurities	RM6K0003, Enriched Unalloyed Uranium Specification (U); For Hydrogen, RM6K0003 has only a target, TRL-7 criteria based on Design Authority agreement using historical data
	Uranium Chemical Assay Density	RM6K0003, Enriched Unalloyed Uranium Specification (U)
	Density	RM252950, Uranium (U)
	Weldability - Radiography	DD-T802302-0050, 0051

Scope, Cost, and Schedule Matrix -- Uranium Processing Facility (UPF), Main Process Building (MPB) and Salvage & Accountability Building (SAB) Subprojects

Requirement	Scope, Cost, and Schedule Descriptions and Factors
N/A, Overview	• Building 9212 has historically provided highly enriched uranium (HEU) operations for the nuclear security enterprise, but does not meet modern building code, nuclear safety, and security standards. • The Uranium Processing Facility (UPF) will replace Building 9212 capabilities for HEU casting, special oxide production, chemical recovery, and decontamination, while incorporating modern capabilities and revised processes to increase the overall safety, security, and efficiency of HEU operations. • NNSA is maintaining Building 9212 and has taken steps to dramatically reduce the risks involved with continued production by removing material and replacing hazardous processes until UPF is available to ensure there is a reliable supply of enriched uranium capabilities. • The Level 0 Baseline Change Proposal was approved by the Deputy Secretary in December 2024 to increase the Total Project Cost to $10.35B and extend the CD-4 Completion date to January 2032.
(i) causes of cost growth and schedule slippage, if any, for the project referred to in subsection (a), including challenges relating to construction, procurement, and supply chain issues;	The cost increases and schedule delays to the UPF project codified in the December 2024 Level 0 BCP were driven by a combination of external factors (contractor performance, COVID and post-COVID supply chain issues, labor shortages, and inflation) and internal factors (overly optimistic assumptions and planning estimates, insufficient forecasting). External factors also influenced increased subcontract and equipment delivery costs and timelines. NNSA acknowledges the need to improve its project management and forecasting ability. As a result, the Administrator instituted bi-monthly construction briefings and NNSA provides quarterly construction briefings to Congressional committees of jurisdiction to ensure that the lines of communication on this topic remain open. A full list of causes and factors included: • Global supply chain challenges • Vendor nuclear quality infrastructure has degraded resulting in material delivery delays for key equipment • Material costs were higher than expected • Workforce availability resulted in the use of hourly and travel incentives • Inadequate intermediate and long-term planning resulted in understated costs and duration for planning packages • Late delivery of major items of equipment and material delayed construction schedules and increased Level of Effort costs • Construction subcontractor costs increased due to interface issues with craft, quantity changes and design changes • Initial cost overruns and schedule delays indicate that the contractor's priorities may have been misaligned with the customer's priorities

Requirement	Scope, Cost, and Schedule Descriptions and Factors
	• Fixed price subcontracts and vendors packages did not include schedule incentives or liquidated damages clauses resulting in late delivery of services and procurements • Design confirmation activities cost more and took longer than planned • Project planning, scheduling and cost estimating was weak • Inadequate cost and schedule forecasting due to failure to incorporate trends in a timely manner • Overuse of Management Reserve (MR) masked the Cost Performance Index • Frequent re-planning and under planning masked performance • COVID-19 impacts. Additional direct costs for improved social distancing and enhanced cleaning to include additional busses and drivers, staggered reporting and lunch times, and direct costs associated with COVID-19 paid leave. Inefficiencies also occurred during peak periods of COVID-19 absenteeism due to time off for testing, illness, and recovery, and contact tracing. However, since the December 2024 rebaseline, activities are proceeding on schedule and within updated cost estimates.
(ii) the impact of such cost and schedule problems on current and planned weapons modernization efforts;	• Building 9212 has historically provided highly enriched uranium (HEU) operations for the nuclear security enterprise, but does not meet modern building code, nuclear safety, and security standards. • The Uranium Processing Facility (UPF) will replace Building 9212 capabilities for HEU casting, special oxide production, chemical recovery, and decontamination while incorporating modern capabilities and revised processes to increase the overall safety, security, and efficiency of HEU operations. • NNSA is maintaining Building 9212 until UPF is available to ensure there is a reliable supply of enriched uranium capabilities. • The W87-1 Modification (Mod) Program is currently relying upon Building 9212 and will transition into UPF when the facility is available. • While the W87-1 Mod Program is not currently realizing significant negative impacts from the UPF Project's revised schedule, continued delays would extend the time that the program is operating under inefficiencies that drive risk to the W87-1's cost and schedule. • The W93 program is in Phase 2a, Design Definition and Cost Study, and has not yet developed a complete design definition. Impacts from UPF Project delays cannot be adequately assessed until weapon designs are further developed and can inform facility demand requirements. • Significantly larger UPF Project delays would extend the time that the W93 Program would operate under Building 9212 inefficiencies that drive risk to the program's cost and schedule. • The impact of extended UPF Project delays has not been assessed for future modernization programs.

Requirement	Scope, Cost, and Schedule Descriptions and Factors
	• Increases to cost and schedule consume resources that are then unavailable for other urgent infrastructure needs.
(iii) the scope, cost, and schedule of activities funded by the uranium modernization program for the period of fiscal years 2024 through 2028 as set forth in the corresponding future-years nuclear security program submitted to Congress pursuant to section 2453 of title 10, United States Code.	**2026 Highlights** Continued activities that will allow NNSA to phase out mission dependency on Building 9212 by supporting the transition of enriched uranium capabilities into existing facilities and UPF and deactivating out-of-service systems in Building 9212 include the following: • Receive startup authorization for the calciner in Building 9212 to process low-equity uranium solutions and begin operating the electrorefining capability in Building 9215 to purify uranium metal. • Conclude pre-operational testing and transition the direct chip melt front loading furnace to production in Building 9215 and advance the direct chip melt bottom loading furnace subprojects. • Reestablish a uranium oxide-to-metal conversion capability. • Achieve Operational Release for the Electrorefining process in Building 9215. • Maintain working inventory levels of material to reduce safety and security risks in enduring facilities and optimize the material composition of the uranium inventory. • Continue to implement a strategy to optimize limited space in enriched uranium facilities. • Develop, sustain, and increase the reliability of uranium analytical and manufacturing capabilities to reduce risks. • Extend the operational life of enduring enriched uranium facilities. • Reduce material inventory, deactivate systems, and process and disposition of legacy materials to phase out mission dependency on Building 9212.
	2026-2028 Uranium Modernization Program Key Milestones • Begin installation activities for the Direct Chip Melt Bottom Loading Furnaces Chip Compaction Subproject in Building 9215 to expand the chip processing capacity. • Continue developing technologies to reestablish the capability to convert uranium oxide to metal at Y-12. • Improve the manufacturing readiness of casting enriched uranium parts using microwave technology to ensure an efficient, low-risk transition to full-rate production in the UPF. • Maintain Target Working Inventory, the minimum amount needed, within enduring facilities to enhance the safety of existing facilities that will be operational through the 2040s. • Bridge the oxide-to-metal conversion capability. • Optimize quantity and quality of purified metal production through the electrorefining process. • Update Y-12 facility capabilities to accommodate UPF needs. Enriched Uranium Modernization Program (Uranium Modernization) budget based on the Budget Request:

Requirement	Scope, Cost, and Schedule Descriptions and Factors
	FY 2027- $474,675,000 FY 2028 - $505,471,000 FY 2029 - $421,390,000 FY 2030 - $456,698,000 FY 2031 - $410,706,000

Tritium and Defense Fuels Program
The Tritium Modernization and The Defense Fuels program is responsible for producing tritium and supplying unobligated low-enriched uranium to support national security needs. The program includes *(1) Tritium Sustainment and Modernization and (2) The Defense Fuels Program.*

Tritium Sustainment and Modernization operates the national capability for producing tritium. The program irradiates tritium-producing burnable absorber rods (TPBARs) to produce new tritium while maintaining a flexible supply chain capability and capacity to meet national security requirements. NNSA produces tritium by irradiating TPBARs in two Tennessee Valley Authority (TVA) reactors during standard 18-month operating cycles. Produced tritium is extracted from the TPBARs at the Tritium Extraction Facility (TEF) at SRS. The tritium inventory supports limited-life component exchanges of tritium reservoirs that are deployed in the stockpile. The program establishes tritium production schedules based on detailed computational models and annual tritium projections to maintain required tritium inventories including reserve quantities. Production planning takes into consideration the material that is constantly being recovered and recycled from deployed reservoirs including those from weapon dismantlement. The program also supports tritium science and technology initiatives to maintain a reliable tritium supply chain.

The Defense Fuels (DF) Program is responsible for ensuring a reliable supply of unobligated enriched uranium for defense mission requirements including low-enriched uranium (LEU) for tritium production and highly enriched uranium (HEU) for naval nuclear propulsion. Since 2013, the United States has lacked the capability to produce enriched uranium free of peaceful use obligations (i.e., unobligated). NNSA currently possesses sufficient unobligated LEU for tritium production through the early 2040s and sufficient unobligated HEU for naval nuclear propulsion into the 2050s. The DF Program has extended the availability of its unobligated LEU supply through the early 2040s by down-blending HEU considered not suitable for weapons use. The DF Program must establish a new domestic uranium enrichment capability to provide new material beyond these need dates. The Program intends to meet these defense mission requirements by incrementally deploying an enrichment capability using one or more gas centrifuge technologies, including the smaller-scale Domestic Uranium Enrichment Centrifuge Experiment (DUECE) being developed at Oak Ridge National Laboratory (ORNL), and the AC100 large centrifuge.

Non-Nuclear Capability Modernization
The Non-Nuclear Capability Modernization (NNCM) program executes modernization projects to ensure the enduring availability of non-nuclear capabilities for multiple weapon systems. Non-nuclear components provide critical warhead functions using a wide range of components, including radiation-hardened microelectronics, neutron generators, gas transfer systems, power sources, electrical assemblies, cables, connectors, structural elements, pads/cushions, and a multitude of other parts that are incorporated into the systems that support or weaponize the NEP. The NNCM program modernizes the extensive suite of infrastructure and equipment required to support the non-nuclear component lifecycle inclusive of design, development, qualification, production, and surveillance. These capabilities ensure that components can survive environments encountered throughout the stockpile to the target sequence and over the life of the weapon.

The NNCM program also executes long-term planning and OPC activities to modernize production capabilities for non-nuclear components through line-item projects, including the Power Sources Capability (PSC), Product Realization Infrastructure for Stockpile Modernization (PRISM), MESA Photolithography Capability (MPC), and Microelectronic Components Capability (MC2) projects.

Capability Based Investments
The Capability Based Investments (CBI) program funds active risk mitigation projects, primarily capital equipment procurements, to reduce risks to core enterprise capabilities extending beyond any single weapon system need. These projects address capability gaps across all eight NNSA sites in weapon production, development, surveillance, and certifications. CBI prioritizes the highest risk to mission needs with emphasis on addressing single point failures, choke points, discontinued or failed equipment, and pivotal enabling capabilities. CBI projects are discrete, short-duration, and non-complex to allow for rapid response to emerging risks.

Warhead Assembly Modernization
The Warhead Assembly Modernization (WAM) program modernizes the capabilities needed to execute warhead assembly/disassembly operations for weapons modernization, surveillance, and dismantlement programs. The WAM program is responsible for modernization activities supporting multiple weapon programs. WAM identifies and implements cross cutting enhancements that provide benefit to all weapon operations executed at Pantex to ensure future mission demand can be achieved.

Stockpile Research, Technology, and Engineering
NNSA's Stockpile Research, Technology, and Engineering (SRT&E) conducts weapons design, certification, and assessment activities in support of the nuclear stockpile. SRT&E provides the foundation for science-based stockpile decisions; delivers advanced capabilities to support DoW requirements and counter emerging threats; and innovates across the nuclear security enterprise (NSE) to improve productivity, efficiency, and responsiveness. These activities ensure confidence in the nuclear stockpile of today and tomorrow.

A key activity supported by SRT&E includes the annual assessment and report to the President and Congress regarding the reliability of the United States' nuclear weapons stockpile. This assessment represents a significant effort leveraging the experimental facilities, weapons modeling codes and high-performance computational hardware, and the NNSA's subject matter expertise to deliver a comprehensive, engineering-based determination on the safety, security, and military effectiveness of the nuclear deterrent.

SRT&E activities are also essential to a responsive enterprise, among them the development and maturation of new materials, physics and engineering models, novel technologies, and processes to modernize nuclear systems and the production complex. Rapid development is essential to provide timely delivery of advanced systems to the DoW to meet emerging requirements or urgent needs. Under NNSA's Rapid and Advanced Capabilities, a new subprogram in FY 2027 composed of four existing activities from other SRT&E subprograms, SRT&E is pursuing design, prototyping, and accelerated testing to deliver integrated and proven system concepts to Stockpile Modernization for acquisition and fielding, as directed by the Nuclear Weapons Council.

The subprograms are:
1. Assessment Science (AS)
2. Engineering
3. Rapid & Advanced Capabilities (RAC)
4. Inertial Confinement Fusion (ICF)
5. Advanced Simulation and Computing (ASC)
6. Weapon Technology and Manufacturing Maturation (WTMM)

Assessment Science
The Assessment Science (AS) program provides the knowledge and expertise needed to maintain confidence in the nuclear stockpile. The experimental and testing equities developed and maintained in the AS program support the entire nuclear security enterprise. The AS program provides: (1) the scientific foundation required to conduct annual assessments of weapon performance and the certification of Life Extension Programs (LEPs), the modernization programs, and future systems being considered now to address emerging threats; (2) the scientific insight to inform our understanding on the impacts of surveillance findings, ensuring the nuclear stockpile remains safe, secure, and effective; and (3) the core technical expertise and experimental tools required to be responsive to technical developments and geopolitical drivers. AS personnel and test equities facilitate the assessment of current weapon and weapon component lifetimes, the development and qualification of modern materials and manufacturing processes, the exploration of concepts for component reuse, and the development of modern safety concepts for sustainment.

Engineering
The Engineering program is responsible for ensuring system survivability in present and future stockpile-to-target sequences (STS) through three key mission areas: (1) strengthening the science, technology, and engineering base; (2) providing tools for qualifying weapon components and certifying weapons without nuclear explosive testing; and (3) supporting annual stockpile assessments through improved weapons surveillance technologies and warhead component aging assessments.

Rapid & Advanced Capabilities
Rapid and Advanced Capabilities (RAC) ensures a responsive nuclear deterrent through collaborative partnerships, proactive integration to include prototyping activities, and assessments. This program supports three key mission areas: (1) strengthening the science, technology, and engineering base; (2) providing tools for qualifying weapon components and certifying weapons without nuclear explosive testing; and (3) supporting and accelerating the development of future weapon systems.

Inertial Confinement Fusion
The Inertial Confinement Fusion (ICF) program provides High Energy Density (HED) science capabilities and expertise that support research and testing across the range of NNSA's stockpile and national security missions. ICF meets the immediate and emerging HED science needs to support today's deterrent while advancing R&D capabilities required to meet future deterrent needs. Since most of the energy in a nuclear weapon detonation is generated by matter in the HED regime, understanding the behavior of matter and energy in this regime is critical to predicting the performance of both nuclear weapon primaries and secondaries, as well as the response of weapon components to extreme hostile radiation environments.

Advanced Simulation and Computing
The Advanced Simulation and Computing (ASC) program provides high-end simulation and computing capabilities (e.g., modeling codes, platforms, and supporting infrastructure) to meet the requirements of the SSP. Modeling the complexity of nuclear weapons systems is essential to maintaining confidence in the performance of the nation's stockpile. The ASC program creates, maintains, and optimizes the weapon codes that provide integrated assessment capability, supporting annual assessment and future sustainment program qualification, and certification of the stockpile. ASC's capabilities also inform decision-making related to the sustainment of the nuclear stockpile. The program coordinates with other NNSA program offices and government agencies, including the Intelligence Community, to support nonproliferation, emergency response, nuclear forensics, and attribution activities.

Weapon Technology and Manufacturing Maturation
The Weapon Technology and Manufacturing Maturation (WTMM) program is responsible for providing technical solutions to realized risks that impact the programs of record in terms of cost, schedule or performance, developing agile, affordable, assured, and responsive technologies for the future nuclear stockpile, incorporating novel materials, and production technologies into the nuclear enterprise.

Infrastructure and Operations (I&O)
The Infrastructure and Operations program maintains, operates, and modernizes the NNSA infrastructure in a safe, secure, and cost-effective manner to support all NNSA programs. The program also plans, prioritizes, and constructs mission-enabling facilities and infrastructure.

The Operations of Facilities program provides the funding required to operate NNSA facilities in a safe and secure manner. Operations of Facilities is fundamental to achieving NNSA's plutonium, uranium, tritium, lithium, high explosives, and other mission objectives.

The Safety and Environmental Operations program provides funding to support the Department's Nuclear Criticality Safety Program (NCSP) subprogram, Nuclear Safety Research and Development (NSR&D) subprogram, Packaging subprogram, Nuclear Materials Integration (NMI) subprogram, and Environmental Operations (EO) subprogram.

The Maintenance and Repair of Facilities program (Maintenance) provides direct-funded maintenance activities across the NNSA enterprise for the recurring day-to-day work required to sustain and preserve NNSA facilities. These efforts include predictive, preventive, and corrective maintenance activities to maintain facilities, property, assets, systems, roads, and vital safety systems. The Recapitalization program is key to modernizing NNSA's infrastructure. The Recapitalization program modernizes NNSA infrastructure by prioritizing investments including the acquisition of new facilities or executing discrete projects to improve the condition and extend the life of structures, capabilities, and systems. Recapitalization investments help achieve operational efficiencies and reduce safety, security, environmental, and program risk.

Infrastructure and Operations line-item construction projects are critical to revitalizing the infrastructure. These projects will replace obsolete, unreliable facilities and infrastructure to reduce safety and program risk while improving responsiveness, capacity, and capabilities.

Secure Transportation Asset
The Secure Transportation Asset (STA) enables the accelerated modernization of the nuclear weapon stockpile by providing safe, secure transport of the Nation's nuclear weapons, weapon non-nuclear components, and special nuclear material throughout the NSE in support of the stockpile and future deterrence needs. Nuclear weapon life-extension programs, limited-life component exchanges, surveillance, dismantlement, nonproliferation activities, and experimental programs rely on STA activities to ensure safe, secure, and on-schedule transport. The FY 2027 Request supports the transportation infrastructure that enables safety and security to employees, communities and stakeholders. Including mission essential agent equipment, specialized transportation assets, including life extension of the Safeguards Transporter until it is replaced by the Mobile Guardian Transporter; vehicle sustainment; replacement one aircraft, armored tractors, escort, and support vehicles; development, procurement and testing of Counter Uncrewed Aircraft System (CUAS); and continued development and testing of the Mobile Guardian Transporter. The first Mobile Guardian Transporter production unit is planned for completion in FY 2029 and will begin a phased in approach to replace the current Safeguard Transporter. Program Direction resources in this account provide salaries/benefits, travel and expenses for the secure transportation workforce, including Federal Agents, Pilots and CUAS operators. STA continues to implement Federal Agent recruitment and retention initiatives to cultivate a high-quality mission

critical workforce capacity to sustain readiness and deployment requirements necessary to execute the nuclear deterrence mission within scheduled requirements.

Defense Nuclear Security
The Defense Nuclear Security (DNS) program leads, develops, and implements the National Nuclear Security Administration's (NNSA) security program, enabling its nuclear security enterprise (NSE) missions. DNS protects NNSA personnel, facilities, nuclear weapons, and special nuclear materials from a full spectrum of threats, ranging from minor security incidents to acts of terrorism, at its national laboratories, production plants, processing facilities, Nevada National Security Site, and satellite facilities for federal staff. Employing more than 2,200 Protective Force (PF) officers, DNS secures more than 6,000 buildings and protects more than 60,091 personnel. Today, the program is charting a course of transformative change to ensure DNS's mission-enabling function keeps pace with the expanding work scope across all elements of the NNSA mission in future years.

The Budget Request supports increased security needs from known mission growth across the NSE, including pit production at Los Alamos National Laboratory (LANL) and the Savannah River Plutonium Production Facility (SRPPF), Kansas City expansion efforts, and Uranium Processing Facility (UPF) testing and transition to operations. The request includes substantial investments in deploying next-generation Counter Unmanned Aircraft Systems (NexGen CUAS) and in comprehensive research, development, testing, and evaluation. In addition, the request continues to support the initiative to replace the aging Argus system with a modern security system (Caerus), as well as continuous improvement initiatives through the Center for Security Technology, Analysis, Response, and Testing system and PSCOE activities, and the capability to adapt to rapidly evolving technologies. This request also includes funding SIRP projects, addressing critical security systems, and related security infrastructure and equipment refresh needs.

Information Technology and Cybersecurity
The IT and Cybersecurity program supports IT and cybersecurity services and solutions, which include continuous monitoring, cloud-based technologies, and enterprise security technologies (i.e., identity, credential, and access management). The program ensures and enables the availability of a secure infrastructure for mission activities and information sharing for NNSA and its mission partners. The FY 2027 Request enables the development and execution of integrated IT initiatives that provide an effective and secure technology infrastructure across the enterprise.

Legacy Contractor Pensions and Settlement Payments
This budget line also continues to include the Weapons Activities share of the DOE/NNSA's annual reimbursement made to the University of California (UC) Retirement Plan (UCRP) for former UC employees and annuitants who worked at the Lawrence Livermore National Laboratory (LLNL) and Los Alamos National Laboratory (LANL). The annual reimbursement is based on the actuarial valuation report and an annual assessment provided by UC and is covered by the terms described in the contracts. These contracts are paid through the Legacy Contractor Pensions and Settlement Payments line item.

The Weapons Activities share of these costs in the FY 2027 Budget is $40,869,000.

Entry Level Hires
NNSA supports a variety of programs to help train and recruit the next generation of leaders in managing the nuclear stockpile, nonproliferation, nuclear security, and international security, such as the NNSA Graduate Fellowship Program (NGFP). These programs foster the pipeline of qualified professionals who will sustain expertise in these areas through future employment within the NNSA nuclear security enterprise. In FY 2027, the Weapons Activities appropriation projects providing $9,500,000 for NGFP support and development activities.

DOE Working Capital Fund (WCF) Support

NNSA Weapons Activities appropriation projected contribution to the DOE WCF for FY 2027 is $48,488,000. This funding covers certain shared enterprise activities including managing enterprise-wide systems, data, and telecommunications and supporting the integrated acquisition environment.

Weapons Activities
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding[1]	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
					$	%
B61-12 LEP	*27,500*	*16,000*		*-*	*-16,000*	*-100%*
B61-13	*16,000*	*49,357*		*46,428*	*-2,929*	*-6%*
W88 ALT 370	*63,700*	*-*		*-*	*-*	*-*
W80-4 LEP	*1,194,750*	*1,259,048*		*1,048,340*	*-210,708*	*-17%*
W80-5 Modification Program	*100,000*	*186,000*	*400,000*	*-*	*-186,000*	*-100%*
W87-1 Modification Program	*1,016,331*	*649,096*		*913,231*	*+264,135*	*+41%*
W93 Program	*455,776*	*806,797*		*1,106,106*	*299,309*	*37%*
Future Programs	*-*	*-*		*99,794*	*99,794*	*N/A*
Total, Stockpile Modernization	2,874,057	2,966,298	400,000	3,213,899	247,601	+8%
Stockpile Operations	1,376,260	1,720,200		1,885,290	+165,090	+10%
Weapons Dismantlement and Disposition	56,000	82,367		90,760	+8,393	+10%
Production Operations	816,567	1,020,243		1,146,586	+126,343	+12%
Nuclear Enterprise Assurance	75,002	117,193		121,015	+3,822	+3%
Total, Stockpile Management	**5,197,886**	**5,906,301**	**400,000**	**6,457,550**	**+551,249**	**+9%**
Los Alamos Pit Production	*984,611*	*833,263*		*1,460,791*	*+627,528*	*+75%*
21-D-512 Plutonium Pit Production Project, LANL	*470,000*	*457,900*		*812,100*	*+354,200*	*+77%*
15-D-302 TA-55 Reinvestments Project Phase 3, LANL	*39,475*	*7,942*		*-*	*-7,942*	*-100%*
07-D-220-04 Transuranic Liquid Waste Facility, LANL	*-*	*5,865*		*10,000*	*+4,135*	*+71%*
04-D-125 Chemistry and Metallurgy Research Replacement Project, LANL	*-*	*-*		*110,000*	*+110,000*	*N/A*
Total, Los Alamos Plutonium Modernization	1,494,086	1,304,970	-	2,392,891	+1,087,921	+83%
Savannah River Pit Production	*75,332*	*75,486*		*302,000*	*+226,514*	*+300%*

[1] P.L 119-21 (Working Families Tax Cut Act, or WFTC) provided $3.885 billion in funding to DOE/NNSA. The $10 million appropriated under WFTCA Section 20008(b)(8) "for evaluation of spent fuel reprocessing technology" is unallocated in the table. DOE/NNSA is determining the correct execution method consistent with congressional intent.

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding[1]	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
					$	%
21-D-511 Savannah River Plutonium Processing Facility, SRS	*800,000*	*1,130,000*	*728,000*	*1,946,523*	*+816,532*	*+72%*
Total, Savannah River Plutonium Modernization	875,332	1,205,486	728,000	2,248,523	+1,043,037	+87%
Enterprise Pit Production Support	121,964	122,094		270,897	+148,803	+122%
Total, Plutonium Modernization	2,491,382	2,632,550	728,000	4,912,311	+2,279,761	+87%
High Explosives & Energetics	*131,675*	*132,023*	*22,000*	*251,765*	*+119,742*	*+901%*
21-D-510 HE Synthesis Formulation and Production, PX	-	-		-	-	*N/A*
15-D-301 HE Science & Engineering Facility, PX	*15,000*	-	*350,000*	-	-	-
Total, High Explosives & Energetics	146,675	132,023	372,000	251,765	+119,742	+91%
Total, Primary Capability Modernization	2,638,057	2,764,573	1,100,000	5,164,076	+2,399,503	+87%
Secondary Capability Modernization	770,353	649,686		1,728,546	+1,078,860	+166%
18-D-690 Lithium Processing Facility, Y-12	210,000	270,000	500,000	-	-270,000	-100%
06-D-141 Uranium Processing Facility, Y-12	800,000	730,000	250,000	290,000	-440,000	-60%
Total, Secondary Capability Modernization	1,780,353	1,649,686	750,000	2,018,546	+368,860	+22%
Tritium and Defense Fuels Program	581,738	520,034	120,000	880,781	+360,747	+69%
18-D-650 Tritium Finishing Facility, SRS	-	-	437,000	-	-	N/A
Total, Tritium and Defense Fuels Program	581,738	520,034	557,000	880,781	+360,7474	+79%
Non-Nuclear Capability Modernization	141,300	190,588		258,008	+67,420	+35%
26-D-511 MESA Photolithography Capability (MPC), SNL	-	-		51,000	+51,000	N/A
22-D-513 Power Sources Capability, SNL	50,000	5,000	100,000	140,000	+135,000	+2700%
Total, Non-Nuclear Capability Modernization	191,300	195,588	100,000	449,008	+223,420	+130%
Capability Based Investments	153,244	162,996		203,163	+40,167	+25%
Warhead Assembly Modernization	34,000	34,336		47,965	+13,629	+40%
18-D-680 Material Staging Capability, PX	-	-		22,500	+22,500	N/A

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding[1]	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
					$	%
Total, Warhead Assembly Modernization	34,000	34,336	-	70,465	+36,129	+105%
Total, Production Modernization	**5,378,692**	**5,327,213**	**2,507,000**	**8,786,039**	**+3,458,826**	**+65%**
Assessment Science	862,609	955,791		1,243,267	+277,476	+29%
26-D-512 LANSCE Modernization Project (LAMP), LANL	-	20,000		15,200	-4,800	-24%
24-D-513 Z-pinch Experimental Underground System (ZEUS)	-	-		91,700	+91,700	N/A
Test Bed Facilities Improvement (ZTBFI), NNSS						
17-D-640 U1a Complex Enhancements Project, NNSS	73,083	-	53,000	154,142	+154,142	N/A
Total, Assessment Science	935,692	975,791	53,000	1,504,309	+528,518	+54%
Engineering	227,883	187,836		230,043	+42,207	+23%
26-D-513 Combined Radiation Environments for Survivability Testing, SNL	-	52,248		105,000	+52,752	+101%
Total, Engineering	227,883	240,084	-	335,043	+94,959	+40%
Rapid & Advanced Capabilities	211,182	145,241	160,000	499,209	+353,968	+243.7%
Inertial Confinement Fusion	699,830	803,000		829,736	+26,736	+3.3%
26-D-514 NIF Enhanced Fusion Yield Capability, LLNL	-	26,000		84,000	+58,000	+223.1%
Total, Inertial Confinement Fusion	699,830	829,000		913,736	+84,736	+10.2%
Advanced Simulation and Computing	850,000	865,995	115,000	909,765	+43,770	+5.1%
Weapon Technology and Manufacturing Maturation	273,189	253,979	40,000	405,413	+151,434	+59.6%
Total, Stockpile Research, Technology, and Engineering	**3,197,776**	**3,310,090**	**368,000**	**4,567,475**	**+1,257,385**	**+38.0%**
Academic Programs	**115,000**	**100,000**		**-**	**-100,000**	**-100%**
Operations of Facilities	1,378,725	1,615,605		1,752,310	+136,705	+8.5%
Safety and Environmental Operations	154,970	194,360		217,902	+23,542	+12.1%
Maintenance and Repair of Facilities	919,600	830,500	400,000	1,384,323	+553,823	+66.7%
Recapitalization	741,671	707,628	140,000	1,203,127	+495,499	+70.0%
Total, Operating	3,194,966	3,348,093	540,000	4,557,662	+1,209,569	36.1%
27-D-512 Plutonium Engineering Support Building; LANL	-	-		88,700	+88,700	N/A
25-D-511 PULSE New Access, NNSS	5,000	-		50,000	+50,000	N/A

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding[1]	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
					$	%
25-D-510 Plutonium Mission Safety & Quality Building, LANL	48,500	-		-	-	N/A
24-D-510 Analytic Gas Laboratory, PX	36,000	-		-	-	N/A
23-D-517 Electrical Power Capacity Upgrade, LANL	70,000	-	60,000	65,000	+65,000	N/A
Total, Mission Enabling Construction	159,500	-	60,000	203,700	203,700	-
Total, Infrastructure and Operations	**3,354,466**	**3,348,093**	**600,000**	**4,761,362**	**1,413,269**	**42%**
Operations and Equipment	236,160	299,541		443,075	+143,534	+48%
Program Direction	118,056	149,244		143,996	-5,248	-4%
Total, Secure Transportation Asset	**354,216**	**448,785**	**-**	**587,071**	**+138,286**	**31%**
Operations & Maintenance	1,030,085	1,245,418		1,305,793	+60,375	+5%
17-D-710 West End Protected Area Reduction Project, Y-12	54,000	-		-	-	N/A
Total, Defense Nuclear Security	**1,084,085**	**1,245,418**	**-**	**1,305,793**	**+60,375**	**+5%**
Information Technology and Cybersecurity	**598,379**	**688,000**		**935,000**	**+247,000**	**+36%**
Legacy Contractor Pensions and Settlement Payments	12,500	4,100		40,869	36,769	+897%
Total, Weapons Activities	**19,293,000**	**20,378,000**	**3,875,000**	**27,441,159**	**+7,063,159**	**+35%**

Weapons Activities
Outyear Funding by Budget Control ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
B61-12 LEP	2,933	-	-	-
B61-13	1,066,334	878,548	853,193	861,980
W88 ALT 370	76,940	269,180	236,428	268,801
W80-4 LEP	931,496	950,126	969,129	988,512
W80-5 Modification Program	1,275,823	1,359,405	1,457,703	1,540,388
W87-1 Modification Program	3,353,526	3,457,259	3,516,453	3,659,681
W93 Program	1,957,057	1,944,783	1,975,293	1,932,135
Future Programs	87,489	90,691	92,276	96,036
Total, Stockpile Modernization	1,130,914	1,161,886	1,201,228	1,231,725
Stockpile Operations	133,016	140,624	145,896	150,194
Weapons Dismantlement and Disposition	6,662,002	6,795,243	6,931,146	7,069,771
Production Operations				
Nuclear Enterprise Assurance	2,933	-	-	-
Total, Stockpile Management	**1,066,334**	**878,548**	**853,193**	**861,980**
Los Alamos Pit Production	*1,480,867*	*1,735,648*	*1,747,038*	*1,784,019*
21-D-512 Plutonium Pit Production Project, LANL	*688,500*	*509,955*	*520,664*	*531,078*
04-D-125 Chemistry and Metallurgy Research Replacement Project, LANL	*112,200*	*76,100*	-	-
Total, Los Alamos Plutonium Modernization	2,281,567	2,321,703	2,267,702	2,315,097
Savannah River Pit Production	173,400	176,868	180,405	184,013
21-D-511 Savannah River Plutonium Processing Facility, SRS	2,274,600	2,320,092	2,366,494	2,413,824
Total, Savannah River Plutonium Modernization	2,448,000	2,496,960	2,546,899	2,597,837
Enterprise Pit Production Support	277,352	282,899	288,557	294,328
Total, Plutonium Modernization	5,006,919	5,101,562	5,103,158	5,207,262
High Explosives & Energetics	198,852	192,073	221,816	232,809
21-D-510 HE Synthesis Formulation and Production, PX	-	85,500	21,207	12,500
Total, High Explosives & Energetics	198,852	277,573	243,023	245,309
Total, Primary Capability Modernization	5,205,761	5,379,135	5,346,181	5,452,571
Secondary Capability Modernization	1,848,141	1,812,626	1,777,319	1,798,803
18-D-690 Lithium Processing Facility, Y-12	-	112,080	212,242	216,487
06-D-141 Uranium Processing Facility, Y-12	486,000	290,000	117,000	-
Total, Secondary Capability Modernization	2,334,141	2,214,706	2,106,561	2,015,290
Tritium and Defense Fuels Program	1,848,141	1,812,626	1,777,319	1,798,803
18-D-650 Tritium Finishing Facility, SRS	-	112,080	212,242	216,487
Total, Tritium and Defense Fuels Program	486,000	290,000	117,000	-
Non-Nuclear Capability Modernization	258,068	274,664	288,601	297,977
26-D-511 MESA Photolithography Capability (MPC), SNL	52,020	53,060	111,980	72,840
22-D-513 Power Sources Capability, SNL	23,713	-	-	-

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
Total, Non-Nuclear Capability Modernization	333,801	327,724	400,581	370,817
Capability Based Investments	207,226	211,371	270,505	298,441
Warhead Assembly Modernization	48,824	49,701	85,322	102,812
18-D-680 Material Staging Capability, PX	-	-	-	-
Total, Warhead Assembly Modernization	48,824	49,701	85,322	102,812
Total, Production Modernization	**9,039,899**	**9,149,392**	**9,563,599**	**9,842,591**
Assessment Science	1,086,555	1,055,691	1,054,604	1,038,722
27-D-511 Defense Materials Science Sector (DMSS), ANL	36,842	36,978	39,369	45,138
26-D-512 LANSCE Modernization Project (LAMP), LANL	88,000	119,760	122,156	104,599
Total, Assessment Science	1,211,397	1,212,429	1,216,129	1,188,459
Engineering	232,372	237,020	241,760	246,595
26-D-513 Combined Radiation Environments for Survivability Testing, SNL	176,000	210,572	247,866	302,177
Total, Engineering	408,372	447,592	489,626	548,772
Rapid & Advanced Capabilities	462,059	476,100	475,422	484,930
Inertial Confinement Fusion	813,832	821,635	848,924	865,902
26-D-514 NIF Enhanced Fusion Yield Capability, LLNL	148,480	115,000	52,000	55,000
Total, Inertial Confinement Fusion	962,312	936,635	900,924	920,902
Advanced Simulation and Computing	973,094	989,546	1,008,937	1,031,115
Weapon Technology and Manufacturing Maturation	414,871	416,971	377,140	384,683
Total, Stockpile Research, Technology, and Engineering	**4,032,105**	**4,479,273**	**4,468,178**	**4,558,861**
Academic Programs	**26,000**	**46,000**	**66,000**	**66,000**
Operations of Facilities	1,801,759	1,830,118	1,873,028	1,944,436
Safety and Environmental Operations	221,240	225,665	230,178	234,782
Maintenance and Repair of Facilities	1,426,009	1,466,250	1,477,252	1,511,514
Recapitalization	1,250,590	1,324,098	1,257,871	1,215,709
Total, Operating	4,699,598	4,846,131	4,838,329	4,906,441
31-D-XXX Protective Forces Support Facility, LANL	-	-	-	98,700
31-D-XXX 138 kV Back Loop Transmission System Replacement, NNSS	-	-	-	98,700
30-D-XXX TA-46 Protective Force Facility, LANL	-	-	98,700	-
30-D-XXX Plutonium Program Accounting Building, LANL	-	-	98,700	-
29-D-XXX Plutonium Production Building, LANL	-	98,700	-	-
25-D-511 PULSE New Access, NNSS	140,000	90,000	20,000	-

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
23-D-517 Electrical Power Capacity Upgrade, LANL	62,674	52,430	-	-
Total, Mission Enabling Construction	202,674	241,130	217,400	197,400
Total, Infrastructure and Operations	**4,902,272**	**5,087,261**	**5,055,729**	**5,103,841**
Operations and Equipment	409,754	442,763	439,836	408,440
Program Direction	162,911	163,825	177,804	186,794
Total, Secure Transportation Asset	**572,665**	**606,588**	**617,640**	**595,234**
Operations & Maintenance	1,331,909	1,358,547	1,385,718	1,413,432
Total, Defense Nuclear Security	**1,331,909**	**1,358,547**	**1,385,718**	**1,413,432**
Information Technology and Cybersecurity	**983,700**	**987,774**	**992,229**	**1,012,074**
Legacy Contractor Pensions and Settlement Payments	35,235	33,098	31,042	31,804
Total, Weapons Activities	**27,985,787**	**28,543,176**	**29,111,281**	**29,693,608**

Stockpile Management

Overview

The mission of the Stockpile Management program is to modernize, maintain, and manage a safe, secure, reliable, and effective nuclear weapons stockpile and to operate the production activities required for the stockpile. Through five major subprograms, NNSA program managers provide assurance that U.S. forces can deliver militarily effective weapons to deter the nation's adversaries and assure our allies. As part of this mission, NNSA is modernizing the existing nuclear stockpile, fielding new capabilities, and ensuring America's strategic deterrent remains unrivaled.

Stockpile Modernization will continue with B61-13 Phase 6.6 (*Full Scale Production*) activities and support all required deliveries to the Department of War (DoW); obtain Phase 6.5 (*First Production*) authorization and achieve warhead First Production Unit (FPU) for the W80-4 Life Extension Program (LEP); continue Phase 6.3 (*Development Engineering*) activities for the W87-1 Modification Program; continue Phase 6.3 (*Development Engineering*) for the W80-5 Modification Program; and commence Phase 3 (*Development Engineering*) for the W93. The B61-12 LEP and W88 Alteration (ALT) 370 completed transitions to Stockpile Operations in FY 2026. In FY 2027 Stockpile Modernization is planning to authorize new future concept programs for Phase 2/6.2.

Stockpile Operations (formerly Stockpile Sustainment) will execute the activities necessary to maintain and manage a safe, secure, reliable, and effective stockpile. Stockpile Operations will support planning, provisioning, and Limited Life Component (LLC) production activities, including continued expanded activities for service life extensions, acceleration of W88 ALT 376 activities, support for the B61-12 and W88 Alt 370 transitions to Stockpile Operations, and W76-1/-2 Mk4B production. Stockpile Operations will improve digital product realization capabilities, develop, implement, and sustain Integrated Surety Architecture (ISA) capabilities, and develop then deploy the next generation Code Management System (CMS).

Weapons Dismantlement and Disposition (WDD) will recover critical components and materials to support existing weapon programs, Naval Reactors, and other national priority missions. The program manages the technical analysis necessary to safely store and securely dismantle nuclear weapons, and dispositions legacy components to improve NNSA efficiency via removal of excess materials and components from constrained storage areas across the complex.

Production Operations (PO) will provide site-specific production-enabling capabilities that are required for weapons production activities across the Nuclear Security Enterprise (NSE). PO ensures the necessary weapons production capabilities, which include equipment, trained workforce, and tools, are available, maintained, and qualified. Specific capabilities include war reserve component manufacturing, weapon assembly and disassembly, equipment maintenance, production data management, process improvements, and production calibration services. PO also maintains a breadth of tools and modeling capabilities to assess future production requirements and support risk reduction across stockpile services.

Nuclear Enterprise Assurance (NEA) will prevent, detect, and mitigate potential consequences of subversion, both to the stockpile and the design, production, and weapon component testing capabilities. NEA will apply a System Security Engineering (SSE) approach that adopts leading-edge technologies to address current and evolving adversarial threats and risks to the country's nuclear weapon stockpile.

Stockpile Management
Funding by Budget Control ($K)[1]

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted[2]	
					$	%
B61-12 LEP	*27,500*	*16,000*	*-*	*-*	*-16,000*	*-100%*
B61-13	*16,000*	*49,357*	*-*	*46,428*	*-2,929*	*-6%*
W88 ALT 370	*63,700*	*-*	*-*	*-*	*-*	*-*
W80-4 LEP	*1,194,750*	*1,259,048*	*-*	*1,048,340*	*-210,708*	*-17%*
W80-5 Modification Program	*100,000*	*186,000*	*400,000*	*-*	*-186,000*	*-100%*
W87-1 Modification Program	*1,016,331*	*649,096*	*-*	*913,231*	*+264,135*	*+41%*
W93 Program	*455,776*	*806,797*	*-*	*1,106,106*	*+299,309*	*+37%*
Future Programs	*-*	*-*	*-*	*99,794*	*+99,794*	*N/A*
Total, Stockpile Modernization	2,874,057	2,966,298	400,000	3,213,899	+247,601	+8%
B61 Stockpile Systems	*159,276*	*261,200*	*-*	*283,416*	*+22,216*	*+9%*
W76 Stockpile Systems	*232,378*	*242,379*	*-*	*260,029*	*+17,650*	*+7%*
W78 Stockpile Systems	*90,390*	*109,538*	*-*	*122,892*	*+13,354*	*+12%*
W80 Stockpile Systems	*76,767*	*94,781*	*-*	*111,713*	*+16,932*	*+18%*
B83 Stockpile Systems	*17,164*	*22,440*	*-*	*20,686*	*-1,754*	*-8%*
W87 Stockpile Systems	*123,057*	*140,360*	*-*	*188,623*	*+48,263*	*+34%*
W88 Stockpile Systems	*150,669*	*216,236*	*-*	*156,637*	*-59,599*	*-28%*
Multi-Weapon Systems	*526,559*	*633,266*	*-*	*741,294*	*+108,028*	*+17%*
Total, Stockpile Operations	1,376,260	1,720,200	-	1,885,290	+165,090	+10%
Weapons Dismantlement and Disposition	56,000	82,367	-	90,760	+8,393	+10%
Production Operations	816,567	1,020,243	-	1,146,586	+126,343	+12%
Nuclear Enterprise Assurance	75,002	117,193	-	121,015	+3,822	+3%
Total, Stockpile Management	**5,197,886**	**5,906,301**	**400,000**	**6,457,550**	**+551,249**	**+9%**

[1] P.L. 119-21 (Working Families Tax Cut Act, or WFTC) provided $3,885,000,000 in funding to DOE/NNSA. From this funding, Stockpile Management received $400,000,000 to support the W80-5 Modification Program activities. Of that amount, $272,316,000 will support FY 2026 requirements for the W80-5. The remaining WFTC funds of $127,684,000 will be obligated to the W80-5 no later than FY 2027.

[2] Deltas reflect discretionary funding only.

Stockpile Management
Outyear Funding ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
B61-12 LEP	-	-	-	-
B61-13	*2,933*	-	-	-
W88 ALT 370	-	-	-	-
W80-4 LEP	*1,066,334*	*878,548*	*853,193*	*861,980*
W80-5 Modification Program	*76,940*	*269,180*	*236,428*	*268,801*
W87-1 Modification Program	*931,496*	*950,126*	*969,129*	*988,512*
W93 Program	*1,275,823*	*1,359,405*	*1,457,703*	*1,540,388*
Future Programs	-	-	-	-
Total, Stockpile Major Modernization	3,353,526	3,457,259	3,516,453	3,659,681
B61 Stockpile Systems	*357,336*	*396,987*	*397,925*	*329,544*
W76 Stockpile Systems	*229,066*	*196,942*	*199,423*	*180,295*
W78 Stockpile Systems	*103,799*	*118,898*	*129,069*	*123,537*
W80 Stockpile Systems	*108,011*	*108,548*	*124,838*	*150,024*
B83 Stockpile Systems	*23,950*	*22,341*	*22,275*	*20,575*
W87 Stockpile Systems	*195,422*	*202,304*	*206,562*	*173,936*
W88 Stockpile Systems	*179,761*	*154,475*	*124,134*	*252,446*
Multi-Weapon Systems	*759,712*	*744,288*	*771,067*	*701,778*
Total, Stockpile Operations	1,957,057	1,944,783	1,975,293	1,932,135
Weapons Dismantlement and Disposition	87,489	90,691	92,276	96,036
Production Operations	1,130,914	1,161,886	1,201,228	1,231,725
Nuclear Enterprise Assurance	133,016	140,624	145,896	150,194
Total, Stockpile Management	**6,662,002**	**6,795,243**	**6,931,146**	**7,069,771**

Overview

Stockpile Modernization includes major alterations, modification of existing nuclear weapons, and provides new warhead capabilities. This ensures the nuclear deterrent remains safe, secure, reliable and effective to meet current requirements and pacing threats.

NNSA, in conjunction with DoW, executes stockpile modernization following the Phase X/6.X process guidelines, which provide a framework to conduct and manage development and production activities for new or existing weapons. Phase 1/6.1 (*Concept Assessment*) should provide sufficient information for the Nuclear Weapons Council (NWC) to authorize Phase 2/6.2 (*Feasibility Study and Design Options*). Follow-on phases include Phase 2A/6.2A (*Design Definition and Cost Study*), Phase 3/6.3 (*Development Engineering*), Phase 4/6.4 (*Production Engineering*), Phase 5/6.5 (*First Production*) and Phase 6/6.6 (*Full-Scale Production*).

B61-13

The B61-13 is a modern variant of the B61 nuclear gravity bomb. The B61-13 includes modern safety, security, and accuracy features of the B61-12 and replaces some of the B61-7s in the current stockpile. The B61-13 was authorized as a program of record in FY 2024 and began a modified Phase 6.X process. In May of FY 2025, the program achieved Phase 6.5 FPU. Phase 6.6 was approved in FY 2025, and the program has begun delivering weapons to the United States Air Force (USAF). The program will transition to Stockpile Operations in FY 2028.

W80-4 LEP

The W80-4 LEP extends the life of the legacy W80 warhead for use in the USAF Long Range Standoff (LRSO) cruise missile. The LRSO is the replacement for the current, aging Air-Launched Cruise Missile (ALCM). The life extension program will integrate the warhead with the replacement missile platform and address warhead component aging concerns as well as military requirements for reliability, service life, field maintenance, and surety. The program established key design requirements for this LEP to include using insensitive high explosives for the primary, enhancing surety, and developing the warhead/missile interface parallel with the USAF. Phase 6.4 Production Engineering started in Quarter 2 FY 2023. Phase 6.5 authorization is scheduled for Quarter 3 FY 2027 and FPU is scheduled to be achieved by September FY 2027.

W80-5 Modification Program

The W80-5 Modification Program is the warhead portion of the Navy's Nuclear-Armed, Sea-Launched Cruise Missile (SLCM-N) Program. The Program will provide the DoW with a sea-launched cruise missile capability using the W80 warhead family. Initial Operational Capability (IOC) is planned no later than September 2034, with limited operational deployment prior to IOC no later than September 2032. The aggressive program schedule dictates a design selection that highly leverages fielded weapon designs and requires limited testing and analysis to validate that the design meets all requirements. Scope includes design, development, qualification, production, and surveillance of the chosen option, along with all necessary attributes of a fielded system (e.g., trainers, handling gear, spares, etc.). The NWC authorized entrance to Phase 6.3 in FY 2026. In FY 2027, the W80-5 Modification Program will continue executing Phase 6.3 activities, including release of the Baseline Cost Report (BCR).

W87-1 Modification Program
The W87-1 Modification Program will replace the W78 warhead and support fielding on the Air Force Sentinel missile system. The W78 is one of the oldest warheads in the stockpile and the W87-1 Modification Program provides improvement in warhead security, safety, and use control. The W87-1 Modification Program is based on a modified design of the W87-0 and will be fielded in the Mk21A reentry vehicle. The program received Phase 6.3 authorization in Quarter 3 FY 2023 and is executing Phase 6.3 activities. Phase 6.4 authorization is scheduled for Quarter 2 FY 2028 and FPU is scheduled in FY 2033.

W93 Program
The W93 Program was established to meet requirements set by the DoW to augment Navy forces with a survivable weapon deployable on the Ohio-class and Columbia-class submarines. In FY 2022, the W93 program concluded Phase 1 that evaluated warhead architecture and available technologies against potential range of desired attributes, draft military characteristics, and known constraints. In FY 2023, work commenced on Phase 2 to further refine design and production concepts. The program began to conduct technical trade analyses, evaluating component down-selects based on refined Military Characteristics, NNSA and DoW requirements, resources, and timelines. FY 2024 feasibility assessments informed the W93 system architecture and DoW development activities associated with the Mk7 reentry body. In FY 2025, major subsystem designs and components were selected further refining the system architecture, and costing activities commenced with the program's entrance into Phase 2A. FY 2026 will begin production of some lower-level components and will baseline the program's cost and schedule leading to formal entry into Phase 3 at the start of FY 2027. The W93 and Mk7 teams are collaborating with the United Kingdom in a parallel design, development, and production of the A21/Mk7.

Future Programs
NNSA continues work scope evaluation and requests funding to support these new programs starting in FY 2027. These programs are being evaluated in conjunction with the DoW as part of special studies including authorized Phase 1 activities. This nuclear deterrence scope is expected to be authorized as Phase X or Phase 6.X programs in FY 2027. Future programs include long-lead production and qualification activities associated with rapid capabilities developed as part of the Nuclear Deterrent Rapid Capabilities Team (ND RCT). Future Programs will be evaluating critical path scope to support DoW requirements and establish accurate cost projections. The concept of requirements post FY 2027 have not yet been locked down. FY 2027 requirements are established. After FY 2027 there is not enough clarity to make an informed request. As those requirements are developed, out year funding requests for FY 2028 and beyond will be established.

Highlights of the FY 2027 Budget Request

B61-13
- Continue Ultimate User (UU) builds at Pantex.
- Continue weapon deliveries to the DoW.
- Complete planned Retrofit Evaluation Systems Tests (REST).

W80-4 LEP
- Receive Phase 6.5 authorization.
- Achieve warhead FPU.
- Complete Final Development Review and Acceptance Group (FDRAAG).
- Begin First Generation Training (FGT) events.
- Begin REST surveillance activities.

W80-5 Modification Program

- Continue executing Phase 6.3 activities.
- Release the BCR.

W87-1 Modification Program

- Continue component Final design reviews (FDRs).
- Conduct joint testing with USAF and Mk21A programs.
- Continue Phase 6.3 and advance design maturity and manufacturing readiness levels.
- Continue coordination and participation with USAF to Preliminary Design Review and Acceptance Group (PDRAAG).

W93 Program

- Commence Phase 3.
- Conduct Component Conceptual Design Reviews (CDR) and the Conceptual Design Gates.
- Continue experimental test campaigns: hydrodynamic, ground, NNSA and Navy flight tests.

Future Programs

- Establish Federal Program Offices for new programs.
- Begin Phase 2/6.2 activities.

Explanation of Change

Stockpile Modernization (+$247.601 million)

The increase in funding is driven primarily by the additional development and production activities across the stockpile modernization portfolio as most of the programs are successfully advancing through Phase 3/6.3 through to Phase 5/6.5. A portion of the increase is also associated with the start of new Phase 2/6.2 programs expected in FY 2027 for future concept programs.

- **B61-12 LEP (-$16.000 million):** The decrease represents the transition to Stockpile Operations.
- **B61-13 (-$2.929 million):** The decrease represents a shift in funding needed for program close out in FY 2028. The FY 2027 request supports an accelerated program schedule to achieve early LPU and maintains DoW shipments.
- **W80-4 LEP (-$210.708 million):** The decrease represents the program's use of carry over dollars and the scheduled transition to FPU, while still supporting full rate production schedule, and supports all additional requirements in the FY 2025 Requirements and Planning Document (RPD).
- **W80-5 Modification Program (-$186.000 million):** The decrease reflects the availability of carryover of both discretionary and mandatory funding to cover FY 2027 requirements. Funding supports the program's ramp-up associated with Phase 6.3 activities, progress to Phase 6.4 in FY 2028, and supports Congressional schedule requirements for FY 2032 and FY 2034.
- **W87-1 Modification Program (+$264.135 million):** The increase represents a re-alignment with the USAF Mk21A Program in an alternative qualification strategy, an increase in the Weapon Development Cost Report (WDCR) due to additional scope including D-Test and hardware quantities, Pantex tooling, and other required testing activities to support a planned FY 2033 FPU.
- **W93 Program (+$299.309 million):** The Increase represents the program's plan to ramp-up for Phase 3 activities and additional ramp to support a planned FPU in FY 2035.
- **Future Programs (+$99.794 million):** The Increase represents the start of one new Phase 6.X program, currently known as Phase 1 Nuclear Deterrent System-Air-delivered (NDS-A), as well as supporting production assessments for two new Rapid Capability Team (RCT) projects.

Overview

The Stockpile Operations program directly executes maintenance, limited life component exchanges (LLCE), minor alterations, surveillance, assessment, surety studies and capability development, and management activities for all enduring weapons systems in the stockpile. The program includes the B61, W76, W78, W80, B83, W87, W88, and Multi-Weapon Systems (MWS). As required by 10 U.S.C. § 6117, safety, reliability, performance, and effectiveness assessments are performed to determine whether the systems can continue to be certified without the need for an underground nuclear explosive testing.

B61 Stockpile Systems
The B61 gravity bombs are aircraft-delivered and deployed by the Air Force. The B61 gravity bomb family includes two modifications, B61-11 and the B61-12. Stockpile Operations will begin (non-REST) surveillance of the B61-13 in FY27. The B61 program directly executes weapon maintenance, limited life component exchanges, minor alterations, surveillance, assessment, capability development and management activities for B61 gravity bombs.

W76 Stockpile Systems
The W76-0/1/2 are integrated into the Trident II D5 Strategic Weapon System as part of the Submarine-Launched Ballistic Missile (SLBM) force. The W76 family includes three modifications, the W76-0/Mk4, W76-1/Mk4A, and W76-2/Mk4A. This program directly executes weapon maintenance, limited life component exchanges, minor alterations, surveillance, assessment, capability development and management activities for the W76 warheads.

W78 Stockpile Systems
The W78/Mk12A re-entry vehicle is deployed on the Minuteman III (MMIII) Intercontinental Ballistic Missile (ICBM). This program directly executes weapon maintenance, limited life component exchanges, minor alterations, surveillance, assessment, capability development and management activities for the W78 warheads. This weapon will be replaced by the W87-1.

W80 Stockpile Systems
The W80-1 warhead is used in the Air Launched Cruise Missile (ALCM) deployed by the USAF. This program executes weapon maintenance activities, limited life component exchanges, minor alterations, surveillance, assessment, capability development and management activities for the sustainment of the W80-1. The program supports W80-4 and W80-5 activities and is preparing for the W80-4 transition to W80 Stockpile Systems in FY 2030.

B83 Stockpile Systems
The B83 is an aircraft-delivered, strategic gravity bomb deployed by the USAF. This program directly executes weapon maintenance, surveillance, assessment, capability development and management activities until all B83 gravity bombs are retired and dismantled, pursuant to Presidential guidance.

W87-0 Stockpile Systems
The W87-0/Mk21 re-entry vehicle is deployed on the Minuteman III ICBM and will be deployed on the Sentinel ICBM. This program directly executes weapon maintenance, limited life component exchanges, minor alterations, surveillance, assessment, capability development and management activities for the W87-0 warheads. It also supports development and qualification activities for Sentinel integration.

W88 Stockpile Systems
The W88 is integrated into the Trident II D5 strategic weapon system as part of the SLBM force. This program directly executes weapon maintenance, limited life component exchanges, minor alterations, surveillance, assessment, capability development and management activities for the W88 warheads.

Multi-Weapon Systems
Multi-Weapon Systems (MWS) is a multi-weapon, multi-site product-based program that enhances the integration and efficiency of the NSE. The activities within MWS are cross-cutting among sites and/or weapons or cannot be funded by specific weapons programs due to classification restrictions. This program provides multi-weapon products to the NSE supporting surveillance, reliability, maintenance, product realization, digital engineering, nuclear explosive safety, military liaison, integrated surety architecture, and use control for both the current and modernized stockpile.

Major activities within each Stockpile Operations area

(1) Weapon Maintenance: Includes production of LLCs including gas transfer systems (GTS), neutron generators (NG), and other designated limited-life components as required by guidance and directive schedules, day-to-day stockpile maintenance and repair activities, production, and delivery of components for each weapon type, refurbishment, and replacement of aging components to sustain stockpile life and rebuilds.

(2) Weapon Surveillance: Includes Joint Test Assembly (JTA) flight test vehicle and ground testbed builds, new material laboratory and flight tests, retrofit evaluation system laboratory and flight tests, stockpile laboratory tests, stockpile flight tests, quality evaluations, special testing, and component and material evaluation to support assessment of the safety, security, and effectiveness of the nuclear weapons stockpile. Data from these tests contribute to the Annual Assessment Reports and the Report on Stockpile Assessments to the President.

(3) Weapon Assessment: Includes activities associated with management of fielded weapon systems. Provides systems and component engineering support, support to planning, resolution, and documentation of Stockpile Finding Investigations (SFIs) to include assessment of root cause, extent of condition, and impact to system effectiveness or safety. Also includes activities associated with planning, developing, and updating the technical basis for the materials, components, and weapons and performing the weapon assessments. Finally, this includes activities associated with preparation, writing, and coordination of Annual Assessment Reports (AARs) and Weapon Reliability Reports (WRRs), as well as activities needed to assess and resolve system-specific weapon response issues and to provide support to the Nuclear Explosive Safety Study Groups (NESSGs) and the Nuclear Weapon System Surety Groups (NWSSGs) as required. Within MWS, activities in this area include use control studies and assessment, as well as surety capability design, development, qualification, production, and integration for the legacy and modern stockpile.

(4) Development Studies/Capability Improvements: Includes activities associated with improvements in surveillance capabilities, technical basis improvements in support of weapon service life extensions, weapon specific technology maturation for insertion or replacement, JTA development/refresh, and system/surety studies.

(5) Weapon Program Planning/Support: Includes activities associated with management of fielded weapon systems. Provides systems and component engineering support for planning, issue resolution, and documentation. Within MWS, included are those activities needed to operate, maintain, and

develop products, tools, and applications supporting enterprise product realization through an integrated digital environment and activities associated with external production liaison missions, weapon response, nuclear explosive safety, and technical basis.

(6) Digital Engineering (MWS only): Development of a digital, seamless, and secure workflow for optimal design, qualification, and certification of weapon systems, including a virtual representation of physical items (simulations, experiments, etc.) with a full health profile of data and analysis products tied to the performance of that item.

Current U.S. nuclear weapons and associated delivery systems

Warheads—Strategic Ballistic Missile Platforms					
Type[1]	***Description***	***Carrier***	***Laboratories***	***Mission***	***Military***
W78	Reentry vehicle warhead	Minuteman III Intercontinental Ballistic Missile	LANL/SNL	Surface to surface	Air Force
W87-0	Reentry vehicle warhead	Minuteman III Intercontinental Ballistic Missile	LLNL/SNL	Surface to surface	Air Force
W76-0/1/2	Reentry body warhead	Trident II D5 Strategic Weapon System (Submarine Launched Ballistic Missile)	LANL/SNL	Underwater to surface	Navy
W88	Reentry body warhead	Trident II D5 Strategic Weapon System (Submarine Launched Ballistic Missile)	LANL/SNL	Underwater to surface	Navy
Bombs—Aircraft Platforms					
Type[1]	***Description***	***Carrier***	***Laboratories***	***Mission***	***Military***
B61-11	Strategic bomb	B-2 bomber	LANL/SNL	Air to surface	Air Force
B61-12	Strategic & Non-strategic bomb	F-15, F-16, F-35A, B-2 bomber, certified NATO aircraft	LANL/SNL	Air to surface	Air Force/ Select NATO forces
B61-13	Strategic bomb	B-2 bomber	LANL/SNL	Air to surface	Air Force
B83-1	Strategic bomb	B-2 bomber	LLNL/SNL	Air to surface	Air Force
Warheads—Cruise Missile Platforms					
Type[1]	***Description***	***Carrier***	***Laboratories***	***Mission***	***Military***
W80-1	Air-launched cruise missile strategic weapon	B-52 bomber	LLNL/SNL	Air to surface	Air Force

LANL = Los Alamos National Laboratory
LLNL = Lawrence Livermore National Laboratory
NATO = North Atlantic Treaty Organization
SNL = Sandia National Laboratories

[1] The suffix associated with each warhead or bomb type (e.g., "-0/1" for the W76) represents the multiple modifications associated with the respective weapon.

Highlights of the FY 2027 Budget Request

Stockpile Operations – NNSA plans to continue to execute this as a single portfolio with visibility into lower-level program elements.

- Complete development, qualification, production, and delivery of all scheduled LLCs for the enduring systems. LLCs include gas transfer systems, neutron generators, and alteration kits delivered to sustain the nuclear weapons stockpile.
- Conduct surveillance program activities for all weapon systems using data collection from flight tests, laboratory tests, and component evaluations to assess stockpile reliability, performance, and safety.
- Conduct Annual Assessment activities for all weapon systems including the in-depth testing and analysis of systems, subsystems, and components.
- Analyze, evaluate, and close high priority SFIs in accordance with the currently approved plans.
- Analyze and execute legacy component builds on legacy equipment for life of program needs.
- Develop and deploy digital engineering and digital product realization capabilities.
- Implement Nuclear Weapon Information Management risk management framework.

B61

- Continue procurements and production of B61-12 GTS second cycle and Joint Test Assembly (JTA) components for transition activities.
- Execute the B61-12 insensitive high explosive qualification activities that support life of program requirements.
- Begin (non-REST) surveillance of B61-13.
- Execution of additional activities supporting the B61-12 stockpile service life extension.
- Conduct ALT 375 activities.
- Continue electronic assembly (EA2) production activities for B61-12 planned maintenance.
- Continue production of B61 Multi-Application Transportation Attachment Devise (MTAD) ISA components for planned maintenance cycles.

W76

- Produce GTS LLC for W76-1/2.
- Conduct development for the new W76-1 Joint Test Assembly-3 (JTA3) flight test body, a new design replacing the sunsetting instrumented W76-1 JTA1.
- Continued production readiness for ALT 939 ISA implementation on the W76-1/2 Mk4B.
- Receive Phase 6.6 authorization for full scale production of the W76-1/2 Mk4B program.
- Deliver W76-1/2 Mk4B units to the Navy to establish initial operational capability.
- Continue D5 life extension two (LE2) ground and flight test body development.

W78

- Conduct W78 repair activities.
- Maintain lifetime sustainment activities for the W78 program.
- Procure and produce additional JTA hardware, to support Minuteman III (MMIII) flight test extension.
- Produce LLC components for W78 stockpile sustainment.
- Conduct a weapon response refresh supporting nuclear explosive operations.

W80

- Commence W80-4 transition to stockpile activities.
- Continue W80-1 high explosive performance assessments and modeling verification.
- Execute abnormal thermal evaluation testing.
- Restart W80-1 ISA Enhanced Capability Shipping Configuration (ECSC).

B83

- Continue execution of electrostatic discharge (Phase IV) quantitative analysis for B83 weapon response.
- Execute B83 surveillance activities.

W87

- Execute W87-0 repairs and rebuild activities to meet USAF requirements.
- Develop and produce stockpile and JTA hardware, including firing set assemblies (FSA) and Canned Subassembly Simulator (CSASim) for the W87-0.
- Continue lifetime sustainment activities for the W87-0 program.
- Continue integration of W87-0 with the USAF Sentinel program and the Mk21 Fuze.
- Produce W87-0 ground test hardware to support Sentinel missile integration and qualification.

W88

- Produce GTS and NG for W88 ALT 370 to support stockpile operations.
- Continue 1E38 Detonator Lot 3811 production for the W88.
- Continue D5 life extension two (LE2) ground and flight test body development
- Conduct non-destructive evaluations of canned subassemblies (CSAs).
- Execute surveillance, assessment, and sustainment activities for the W88 ALT 370.
- Execute ALT 376 CSA conversion planning, development, and production readiness.

MWS

- Sustain current product realization digital tools foundational to all sustainment and modernization programs.
- Modernize digital engineering (DE) capabilities and associated engineering practices to deliver an integrated, NSE-wide digital engineering thread and associated engineering performance improvements.
- Manage ISA logistics hub operations for NNSA transportation in accordance with requirements and schedules.
- Sustain and recapitalize multi-system ISA components.
- Sustain and modernize multi-system code management systems.
- Provide base technical capabilities for evaluating stockpile returns for surveillance and annual assessment.
- Deliver weapon reliability reporting to the DoW.
- Sustain and modernize multi-system surveillance testers via the Surveillance Tester Sustainment Initiative.
- Complete engineering support to qualify a third centrifuge at the Weapons Evaluation Test Laboratory (WETL) Pantex.
- Provide engineering support for Tonopah Test Range radar recapitalization.
- Conduct multi-system use control system studies and assessments.
- Design, develop, qualify, and produce surety capabilities aligned with weapon schedules and enduring stockpile refresh opportunities.

- Manage weapon logistics and accountability, including sustaining and modernizing logistics and accountability digital tools.
- Characterize commercial off-the-shelf electronic components for inclusion in sustainment and modernization programs via the Electronic Parts Program.
- Provide multi-system weapon response and nuclear explosive safety analysis capabilities ensuring safe nuclear explosive operations.
- Provide multi-system Design Agency support resident at Production Agencies to quickly resolve sustainment and modernization challenges.

Explanation of Change

Stockpile Operations (+$165.090 million)
The information for each weapon system within Stockpile Operations is being provided for transparency. The overall increase represents expanded activities necessary to extend the service life of the current stockpile, developing and deploying improved digital engineering capabilities to accelerate product realization, developing a new code management system aligned with National Security Agency (NSA) requirements, and developing and sustaining improved surety capabilities.

- **B61 (+$22.216 million):** The increase represents execution of B61-12 stockpile lifetime extension activities, ALT 375, insensitive high-explosives (IHE) qualification activities, GTS cycle 2, JTA production, surety sustainment, as well as introduction of B61-13 surveillance execution within stockpile.
- **W76 (+$17.650 million):** The increase represents a growth in JTA3 development and production, production of Mk4B retrofit, increased LLC production, and ISA ALT 939 development and production. It also represents increased planning and provisioning activities to support directed weapon service life extension.
- **W78 (+$13.354 million):** The increase represents additional JTA production and associated component builds to support extended MMIII flight testing. It also represents additional aging and surveillance studies that support directed weapon service life extension.
  W80 (+$16.932 million): The increase represents restarting W80-1 ISA activities as well as additional activities supporting W80-4 transition to Stockpile Operations.
- **B83 (-$1.754 million):** The decrease represents the reduction in technical basis studies.
- **W87 (+$48.263 million):** The increase represents continued FSA production to meet USAF requirements, development of a JTA to support Sentinel surveillance, and Sentinel qualification. It also represents increased planning and provisioning activities to support directed weapon service life extension.
- **W88 (-$59.599 million):** The decrease represents receiving additional funding in FY 2026 to support the acceleration of W88 ALT 376 FPU as briefed to the NWC. FY 2027 is a carryover informed request, and the scope remains consistent year to year.
- **MWS (+$108.028 million):** The increase represents developing and deploying next generation Code Management System (CMS) aligned with NSA requirements, sustainment of ISA capabilities and associated Enhanced Capability Shipping Configuration (ECSC), increased surveillance capabilities and capacities aligned to weapon transitions to the stockpile, and accelerated deployment of digital engineering capabilities across the enterprise.

Stockpile Management
Weapons Dismantlement and Disposition

Overview

The Weapons Dismantlement and Disposition (WDD) program recovers critical components and materials for existing weapon sustainment programs, modernization programs, Naval Reactors, and other national priority missions, and improves nuclear security enterprise efficiency by removing excess materials and components from constrained classified and hazardous storage spaces. The program also manages the technical analysis necessary to safely store and securely dismantle nuclear weapons and components and maintaining the increasing legacy component disposition.

WDD is a critical element of NNSA's integrated effort to transform the enterprise and the stockpile. The Program focuses on the safe and secure dismantlement of excess nuclear weapons and components. Specific activities include weapons disassembly, recycling of material and hardware for stockpile programs, disposition of retired warhead system components, and ensuring components are available for safety testing. Other supporting activities, specific to retired warheads, include conducting hazard assessments, issuing safety analysis reports, conducting laboratory and production plant safety studies, and declassification plus sanitization of component parts.

The WDD program has four major activities:

(1) Disassembly – WDD enables the dismantlement of weapons and canned subassemblies and is a significant supplier of material for future nuclear weapons production and Naval Reactors.

(2) Component Disposition – WDD identifies material streams for permanent disposition of weapon components.

(3) Weapons Systems Management – WDD enables safety studies that ensure weapons awaiting dismantlement remain safe while in DoW custody.

(4) Component Characterization – WDD ensures that all potential hazards contained in weapon components are characterized to allow the weapons complex to safely work with individual weapon components.

Highlights of the FY 2027 Budget Request

- Execute a weapon dismantlement program consistent with the priorities established in the NNSA Production and Planning Directive.
- Provide enriched uranium, lithium, and components to stockpile programs and external customers.
- Execute legacy component disposition which improves overall efficiency by removing excess materials and components from constrained storage areas across the complex.
- Complete Known State Last Dismantlement Unit (LDU).

Explanation of Change

Weapons Dismantlement and Disposition (+$8.393 million)
The increase represents acceleration of legacy component disposition, freeing urgently needed staging capacity across the enterprise while also reducing risks from legacy hardware storage.

Stockpile Management
Production Operations

Overview

Productions Operations (PO) is a multi-weapon system manufacturing-based program that drives individual Site production capabilities and capacity for Stockpile Operations and Modernization programs, including limited life component production and weapon assembly and disassembly operations. PO scope covers sustainment of labor required for weapon systems capabilities that enable individual weapon production and are not specific to one material stream. PO also provides production equipment maintenance and calibration services for manufacturing operations to meet DoW War Reserve requirements. Facility major modernization and construction activities are not part of this budget subprogram and are covered in other parts of the Weapons Activities account.

PO provides a multifaceted and skilled labor force with focus areas in engineering, manufacturing labor, quality assurance, and programmatic equipment maintenance support for the manufacturing base that enables the individual site capability and capacity to sustain NNSA's production mission. The Program also refreshes and replaces production capabilities and supports programmatic equipment maintenance to improve efficiency and ensure manufacturing operations meet future DoW requirements. PO requires close coordination with several NNSA Offices to ensure the correct capabilities are in place on time to support stockpile demands.

- Base Manufacturing: Provides the foundational, cross-cutting manufacturing capabilities (e.g., programmatic equipment maintenance, supply chain logistics, manufacturing management systems) and capacity for modernization and enduring stockpile production, weapon assembly, and weapon disassembly required to meet NNSA schedules and meet DoW delivery schedules.
- Neutron Generator Assemblies: Supports the development, qualification, and production of Neutron Generator Assemblies (NGA) shippable items and shelf-life units.
- Nuclear Reference Material Program: In FY 2026, the New Brunswick Laboratory (NBL) has been renamed to Nuclear Reference Material Program (NRMP). NRMP is dedicated to supporting the nation's national security, international safeguards, and nonproliferation programs while supporting industry and research organizations. This is accomplished by producing nuclear reference materials (RMs) and conducting measurement proficiency testing (PTs). NRMP provides uranium, plutonium, thorium, and other materials to support production quality, material control and accountability, criticality safety, nuclear forensics analysis, environmental and bioassay, and fundamental research. RMs and PTs are the core mission of the program.

Production Operations major activities include the following:

- **Engineering & Integration** – Activities associated with the process and documentation for the development and production of components.
- **Equipment and Project Support** – Activities associated with equipment procurements and project support.
- **Manufacturing Capability Sustainment** – Activities associated with the comprehensive management and operational support required to enable and sustain production floor processes, including quality control, manufacturing operations, and the planning and control of manufacturing systems.
- **Modeling & Analysis** – Activities associated with site production health data collection and sustainment, and commodity/capacity analysis to support Defense Programs demand excursions (e.g. COAs).

- **Nuclear Reference Material Program (NRMP)** – Activities that support the storage, packing, shipping, and routine maintenance of Certified Reference Materials.
- **Programmatic Equipment Maintenance** – Activities associated with metrology, calibrations, and maintenance of programmatic tools and equipment.
- **Program Management** – Activities required to support, manage, control, and report on the overall program.
- **Supplier, Shipping, and Material Management** – Activities associated with the support for vendors, packaging, stores, shipping, and site logistics.

Highlights of the FY 2027 Budget Request

- Sustain and execute critical programmatic equipment maintenance activities and critical spare parts procurements.
- Complete final unit testing/qualification for the Savannah River Site's new mass spectrometer.
- Provide critical support labor to ensure multiple product lines within the Detonator Production Enterprise for the weapon systems and associated alteration programs.
- Provide critical labor, tools, and equipment for the neutron generator enterprise to ensure yearly average production of approximately 950 units.
- Continue supporting Occupancy Design and Occupancy projects in B23 as part of KCSTEP.
- Continue Rolling Mill corrective maintenance activities to improve functionality and reliability while buying down risk of this single point of failure capability.
- Enable capabilities for Special Material Facility (SMF) operations and equipment transition.
- Execute and process waste inventory backlog generated by multiple weapon programs.
- Sustain lithium and uranium component manufacturing operations.
- Sustain and execute enterprise-wide production capability modeling and analysis.

Explanation of Change

Production Operations (+$126.343 million)
The increase represents the expanded requirements critical to sustaining cross-cutting capabilities needed to ensure operational readiness. With Modernization Programs transitioning to Stockpile Operations, the increase is needed to support the expanding stockpile requirements for equipment service contracts, procurement of critical spare parts, tooling, and equipment that reduces risk of increasing equipment failures and production downtime. Furthermore, expanded Enterprise capability and capacity modeling is necessary to understand and forecast the demand signal on NNSA's production enterprise. This will enable NNSA to make informed decisions in preparation for the increase of Stockpile Modernization requirements.

Overview

The Nuclear Enterprise Assurance (NEA) Program proactively safeguards the integrity and reliability of the nation's U.S. nuclear deterrent against sophisticated adversarial subversion. The Program assembles and deploys specialized counter-subversion expertise across the NSE, with the explicit objective of ensuring that nuclear weapons, their critical NW-enabling capabilities (such as testers, production equipment, and operational technologies), and foundational crosscutting functions and programs (including infrastructure, physical security, and information technologies) are demonstrably free from adversarial subversion. NEA collaborates with Counterintelligence and Intelligence officials to understand and anticipate evolving threats. NEA also learns from organizations responsible for developing lawful offensive capabilities how to deprive an adversary's basic needs (e.g., information, access, technical ability, detection evasion) to deliver a successful subversion.

NEA develops and institutionalizes a preventative assurance mindset among NNSA's federal program managers and technical staff. The NEA Program uses National Institute for Standards and Technology (NIST) processes to define requirements for proactively integrating adversarial subversion risk management into the existing highly effective NSE engineering processes. This Systems Security Engineering (SSE) approach is specifically designed to preempt the existential threat posed by sophisticated nation-state adversaries who seek to infiltrate the supply chain and/or cyber technologies embedded within U.S. nuclear weapon systems. Such infiltration could lead to the denial of authorized use or the deliberate unauthorized use of nuclear weapons. The NEA Program directly addresses these critical risks by proactively guiding program managers to discover potential vulnerabilities, conduct thorough mission impact analyses, and develop the requisite tools, processes, and mitigation capabilities to detect and neutralize these highly complex threats before they can impact the U.S.

The NEA program is organized around four major activities:

(1) **Assurance Evaluations and Recommendations –** Cross-site, multi-disciplinary teams of subject matter experts from all NNSA sites who rapidly perform vulnerability risk assessments; develop and mature assurance methods; and provide recommended mitigations and implementation plans across NNSA programs. These activities also address non-program-specific NEA risks (e.g., supply chain integrity) through cross-cutting capabilities and process development.

(2) **Tools and Capabilities** – Cross-cutting and non-program-specific tools and capabilities that assist in vulnerability discovery, consequence analysis, and mitigation implementation.

(3) **Policy, Requirements, and Oversight** – Activities include developing and informing NNSA and DOE policies, orders, and directives to ensure integrated governance and compliance with federal law; coordination with DoW and other government partners; and establishing quantifiable metrics to assess the performance of NEA policies, requirements, and NSE execution.

(4) **Workforce Standards** – Creates standards and processes for NSE-wide NEA awareness, training, and skills development. Activities include integrating SSE into weapons development and associated design, production, and testing capabilities throughout the NSE.

Highlights of the FY 2027 Budget Request

- Conduct comprehensive subversion risk assessments across all weapon system lifecycles. This includes NNSA Phase 1 programs, rapid capabilities programs, all weapons undergoing modernization, and those in sustainment, ensuring continuous assurance from conception through retirement.
- Assess critical and mission-impacting enabling capabilities and crosscutting functions systemically. This expanded scope will target key infrastructure, physical security, and information technologies at all

NNSA laboratories, plants, and sites, ensuring they are demonstrably free from adversarial subversion risks.

- Apply an SSE approach to existing engineering processes that will address current and evolving adversarial threats and risks to nuclear weapons while enabling responsible adoption of leading-edge technologies.

Explanation of Change

Nuclear Enterprise Assurance (+$3.822 million)
The increase represents continuation of NEA Program transitioning from foundational development to its next phase of comprehensive operational implementation. Funding directly supports the expansion of counter-subversion efforts to provide enterprise-wide coverage. This increase is a strategic scaling intended to institutionalize proactive subversion risk management across the entire NSE, ensuring the safety, security, and reliability of the nation's deterrent as mandated by recent legislation.

Stockpile Management
Capital Equipment Summary ($K)

	Total	Prior Years	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Capital Equipment (> $500K)					
Total Non-MIE Capital Equipment (TEC <$10M)	N/A	N/A	47,535	48,486	49,455
Automated Reservoir Management System (ARMS) 3, SRS	46,600	-	-	-	8,600
9201-5N Dye Pent/Ultrasonic Tanks, Y-12	18,000	-	18,000	-	-
Component Canning Box, Y-12	15,000	-	-	-	15,000
DSW 9204-2E Mill, Y-12	10,000	-	-	10,000	-
DSW 9215 EU Jig Borer, Y-12	13,500	-	2,000	-	11,500
Total, Capital Equipment	**103,100**	**-**	**67,535**	**58,486**	**84,555**

Stockpile Management
Outyear Capital Equipment Summary ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request	Outyears
Capital Equipment (> $500K)					
Total Non-MIE Capital Equipment (TEC <$10M)	50,445	51,453	52,482	53,532	N/A
Automated Reservoir Management System (ARMS) 3, SRS	38,000	-	-	-	-
9201-5N Dye Pent/Ultrasonic Tanks, Y-12	-	-	-	-	-
Component Canning Box, Y-12	-	-	-	-	-
DSW 9204-2E Mill, Y-12	-	-	-	-	-
DSW 9215 EU Jig Borer, Y-12	-	-	-	-	-
Total, Capital Equipment	**88,445**	**51,453**	**52,482**	**53,532**	**-**

Production Modernization

Overview

The Production Modernization program is responsible for modernizing the facilities, infrastructure, and equipment that produce materials and components to meet stockpile requirements and maintain the Nation's nuclear deterrent. The program encompasses six major subprograms that sustain and modernize the base production capabilities for the Nation's nuclear weapons stockpile.

Primary Capability Modernization
The Primary Capability Modernization program manages primary-stage material processing and component production capabilities in the National Nuclear Security Administration's (NNSA) Nuclear Security Enterprise (NSE). The program includes (1) Plutonium Modernization and (2) High Explosives and Energetics (HE&E) Modernization.

Secondary Capability Modernization
The Secondary Capability Modernization program includes the strategic materials, production capabilities, facilities, and material processing operations required to produce nuclear weapon secondary stages. The program includes (1) Enriched Uranium Modernization, (2) Depleted Uranium Modernization, (3) Lithium Modernization, (4) Advanced Materials and Capabilities Modernization, and (5) Mission Delivery Modernization.

Tritium and Defense Fuels Program
The Tritium and Defense Fuels (DF) program consists of two parts: (1) Tritium Modernization produces, recovers, and recycles tritium to support national security requirements and (2) DF will reestablish a reliable supply of unobligated enriched uranium to support future U.S. national security needs, including tritium production and nuclear naval propulsion requirements.

Non-Nuclear Capability Modernization
The Non-Nuclear Capability Modernization (NNCM) program modernizes the capabilities needed for the design, qualification, production, and surveillance of non-nuclear components for all weapon systems. NNCM activities include modernizing existing equipment and infrastructure, developing new capabilities, providing additional capacity, and implementing strategies to increase efficiency.

Capability Based Investments
The Capability Based Investments (CBI) program executes projects for equipment, tools, supporting facilities, and infrastructure directly related to enduring, multi-program weapon activity capabilities, mission deliverables, and reduction of programmatic risks across the NSE.

Warhead Assembly Modernization
The Warhead Assembly Modernization (WAM) program modernizes and optimizes the capabilities needed to execute warhead assembly/disassembly operations for weapons modernization, surveillance, and dismantlement programs.

Line-Item Construction

Production Modernization line-item construction projects are critical to revitalizing the program-specific capabilities that directly support the nuclear weapons programs. These projects ensure the strategic material industrial base necessary for stockpile modernization is constructed for the NSE and will provide the base materials for component production. These projects will also replace obsolete, unreliable facilities and infrastructure to reduce safety and program risk while improving responsiveness, capacity, and capabilities necessary to support the U.S. nuclear deterrent.

Production Modernization[1]
Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	WFTCA Funding	FY 2027 Request	FY 2027 Request vs. FY 2026 Enacted[2]	
					$	%
Los Alamos Pit Production	984,611	833,263	-	1,460,791	+627,528	+75%
21-D-512 Plutonium Pit Production Project, LANL	470,000	457,900	-	812,100	+354,200	+77%
15-D-302 TA-55 Reinvestments Project Phase 3, LANL	39,475	7,942	-	-	-7,942	-100%
07-D-220-04 Transuranic Liquid Waste Facility, LANL	-	5,865	-	10,000	+4,135	+71%
04-D-125 Chemistry and Metallurgy Research Replacement Project, LANL	-	-	-	110,000	+110,000	N/A
Total, Los Alamos Plutonium Modernization	1,494,086	1,304,970	-	2,392,891	+1,087,921	+83%
Savannah River Pit Production	75,332	75,486	-	302,000	+226,514	+300%
21-D-511 Savannah River Plutonium Processing Facility, SRS	800,000	1,130,000	728,000	1,946,523	+816,523	+72%
Total, Savannah River Plutonium Modernization	875,332	1,205,486	728,000	2,248,523	+1,043,037	+86.5%
Enterprise Pit Production Support	121,964	122,094	-	270,897	+148,803	+122%
Total, Plutonium Modernization	2,491,382	2,632,550	728,000	4,912,311	+2,279,761	+87%
High Explosives & Energetics	131,675	132,023	22,000	251,765	+119,742	+91%
21-D-510 HE Synthesis Formulation and Production, PX	-	-	350,000	-	-	-
15-D-301 HE Science & Engineering Facility, PX	15,000	-	-	-	-	-
Total, High Explosives & Energetics	146,675	132,023	372,000	251,765	+119,742	+91%
Total, Primary Capability Modernization	**2,638,057**	**2,764,573**	**1,100,000**	**5,164,076**	**+2,399,503**	**+87%**

[1] P.L. 119-21 (Working Families Tax Cut Act, or WFTCA) provided $3.885 billion in funding to DOE/NNSA, of which $2.507 billion is for Production Modernization programs and projects.
[2] Deltas reflect discretionary funding only.

	FY 2025 Enacted	FY 2026 Enacted	WFTCA Funding	FY 2027 Request	FY 2027 Request vs. FY 2026 Enacted[1]	
					$	%
Secondary Capability Modernization	770,353	649,686	-	1,728,546	+1,078,860	+166%
18-D-690 Lithium Processing Facility, Y-12	210,000	270,000	500,000	-	-270,000	-100%
06-D-141 Uranium Processing Facility, Y-12	800,000	730,000	250,000	290,000	-440,000	-60%
Total, Secondary Capability Modernization	**1,780,353**	**1,649,686**	**750,000**	**2,018,546**	**+368,860**	**+22%**
Tritium and Defense Fuels Program	581,738	520,034	120,000	880,781	+360,747	+69%
18-D-650 Tritium Finishing Facility, SRS	-	-	437,000	-	-	-
Total, Tritium and Defense Fuels Program	**581,738**	**520,034**	**557,000**	**880,781**	**+360,747**	**+69%**
Non-Nuclear Capability Modernization	141,300	190,588	-	258,008	+67,420	+35%
26-D-511 MESA Photolithography Capability (MPC), SNL	-	-	-	51,000	+51,000	N/A
22-D-513 Power Sources Capability, SNL	50,000	5,000	100,000	140,000	+135,000	+2700%
Total, Non-Nuclear Capability Modernization	**191,300**	**195,588**	**100,000**	**449,008**	**+253,420**	**+130%**
Capability Based Investments	**153,244**	**162,996**	**-**	**203,163**	**+40,167**	**+25%**
Warhead Assembly Modernization	34,000	34,336	-	47,965	+13,629	+40%
18-D-680 Material Staging Capability, PX	-	-	-	22,500	+22,500	N/A
Total, Warhead Assembly Modernization	**34,000**	**34,336**	**-**	**70,465**	**+36,129**	**+105%**
Total, Production Modernization	**5,378,692**	**5,327,213**	**2,507,000**	**8,786,039**	**+3,458,826**	**+65%**

Production Modernization
Outyears Funding ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
Los Alamos Pit Production	1,480,867	1,735,648	1,747,038	1,784,019
21-D-512 Plutonium Pit Production Project, LANL	688,500	509,955	520,664	531,078
15-D-302 TA-55 Reinvestments Project Phase 3, LANL	-	-	-	-
07-D-220-04 Transuranic Liquid Waste Facility, LANL	-	-	-	-
04-D-125 Chemistry and Metallurgy Research Replacement Project, LANL	112,200	76,100	-	-
Total, Los Alamos Plutonium Modernization	2,281,567	2,321,703	2,267,702	2,315,097
Savannah River Pit Production	173,400	176,868	180,405	184,013
21-D-511 Savannah River Plutonium Processing Facility, SRS	2,274,600	2,320,092	2,366,494	2,413,824
Total, Savannah River Plutonium Modernization	2,448,000	2,496,960	2,546,899	2,597,837
Enterprise Pit Production Support.	277,352	282,899	288,557	294,328
Total, Plutonium Modernization	5,006,919	5,101,562	5,103,158	5,207,262
High Explosives & Energetics	198,852	192,073	221,816	232,809
21-D-510 HE Synthesis Formulation and Production, PX	-	85,500	21,207	12,500
15-D-301 HE Science & Engineering Facility, PX	-	-	-	-
Total, High Explosives & Energetics	198,852	277,573	243,023	245,309
Total, Primary Capability Modernization	**5,205,771**	**5,379,135**	**5,346,181**	**5,452,571**
Secondary Capability Modernization	1,848,141	1,812,626	1,777,319	1,798,803
18-D-690 Lithium Processing Facility, Y-12	-	112,080	212,242	216,487
06-D-141 Uranium Processing Facility, Y-12	486,000	290,000	117,000	-
Total, Secondary Capability Modernization	**2,334,141**	**2,214,706**	**2,106,561**	**2,015,290**
Tritium and Defense Fuels Program	910,136	966,755	1,236,249	1,394,173
18-D-650 Tritium Finishing Facility, SRS	-	-	118,200	208,487
Total, Tritium and Defense Fuels Program	**910,136**	**966,755**	**1,354,449**	**1,602,660**
Non-Nuclear Capability Modernization	258,068	274,664	288,601	297,977
26-D-511 MESA Photolithography Capability (MPC), SNL	52,020	53,060	111,980	72,840
22-D-513 Power Sources Capability, SNL	23,713	-	-	-
Total, Non-Nuclear Capability Modernization	**333,801**	**327,724**	**400,581**	**370,817**
Capability Based Investments	**207,226**	**211,371**	**270,505**	**298,441**
Warhead Assembly Modernization	48,824	49,701	85,322	102,812
18-D-680 Material Staging Capability, PX	-	-	-	-
Total, Warhead Assembly Modernization	**48,824**	**49,701**	**85,322**	**102,812**
Total, Production Modernization	**9,039,899**	**9,149,392**	**9,563,599**	**9,842,591**

Production Modernization
Primary Capability Modernization

Overview

The Plutonium Modernization program provides funding for efforts across the NSE to restore the Nation's capability to produce 80 pits per year (ppy). NNSA will provide additional details regarding Plutonium Modernization activities to Congressional staff through quarterly pit production briefings, in line with the Joint Explanatory Statement accompanying the Fiscal Year (FY) 2020 Energy and Water Development and Related Agencies Appropriations Act. NNSA remains committed to achieving the pit production capability goals on the path to 80 ppy, including the capability to produce not less than 30 ppy at Los Alamos National Laboratory (LANL), while also building on this strategy to pursue to the goal of producing 100 pits of diverse types using streamlined production processes by the end of 2028.

Plutonium Modernization activities include the following:

Los Alamos Plutonium Modernization: Activities include Los Alamos Pit Production, which provides for the operational expenses needed to meet pit production requirements at LANL, including activities to hire, train, qualify, and retain required pit production personnel; recapitalization of equipment for war reserve (WR) pit production; pit production process qualification and certification activities for new equipment being installed; plutonium material supply chain activities; tooling design and fabrication; and Plutonium Modernization's share of operational expenses for PF-4. This funding also supports the manufacturing of precision plutonium devices for science-related evaluation. Los Alamos Pit Production also funds key enabling activities and safety management programs in PF-4, including a radiological control program, programmatic equipment maintenance, a criticality safety program, shipping and receiving, authorization basis, work control documentation, training and qualification, legacy disposition, waste management, material, recycle, recovery and storage support to plutonium supply chain activities, and facility availability to maintain plutonium capabilities. In addition, the FY 2027 request for Los Alamos Pit Production funds the transition of the Advanced Recovery and Integrated Extraction System (ARIES) capability from Defense Nuclear Nonproliferation to support pit production.

Los Alamos Plutonium Modernization also includes four line-item projects at LANL. The Los Alamos Plutonium Pit Production Project (LAP4), 21-D-512, funds capital acquisitions required to increase production capacity at PF-4 to 30 ppy, as well as associated infrastructure investments at LANL to support increased rates of pit production. Funds for the TA-55 Reinvestment Project, Phase 3, 15-D-302, pay for construction activities to modernize fire alarm panels providing a vital safety function in PF-4. Funding for the Transuranic Liquid Waste Facility (TLW), 07-D-220-04, project supports finalizing the construction of a new hazard category 3 nuclear facility to house processing equipment capable of treating transuranic (TRU) liquid waste, a TRU liquid influent storage, and necessary utilities. Funds for the Chemistry and Metallurgy Research Replacement Project, 04-D-125, pay for construction activities to improve TA-55 and PF-4 personnel and vehicular ingress/egress, levels of worker preparation/staging and warehousing for relocated Analytical Chemistry and Materials Characterization (AC/MC) operations and personnel, and procurement and installation of equipment.

Savannah River Plutonium Modernization: Supports the continued establishment of a program office at Savannah River Site (SRS) to enable pit production development efforts, train and hire future production staff, and support future production and operations planning. Program plans and processes will continue to be developed and matured across 13 functional areas to support production competency. Until the High-Fidelity Training and Operations Center (HFTOC) training center is fully operational, SRS will use existing facilities at SRS, LANL, and Lawrence Livermore National Laboratory (LLNL) to conduct and support training activities

and leverage SRS capabilities to enable LANL's near-term acceleration of pit production. This includes the addition of scope from the former Surplus Disposition Project (SPD) to aid in plutonium metal availability in both K Area Plutonium Metal Preparation, as well as a feasibility assessment on restart of HB-Line Aqueous Recovery. Workforce development activities will continue expanding engagement with LANL through the Knowledge Transfer program and with LANL and LLNL through the Mutual Support program, as well as expansion of university engagement to increase opportunities specific to workforce needs.

Additionally, the Savannah River Plutonium Processing Facility (SRPPF) project, 21-D-511, repurposes the partially completed Mixed Oxide Fuel Fabrication Facility (MFFF) to achieve a production capability of no fewer than 50 ppy consistent with the NNSA's recommended alternative for pit production.

Enterprise Pit Production Support: Provides funding for activities that support pit production across the NSE, including Kansas City National Security Campus (KCNSC) production for non-nuclear components, certification activities, issuance of a vendor contract to standup a new capability for production of special materials, management of the plutonium pit Product Realization Team (PRT) at LLNL, plutonium material supply chain activities at Pantex (PX), and material management and supporting staging activities at the Nevada National Security Site (NNSS).

Highlights of the FY 2027 Budget Request

- Support pit production capability modernization in accordance with Department of War (DoW) requirements.
- Pursue opportunities at LANL to accelerate production of 100 pits by 2028.
- Begin construction for K-Area Metal Production subproject of SRPPF, including initial modifications to repurposed SPD gloveboxes and facilities that will be used to support pit production.
- Install additional production equipment and recapitalize end-of-life equipment in PF-4 to reduce pit production mission risk.
- Perform certification work required to qualify new equipment for WR production.
- Begin development activities for a second pit type to support DoW requirements.
- Hire, train, and qualify staff to ramp up future pit production.
- Improve PF-4 vault facilities efficiency through inventory work-off and optimization of footprint to support the transition to plutonium production and improve Material at Risk (MAR) posture.
- Chemistry and Metallurgy Research (CMR) de-inventory activities in support of the CMR Facility Exit Strategy.
- Provide storage/staging and inventory management capabilities in support of the plutonium pit production mission.
- Execute Device Assembly Facility (DAF) Enhanced Staging Program to support increased pit production at LANL by providing staging support for materials currently located at LANL.
- Mature the SRS Plutonium Modernization Program, to include expanded knowledge transfer and training, that supports near-term acceleration of pit production at LANL.
- Invest in the SRS Manufacturing Technology Center (MTC) to support production competency and modern manufacturing development ahead of SRPPF project completion.
- Invest in the Weapons Support Building (WSB), formerly known as the Waste Solidification Building, to support operations, training, and competency development.
- Continue full-scale construction of Main Process Buildings, HFTOC, and Administrative Building Subprojects.

Explanation of Changes

Los Alamos Plutonium Modernization (+$1,087.921 million)

- **Los Alamos Pit Production (+$627.528 million):** Funding will support the increased pace of equipment purchases and installation activities and the hiring, training, qualification, and retention of additional staff needed to support the war reserve (WR) pit production ramp-up. Rate production will increase to 30 ppy as soon as FY 2028 in parallel with the completion of construction activities in PF-4. Funding is also included for initial development and certification activities for pits for the W93 program to support First Production Unit (FPU) in the 2030s; the transition of the ARIES capability in PF-4 from Defense Nuclear Nonproliferation to support pit production; and a pilot project for a containerized system to make plutonium metal.
- **21-D-512 Plutonium Pit Production Project, LANL (+$354.200 million):** Funds the project plans for baselined subprojects and pre-CD-2 project plan for the Training and Development Center.

15-D-302 TA-55 Reinvestments Project, Phase 3, LANL (-$7.942 million): Decreased funding consistent with the plan to complete construction funding in FY 2027 and prepare for CD-4.

07-D-220-04 Transuranic Liquid Waste Facility, LANL (+$4.135 million): Increased funding is necessary for final construction activities to achieve CD-4.

04-D-125 Chemistry and Metallurgy Research Replacement Project, LANL (+$110.000 million): Increase continues procurement and construction activities for various projects within the PEI2 subproject.

Savannah River Plutonium Modernization (+$1,043.037 million)

- **Savannah River Pit Production (+$226.514 million):** Funding provides resources necessary to sustain growth in staffing, training, and the continued development of manufacturing competencies, processes, and procedures necessary to build production competency, establish the pit production capability, and optimize the schedule from SRPPF CD-4 approval to full rate production to meet DoW requirements Funding also prioritizes use of SRS capabilities to enable LANL's near-term acceleration of pit production.
- **21-D-511 Savannah River Plutonium Processing Facility, SRS (+$816.523 million):** Increase supports full-scale construction for all three subprojects. Increase also supports all ongoing activities to transition SPD scope from Defense Nuclear Nonproliferation to establish a plutonium metal production capability in SRS's K-Area to supply feed material for SRPPF and LANL's PF4 . The delta does not account for the $728 million in mandatory funding provided by Working Families Tax Cut Act that will be obligated in FY 2026.

Enterprise Pit Production Support (+$148.803 million): Increase supports minor construction projects at the NNSS Device Assembly Facility; modernization of equipment at LLNL needed for continued support for pit production and certification; continued non-nuclear component production at the KCNSC, including issuance of a vendor contract to stand up a new capability for production of special materials; and plutonium material supply chain activities at Pantex.

Primary Capability Modernization
High Explosives and Energetics

Overview

The High Explosives and Energetics (HE&E) program is responsible for the production of high explosives (HE) and energetic materials required for an effective stockpile, including the main charge, boosters, detonators, actuators, timer/drivers, spin rockets, and the materials necessary to achieve nuclear weapon safety and security.

The HE&E modernization program will do the following:

- Manage the HE&E supply chain risk portfolio to ensure an internal nuclear security enterprise and external vendor base to maintain, manufacture, and deploy Mark Quality HE and energetics in support of weapons production.
- Define and monitor the qualification standards of HE and energetic material.
- Support the future development and production of novel HE and energetic material.
- Define and ensure infrastructure capital investment strategies meet both HE&E material and component requirements to sustain and modernize the stockpile.

Highlights of the FY 2027 Budget Request

- Procure energetic material to meet the production needs of the B61-12/13, W80-4/5, W87-1, and W93.
- Stabilize the supply chain and enable material/manufacturing maturation to meet the energetic material requirements of the current and future stockpile modernization programs.
- Develop an alternate vendor for the manufacturing of a drop-in replacement binder for FK-800 for future insensitive high explosive (IHE) production requirements.
- Refine manufacturing techniques for new HE and mock formulations.
- Develop Triaminotrinitrobenzene (TATB) synthesis and optimize capability at the Naval Surface Warfare Center, Indian Head Division.
- Reconstitute legacy production materials, such as titanium hydride and potassium perchlorate (THKP) and Recrystallized pentaerythritol tetranitrate (PETN).
- Procure first WR lots of polymer-bonded explosives (PBX) 9502 with new TATB.
- Initiate in-situ monitoring and process and environmental control upgrades at Holston to achieve more reliable production of both PBX 9502 and PBX 9501.
- Complete main works final acceptance and readiness verification activities for HE Science & Engineering (HESE) facility.
- Start construction activities for HESFP, including site preparation, funded by Working Families Tax Cut Act.

Explanation of Changes

High Explosives and Energetics (+$119.742 million)

- **High Explosives and Energetics (+$119.742 million):** Increase reflects synthesis facility construction completion at the Naval Surface Warfare Center - Indian Head Division and commencement of optimization activities, vendor qualification for a new FK-800 binder replacement, process maturation and development efforts for new molecules, and critical infrastructure investments. The delta does not account for the $22 million in mandatory funding that will be obligated in FY 2026.
- **21-D-510 HE Science Synthesis Formulation and Production, PX (+$0.000 million):** No change in discretionary resources reflects the obligation of $350 million in mandatory funding in FY 2026 that will cover construction activities through FY 2028.

Production Modernization
Secondary Capability Modernization

Overview

The Secondary Capability Modernization program maintains, reconstitutes, and upgrades capabilities and capacity to provide a robust, flexible, and responsive capability to produce the secondary stage of a nuclear weapon by:

- Assuring a continuous and reliable supply of nuclear weapon components and strategic materials.
- Undertaking construction and acquisition projects to house processes in facilities that can support forecasted requirements.
- Extending the life of existing facilities and equipment.
- Maturing and inserting new production technologies for better, safer, more efficient processes.
- Partnering with commercial industry to accelerate capability deployment and reduce production risk.

Enriched Uranium Modernization stewards the existing United States inventory of weapons grade enriched uranium for Defense Programs, Defense Nuclear Nonproliferation, Naval Reactors, and Mutual Defense Agreement missions. The Program accomplishes this through ensuring material availability through uranium processing, recycle, and recovery; modernizing production capabilities and infrastructure; and developing and deploying new, safer, and resilient production technologies.

Building 9212, an 80-year-old Manhattan Project era facility located at Y-12, contains the most hazardous enriched uranium operations and does not meet modern nuclear safety and security standards. The Enriched Uranium Modernization program is decreasing mission dependency on Building 9212 by transitioning capabilities into enduring Y-12 facilities and the Uranium Processing Facility (UPF). The program is leveraging opportunities to modernize equipment and processes during these capability relocations by deploying new technologies to reduce costs and improve manufacturing for nuclear weapon materials.

The program supplies the current stockpile with purified enriched uranium metal, while enabling the transition to new capabilities (e.g., Microwave Casting, Electrorefining, and Direct Chip Melt). It is also contracting with a commercial vendor to bridge an oxide-to-metal capability gap, reducing risk during a period of significant technology transition at Y-12 and increasing the resiliency and responsiveness of enriched uranium operations.

Depleted Uranium Modernization is reestablishing and modernizing lapsed capabilities so NNSA can produce radiation cases for imminent weapons delivery mission requirements. The Depleted Uranium Modernization program is re-establishing a reliable supply of feedstock material, High Purity Depleted Uranium (HPDU) metal, before the current inventory is exhausted. Simultaneously, the program is restarting and maintaining the equipment to produce Depleted Uranium (DU) -niobium alloy, commonly called binary, at Y-12, while also modernizing the manufacturing capabilities needed to produce radiation case components. The program is increasing both capacity and reliability for HPDU and binary production in existing aging facilities to meet mission deliverables. The program is also developing and deploying new production technologies that will improve work safety, increase material efficiencies, and establish a resilient radiation case production capability to meet future demands. The program is modernizing these capabilities and the associated infrastructure by developing the Agile Radiation Case Capability (ARCC) campus at Y-12.

Lithium Modernization is modernizing and operating NNSA's enriched lithium-6 processing capabilities to provide lithium weapons components for imminent mission requirements. Lithium Modernization re-capitalizes and operates chemical purification, metal production, and other lithium recycling processes to ensure

a reliable lithium material inventory able to meet annual material requirements without necessitating hazardous and expensive enrichment.

Lithium operations currently take place in Building 9204-2 (Beta-2) at Y-12, an aging facility that is Y-12's number one infrastructure risk. NNSA is executing a comprehensive strategy to reduce facility risk and relocate capabilities over the immediate-, medium-, and long-term. The program is implementing targeted infrastructure mitigations, accelerating technology maturation efforts to streamline the production process, leveraging partnerships with commercial industry, and pursuing more cost-effective approaches to construction. This strategy emphasizes a multi-pronged approach that is more responsive to cost and schedule conditions and provides more flexible options to meet mission requirements.

Advanced Materials and Capabilities Modernization is developing and deploying modern production capabilities for new component technologies that will be used in future weapons. NNSA has either discontinued the legacy processes used to produce certain components due to safety concerns or has not used the process for over 30 years. These legacy materials and processes will be replaced with new technologies and special materials that are less hazardous and more efficient than legacy capabilities.

Mission Delivery Modernization is modernizing Y-12 operations and facilities that affect multiple material programs including analytical chemistry operations in Building 9995 (known as the Plant Lab), General Manufacturing capability in Building 9201-1, a Manhattan Project-era facility, and the Assembly, Disassembly, Dismantlement, and Surveillance operations in Building 9204-2E. The program is also pursuing opportunities to reduce supply chain risk through the Critical Supplier Program, which leverages commercial vendor capabilities.

Highlights of the FY 2027 Budget Request

- Maintain castable inventory of enriched uranium; modernize production capabilities and infrastructure; and deploy new, safer, and resilient production technologies to phase out mission dependency on Y-12's Building 9212.
- Establish an enriched uranium oxide-to-metal conversion capability and begin operations at a commercial vendor to bridge a capability gap.
- Complete construction of the Uranium Processing Facility (UPF) Main Processing Building and the Salvage and Accountability Building, while exploring options to accelerate facility commissioning or demonstrate early casting.
- Support a long-term reliable HPDU supply chain to address the potential run out date in FY 2029.
- Modernize Depleted Uranium production using streamlined technology, such as Direct Cast, reducing the risks of equipment failure, decreasing material waste, and improving process efficiency.
- Produce and maintain sufficient lithium material supply, while maintaining operability of Y-12's Beta-2 facility.
- Advance the technology readiness levels necessary for safer, more-efficient lithium processing capabilities.
- Continue to mature Special Materials technologies and establish equipment and facilities required for production.
- Modernize the analytical chemistry, general manufacturing, and assembly and disassembly operations.
- Execute procurements and refine models and plans to modernize equipment and infrastructure in Y-12's Buildings 9204-2E and 9201-1.

Explanation of Changes

Secondary Capability Modernization (+$368.860 million)

- **Secondary Capability Modernization (+$1,078.860 million):** Increase reflects additional investment in mitigating continued risk areas at Y-12 to meet future mission demand and prevent near-term failures or bottlenecks in production. One major focus is reestablishing the HPDU supply chain required to support depleted uranium needs ahead of existing inventory exhaustion which requires a significant uplift in funding requirements. The program is also entering the production phase of its enriched uranium purification scope, and is establishing a radiography capability at Y-12 to prevent a known production bottleneck in the near future. This budget also reflects the evolving lithium strategy, which includes leveraging partnerships with commercial industry, and pursuing more cost-effective approaches to construction.
- **18-D-690 Lithium Processing Facility, Y-12 (-$270.000 million):** The decrease reflects discretionary funding only. Combined with $500 million in mandatory funding, the project will have sufficient funding on hand while developing a revised strategy to address enduring lithium processing capabilities through broader program investments, following significant cost and schedule growth in the LPF project.
- **06-D-141 Uranium Processing Facility, Y-12 (-$440.000 million):** The decrease reflects discretionary funding only. Combined with $250 million in mandatory funding that will be obligated in FY 2026, the project will have sufficient funding to maintain its schedule.

Production Modernization
Tritium and Defense Fuels Program

Overview

Tritium Sustainment and Modernization operates the national capability for producing tritium to meet stockpile requirements. The program irradiates tritium-producing burnable absorber rods (TPBARs) to produce new tritium while maintaining a flexible supply chain capability and capacity. NNSA produces tritium by irradiating TPBARs in two Tennessee Valley Authority (TVA) reactors during standard 18-month operating cycles. Produced tritium is extracted from the TPBARs at the Tritium Extraction Facility (TEF) at SRS. The tritium inventory supports limited-life component exchanges of tritium reservoirs deployed in the stockpile along with other Defense Programs needs. The program establishes tritium production schedules based on detailed computational models and annual tritium projections to maintain required tritium inventories, including reserve quantities. Production planning takes into consideration the material constantly being recovered and recycled from deployed reservoirs, including those from weapon dismantlement. The program also supports tritium science and technology initiatives to maintain a reliable tritium supply chain.

The Tritium Finishing Facility (TFF) project at the SRS will recapitalize tritium infrastructure that supports scheduled shipments of gas transfer systems to the Department of War (DoW).

The Defense Fuels (DF) Program is responsible for ensuring a reliable supply of unobligated enriched uranium for two defense mission requirements, low-enriched uranium (LEU) for tritium production and highly enriched uranium (HEU) for naval nuclear propulsion. Since 2013, the United States has lacked the capability to produce enriched uranium free of peaceful use obligations (i.e., unobligated). NNSA currently possesses sufficient unobligated LEU for tritium production until the early 2040s and sufficient unobligated HEU for naval nuclear propulsion into the 2050s. The DF Program must establish a new domestic uranium enrichment capability to provide new material beyond these need dates. The DF Program intends to meet these defense mission requirements by incrementally deploying enrichment capacity using two gas centrifuge technologies, including the industry-standard Domestic Uranium Enrichment Centrifuge Experiment (DUECE) being developed at Oak Ridge National Laboratory (ORNL), and the AC100 centrifuge.

Highlights of the FY 2027 Budget Request

- Maintain a purified tritium supply for national security needs.
- Maintain tritium supply chain capability and capacity including technology development and insertion.
- Continue irradiation of 1,824 TPBARs in Watts Bar Nuclear Reactor Unit 1 (WBN1) Cycle 21.
- Commence irradiation of up to 1,920 TPBARs in Watts Bar Nuclear Reactor Unit 2 Cycle 8.
- Execute additional component procurements and TPBAR assemblies to satisfy assured production requirements.
- Conduct at least six extractions at the TEF.
- Disposition helium-3 byproduct for U.S. Government needs.
- Refurbish or replace tritium processing equipment consistent with the preventative maintenance plan, i.e. process system sustainment plan.
- Execute research and development activities supporting TPBAR material science; tritium extraction, recycle and recovery; risk mitigation activities; and technology maturation and insertion efforts.
- Sustain tritium recovery and recycle capabilities in legacy facilities, replacing Thermal Cycling Absorption Process Product Bed C and restoring the Tritium Recycle and Recovery diffuser system.

- Continue mini-thermal cycling absorption process prototype development to demonstrate technology readiness through small-scale hot-testing in TEF in preparation for using the technology to improve product and waste gas processing at SRS.
- Continue progress to advance TFF facility design (executed by an architectural and engineering firm) while also beginning long lead procurements for the project, based on design maturity.
- Complete conceptual design, submit NRC license application, and advance manufacturing readiness to MRL 5 for the DUECE pilot plant.
- Complete design and licensing for the AC100 deployment and begin manufacturing activities to support a partial 24-machine cascade.
- Complete HEU to LEU material downblending campaign.

Explanation of Changes

Tritium and Defense Fuels Program (+$360.747 million)

- **Tritium and Defense Fuels Program (+$360.747 million):** Increase in tritium funding supports SRS Tritium Extraction Facility and recycle and recovery projects. Increase in DF funding expands the pursuit of enrichment technologies and demonstration efforts to help ensure future defense fuels inventories for tritium and naval reactor production. It supports activities associated with manufacturing and operations for the AC100 deployment and advancing manufacturing readiness for the DUECE pilot plant. The delta does not account for the $120 million in mandatory funding for centrifuge deployment that will be obligated in FY 2026.
- **18-D-650 Tritium Finishing Facility, SRS (+0):** No change in discretionary resources reflects the obligation of $437 million in mandatory funding in FY 2026 that will progress design, establish performance baselines, prepare safety documentation, and plan for long-lead procurements and early site work. The project has completed the Site Preparation and Warehouse subproject and is progressing TFF finishing equipment and facility designs to 60 percent. NNSA continues to advance equipment and balance-of-plant designs, while monitoring existing infrastructure and investing as needed to mitigate risks and avoid disrupting DoW schedules.

Production Modernization
Non-Nuclear Capability Modernization

Overview

The Non-Nuclear Capability Modernization (NNCM) program executes modernization projects to ensure the enduring availability of non-nuclear capabilities for multiple weapon systems. Non-nuclear components provide critical warhead functions using a wide range of components, including radiation-hardened microelectronics, neutron generators, gas transfer systems, power sources, electrical assemblies, cables, connectors, structural elements, pads/cushions, and a multitude of other parts. The NNCM program modernizes the extensive suite of infrastructure and equipment required to support the non-nuclear component lifecycle inclusive of design, development, qualification, production, and surveillance. These capabilities ensure that components can survive environments encountered throughout the stockpile to the target sequence and over the life of the weapon.

The NNCM program also executes long-term planning and other project cost (OPC) activities to modernize production capabilities for non-nuclear components through line-item projects, including the Power Sources Capability (PSC), Product Realization Infrastructure for Stockpile Modernization (PRISM), MESA Photolithography Capability (MPC), and Microelectronic Components Capability (MC2) projects.

Highlights of the FY 2027 Budget Request

- Complete one project of the Kansas City Short Term Expansion Plan (KCSTEP).
- Procure equipment for the Kansas City Non-Nuclear Expansion Transformation (KCNExT).
- Procure fabrication tools and equipment to enable continued manufacturing of warhead strategic radiation- hardened microelectronics at the MESA complex for the nuclear weapon stockpile.
- Develop techniques for recladding Annular Core Research Reactor fuel rods to preserve surveillance and qualification testing capabilities and protect nuclear fuel for potential use in the Combined Radiation Environments for Survivability Testing Complex (CREST).
- Continue with Phase 2 refurbishment of SNL's SATURN capability which tests component survivability against X-Ray effects.
- Support the Electronic Parts Program to reduce risk of using commercial off-the-shelf parts in weapons modernization programs.
- Procure production tools and equipment to enable the manufacturing of Neutron Generators for the nuclear weapons stockpile.
- Complete fielding of dual-path thermal spray production capability needed to meet the requirements of weapon modernization systems.
- Continue programmatic equipment acquisition and maintenance for Accelerators (including SATURN and HERMES), Major Environmental Test Facilities, Material Sciences, and Electrical Sciences at SNL.
- Support the technology maturation of On Machine Inspection with Direct Ink Write to increase inspection throughput.
- Continue construction on the SNL PSC Project.
- Begin design and procurement of long lead equipment for the SNL MPC line-item project.
- Complete the Analysis of Alternatives and initiate conceptual design for the MC2 project.

Explanation of Changes

Non-Nuclear Capability Modernization (+$253.420 million)

- **Non-Nuclear Capability Modernization (+$67.420 million):** Increase reflects investments in MESA production and NNC programmatic equipment and test/qualification capabilities and SATURN phase 2 refurbishment.
- **26-D-511 MESA Photolithography Capability (MPC), SNL (+$51.000 million):** Increase reflects preliminary and final design and long lead procurement actions.
- **22-D-513 Power Sources Capability, SNL (+$135.000 million):** Increase supports the continued construction of the facility to 85% completion by the end of FY27. The delta does not reflect $100 million in mandatory funding that will be obligated in FY 2026.

Production Modernization
Capability Based Investments

Overview

The Capability Based Investments (CBI) program funds projects that support the program of record and future capability requirements, primarily through capital equipment procurements, to reduce risks to core enterprise capabilities extending beyond any single weapon system need. These projects address capability gaps across all NNSA sites in weapon production, development, surveillance, and certifications. CBI prioritizes the highest risk to mission needs with emphasis on addressing single point failures, choke points, discontinued or failed equipment, and pivotal enabling capabilities. CBI projects are discrete, short-duration, and non-complex to allow for rapid response to emerging risks. Project scope includes multi-program test, measurement, and production equipment used for stockpile stewardship, sustainment, and modernization. CBI projects address needs beyond any single facility, campaign, or weapon system and are essential to reduce programmatic risk to mission across the nuclear security enterprise, ensuring needed capabilities are available to support mission deliverables.

Highlights of the FY 2027 Budget Request

Table I shows the over 50 planned CBI projects to be executed with FY 2027 funding based on the status of enterprise infrastructure as of March 2026. This plan may need to be updated before and during the FY 2027 execution year to respond to changing infrastructure conditions and emerging priority requirements.

- Deliver programmatic equipment for the W80-4, W87-1, and W93 to enable modernization programs to deliver on schedule.
- Complete equipment replacement and refurbishment projects at LANL that support the roadmap to achieve a 30 pits per year plutonium pit production capacity.
- Modernize NNSS sub-critical testing capabilities used for stockpile assessment, nuclear explosives package design, and weapon certification activities to support planned sub-critical testing schedules.
- Continue implementation of an enterprise-wide effort for early identification of at-risk materials and development of solutions to mitigate supply chain interruptions and onboard new qualified U.S. based suppliers for critical equipment, materials, and components required to produce nuclear weapon systems.
- Recapitalize weapon program manufacturing and qualification capabilities to meet rising throughput requirements. Support equipment replacement needs for both tritium sustainment and gas transfer system production.

Explanation of Change for Capability Based Investments (+$40.167 million)

Increase reflects additional projects to support equipment capabilities past useful life, addressing single point failures, mitigate at risk materials, and enable supply chain assurance needed to increase enterprise throughput and meet NSE mission needs.

Table I
Capability Based Investments
Planned FY 2027 Recapitalization Projects - As of December 2025
($K)

Site	Project Name	FY 2027 Allocation
KCNSC	Plant Capital Replacements Portfolio	6,684
KCNSC	60 kV Electron Beam Welder	3,528
KCNSC	GTS Production Modernization	3,680
KCNSC	At Risk Materials and Specification Management	1,313
	Subtotal, Kansas City National Security Campus	**15,205**
LLNL	Detonation and Dynamic Diagnostic Deployment Portfolio	2,000
LLNL	PA/DA Stockpile Manufacturing Equipment	5,994
LLNL	Stockpile & AAR Equipment Recapitalization	7,000
LLNL	NEP Material Science and Engineering Characterization Portfolio	6,000
LLNL	Manufacturing, Assembly, and Tooling Recapitalization	3,000
LLNL	Programmatic Equipment Consolidation	3,000
LLNL	Pulsed Power & Energy Conversion Equipment for Stockpile Testing	4,000
LLNL	At Risk Materials and Specification Management	756
	Subtotal, Lawrence Livermore National Laboratory	**31,750**
LANL	Standards and Cal: Demo and Installation of a Mod Lab for CMM	14,200
LANL	NCERC PLANET Upgrade including Hydraulic System	2,581
LANL	LANSCE Klystron Test Bed	1,800
LANL	PF-4 Trolley Buss Bar Phase III Installation and D&D	415
LANL	At Risk Materials and Specification Management	1,004
LANL	MPDV Recapitalization supporting Weapons Engineering	1,000
LANL	12S Actuator Inventory	4,108
	Subtotal, Los Alamos National Laboratory	**25,108**
NNSS	Area 6 Improvements - Chilled Water System	10,000
NNSS	PULSE A-Shaft Modernization	4,500
NNSS	DAF Capability Modernization	3,000
NNSS	PULSE Programmatic Equipment Modernization	3,000
NNSS	PULSE Accountability Modernization Upgrades	4,000
NNSS	At Risk Materials	75
	Subtotal, Nevada National Security Site	**24,575**
PNNL	PuMPS Collaboration Laboratory Equipment	1,100
PNNL	Radiochemical Processing Lab Equipment Recapitalization	1,800
PNNL	At Risk Materials	120
	Subtotal, Pacific Northwest National Laboratory	**3,020**
PX	Particle Injection Molding (PIM) installation	4,100
PX	LINAC Replacement-12-116	4,900
PX	At Risk Materials, Specification Management, and Mitigations	350
PX	CoLOSSIS Camera Upgrade - Bay 19	2,000
	Subtotal, Pantex Plant	**11,350**

Site	Project Name	FY 2027 Allocation
SNL	Reactors/Accelerators Equipment Recapitalization	1,668
SNL	SNL WETL Centrifuge Recapitalization	8,654
SNL	Electrical Sciences Equipment Portfolio	5,020
SNL	At Risk Materials, Specification Management, and Mitigations	4,103
SNL	Major Environmental Test Facilities Portfolio	864
	Subtotal, Sandia National Laboratories	**20,309**
SRS	Mass Spec #2	720
SRS	Mass Spec #1	2,000
SRS	Replace Environmental Chambers 2 & 3	6,744
SRS	Added Manufacturing for Weapons Support Building (WSB)	2,000
SRS	Radiological Counting and Analysis Systems	1,373
SRS	Quick Change Vacuum Chucks	500
SRS	Automatic Leak Detector (ALD) Upgrades	536
SRS	At-Risk Materials	60
	Subtotal, Savannah River Site	**13,933**
SRNL	At Risk Materials and Project Planning	360
	Subtotal, Savannah River National Lab	**360**
Y-12	CNC Jig Grinder	5,775
Y-12	Ultrasonic Mill	4,725
Y-12	CMM w/Environmental Enclosure	8,400
Y-12	Linatron Upgrade	2,663
Y-12	Life Cert Oven Manifolds Portfolio	7,575
Y-12	At Risk Materials	337
	Subtotal, Y-12 National Security Complex	**29,475**
HQ	Planning, Program Management, and Strategic Reserves	22,208
HQ	Corporate Reserves	5,870
	Grand Total, Capability Based Investments	**203,163**

Production Modernization
Warhead Assembly Modernization

Overview

The Warhead Assembly Modernization (WAM) program modernizes and optimizes the capabilities needed to execute warhead assembly/disassembly operations for weapons modernization, surveillance, and dismantlement programs. The WAM program is responsible for modernization activities supporting multiple weapon programs with a focus on increasing efficiency, capability, and capacity of weapon assembly and disassembly. WAM identifies and implements cross cutting enhancements that benefit all weapon operations executed at Pantex to ensure future mission demand can be achieved.

Warhead Assembly Modernization activities include the following:

- Implement production modernization strategies to increase capacity and resiliency for weapon assembly and disassembly.
- Modernize storage infrastructure for non-nuclear components to accelerate delivery of weapons systems.
- Modernize processes and technologies that increase efficiency in weapon assembly and disassembly operations.
- Provide equipment and infrastructure to enable new technology insertion.
- Modernize critical equipment and capabilities that enable weapon assembly operations.
- Execute planning and activities for future major infrastructure projects supporting weapons staging and assembly operations.

Highlights of the FY 2027 Budget Request

- Implement equipment solutions to support increased build-ahead lead times for weapon modernization components.
- Continue to modernize assembly component storage infrastructure, reducing delivery time to weapons assembly operations.
- Procure metrology and calibration equipment to expand capability and capacity for warhead assembly operations, mitigating bottlenecks and single points of failure.
- Procure physical storage enhancement solutions for special tooling and production supplies, improving traceability and quick delivery for assembly operations.
- Execute preliminary design and reviews for a modular approach to address the Material Staging Capability (MSC) mission need.
- Execute planning and OPC activities for the Future Weapons Assembly and Disassembly and Main Charge Assembly Capability Facilities.

Explanation of Changes

Warhead Assembly Modernization (+36.129 million)

- **Warhead Assembly Modernization (+$13.629 million):** Increase reflects execution of matured project plans to modernize warhead assembly operations.
- **18-D-680 Material Staging Capability, PX (+$22.500 million):** Increase reflects resumption of design efforts for MSC.

Capital Equipment Summary
($K)

	Total	Prior Years	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Capital Equipment (> $500K)					
Total Non-MIE Capital Equipment (TEC <$10M)	N/A	N/A	273,245	278,710	284,284
AQ Nitrate Upgrades (Oxide Roast), LANL	12,343	4,964	-	7,379	-
Agilent 7700 ICP, LANL	10,000	-	-	-	-
Basement Radiography Upgrades, LANL	26,596	20,376	5,274	946	-
CNC Lathe (90%), LANL	24,259	13,361	10,898	-	-
Drill and Press Operations and Glovebox (Previously Drill and Press D&D and Replacement), LANL	61,727	744	-	-	-
Electrorefining Line MC&A GB, LANL	29,500	4,355	21,274	3,871	-
Final Machining #2 (Previously T-Base #1 Replacement), LANL	53,796	37,938	15,858	-	-
Foundry Immersion Density, LANL	25,591	8,907	14,195	2,489	-
Foundry Upgrades Parts Staging (Previously Foundry Upgrades Phase 3), LANL	43,610	24,142	15,306	4,162	-
Heat Treat (90%), LANL	34,303	2,807	27,782	3,714	-
High Energy Radiography, LANL	25,043	-	-	-	-
Hot Inspection (Dimensional Inspection Box) (Previously Hot Inspection Phase 2), LANL	18,083	10,969	6,653	461	-
Load Frame Installation, LANL	35,724	19,690	3,823	12,211	-
Machining Parts Staging #2, LANL	31,362	16,192	11,635	3,535	-
Triton Mass Spectrometer, LANL	18,435	-	-	-	-
Metal Recovery System, LANL	52,933	-	-	-	-
MRR Open Front Hood Install, LANL	29,403	350	-	-	
Subassembly Installation, LANL	18,783	11,741	5,772	1,270	-
TRU Waste Glovebox Project, LANL	25,450	15,101	7,458	2,891	-
Turnings Consolidation glovebox (Previously Install new turnings consolidation glovebox), LANL	32,766	3,019	24,360	5,387	-
XRD - Panalytical, LANL	12,523	-	-	-	-
B332 R1353 Machining Center, LLNL	19,440	-	-	-	19,440
DAF End of Life equipment replacement, LLNL	20,476	-	-	-	-
DAF NDA Count Capabilities, LLNL	10,000	-	-	-	-
DAF Pit Certification support gloveboxes, LLNL	37,055	-	-	-	-
DAF SCE assembly equipment, LLNL	20,544	-	-	-	-
DAF SCE part fabrication equipment, LLNL	25,052	-	-	-	-
High Volume Production Special Equipment Installation, LLNL	10,000	-	-	-	-
High Performance Computing (HPC), ORNL	25,000	-	-	-	25,000
Procurement of Light Gas Gun, PX	10,000	-	-	-	-

	Total	Prior Years	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Flexible Production Stepper (previously I-line Multiple Wafer Size Stepper (ASML1 Replacement)), SNL	10,000	-	-	-	-
FSI Track Replacement (3 of 4) (previously FSI-TEL Track (ASML5)), SNL	10,000	-	-	10,000	-
FSI Track Replacement (4 of 4), SNL	10,000	-	-	-	-
I-Line Stepper Replacement (2 of 2), SNL	10,000	-	-	-	-
QU3992 Centrifuge, SNL	10,000	-	-	-	10,000
Tonopah Test Range Radar #1, SNL	10,250	10,250	-	-	-
Tonopah Test Range Radar #2, SNL	10,250	10,250	-	-	-
TEF Classified D/3 DCS to Delta V DCS PHASED Migration, SRS	32,000	-	-	-	-
WPS PLC Delta V Conversion, SRS	20,000	-	-	-	-
Calciner, Y-12	162,800	149,300	13,500	-	-
LiM 9204-02 Electrolytic Cell Scrubber, Y-12 (formerly Electrolytic Cell Scrubbers, Y-12)	30,000	-	-	-	30,000
Direct Chip Melt Bottom Loading Furnace: Chip Compaction (formerly Bottom Loading Furnace), Y-12	109,400	14,000	10,800	36,100	34,600
Direct Chip Melt Bottom Loading Furnace: Compacted Chip Processing (formerly Bottom Loading Furnace), Y-12	326,000	91,300	15,300	-	-
DUM Foundry 2nd Vacuum Arc Remelt (VAR) Furnace, Y-12	23,000	-	23,000	-	-
Production Hot Isostatic Press	10,000	-	-	-	10,000
Direct Cast Vacuum Induction Melter	13,000	-	-	-	13,000
GMM 9201-01 Hydroform, Y-12	15,000	-	-	-	1,000
Machine Capability Lathe #2, Y-12	10,000	10,000	-	-	-
Machine Capability Lathe #3, Y-12	12,000	1,500	10,500	-	-
Machine Capability Lathe #4, Y-12	14,000	-	1,500	12,500	-
QOM B2E 9 MeV Linatron Replacement, Y-12	18,500	-	-	-	-
QOM 5N 2 MeV Linatron #2 Replace, Y-12	10,000	-	-	-	1,000
QOM 5N Dye Pen Station modernization, Y-12	11,500	-	-	-	-
QOM Beta 2E Radiography 2 MEV Unit, Y-12	32,800	-	-	-	1,300
QOM Beta 2E Radiography 9 MEV Unit, Y-12	40,000	-	-	-	1,000
Special Nuclear Material Vehicle, Y-12	19,200	-	-	-	-
Cold Spray equipment, Y-12	20,700	-	-	-	-
Total, Capital Equipment	**N/A**	**481,256**	**518,133**	**385,626**	**430,624**

Capital Equipment Summary
Outyears ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request	Outyears
Capital Equipment (> $500K)					
Total Non-MIE Capital Equipment (TEC <$10M)	289,970	295,769	301,685	307,718	N/A
Agilent 7700 ICP, LANL	-	10,000	-	-	-
Drill and Press Operations and Glovebox (Previously Drill and Press D&D and Replacement), LANL	-	-	-	60,983	-
Heat Treat (90%), LANL					
High Energy Radiography, LANL	-	25,043	-	-	-
Triton Mass Spectrometer, LANL			-	18,435	-
Metal Recovery System, LANL	-	-	52,933	-	-
MRR Open Front Hood Install, LANL	-	29,053	-	-	-
XRD - Panalytical, LANL	-	-	-	12,523	-
DAF End of Life equipment replacement, LLNL	-	20,476	-	-	-
DAF NDA Count Capabilities, LLNL	1,000	9,000	-	-	-
DAF Pit Certification support gloveboxes, LLNL	37,055		-	-	-
DAF SCE assembly equipment, LLNL	-	-	20,544	-	-
DAF SCE part fabrication equipment, LLNL	-	-	25,052	-	-
High Volume Production Special Equipment Installation, LLNL	-	10,000	-	-	-
High Performance Computing (HPC), ORNL	-	-	-	-	-
Procurement of Light Gas Gun, PX	10,000	-	-	-	-
Flexible Production Stepper (previously I-line Multiple Wafer Size Stepper (ASML1 Replacement)), SNL	10,000	-	-	-	-
FSI Track Replacement (4 of 4), SNL	-	10,000	-	-	-
I-Line Stepper Replacement (2 of 2), SNL	-	10,000	-	-	-
TEF Classified D/3 DCS to Delta V DCS PHASED Migration, SRS	-	-	32,000	-	-
WPS PLC Delta V Conversion, SRS	-	-	3,000	17,000	-
Calciner, Y-12					
Room Temperature Lithium Eletrolytic Cells, Y-12	15,000	-	-	-	-
Direct Chip Melt Bottom Loading Furnace: Chip Compaction (formerly Bottom Loading Furnace), Y-12	13,200	600	100	-	-
Direct Chip Melt Bottom Loading Furnace: Compacted Chip Processing (formerly Bottom Loading Furnace), Y-12	-	-	-	-	219,400
GMM 9201-01 Hydroform, Y-12	14,000	-	-	-	-
QOM B2E 9 MeV Linatron Replacement, Y-12	-	-	1,500	17,000	-
QOM 5N 2 MeV Linatron #2 Replace, Y-12	9,000	-	-	-	-
QOM 5N Dye Pen Station modernization, Y-12	-	1,500	10,000	-	-
QOM Beta 2E Radiography 2 MEV Unit, Y-12	-	31,500	-	-	-
QOM Beta 2E Radiography 9 MEV Unit, Y-12	39,000	-	-	-	-
Special Nuclear Material Vehicle, Y-12	-	19,200	-	-	-
Cold Spray equipment, Y-12	20,700	-	-	-	-
Total, Capital Equipment	**458,925**	**472,141**	**446,814**	**433,659**	**219,400**

21-D-512 Los Alamos Plutonium Pit Production Project (LAP4)
Los Alamos National Laboratory (LANL)
Los Alamos, New Mexico
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary:
The Fiscal Year (FY) 2027 Request for the Los Alamos Plutonium Pit Production Project (LAP4) is $812,100,000 of Total Project Cost (TPC), which includes $762,029,000 of Total Estimated Cost (TEC) and $50,071,000 of Other Project Cost (OPC). The FY 2027 request includes funds to finish design activities on the 30 Reliable Equipment Installation (30R) and Training and Development Center (TDC) subprojects; and to continue construction activities in the Decontamination and Demolition (D&D), 30 Base Equipment Installation (30B), and the West Entry Control Facility (WECF) subprojects; and to start construction activities on the 30R and TDC subprojects.

LAP4 includes the procurement of equipment and systems and is a contributor to support a baseline production increase from ten plutonium pits per year (ppy) at Los Alamos National Laboratory (LANL) to not less than 30 ppy, and to provide equipment and infrastructure necessary to support the reliable and timely provision of strategic weapons systems' primary components to strategic defense missions.

Critical Decision (CD)-1, *Approve Alternative Selection and Cost Range*, was approved April 27, 2021, with a TPC cost range of $2,700,000,000 - $3,900,000,000. The full project TPC will not be determined until all the subprojects are baselined at CD-2/3 approval. The current planning basis of $5,865,353,000 and a CD-4 date of 4Q FY 2032 is based on the baseline estimates for 3 of the 5 subprojects and identified cost and schedule trends for the remaining scope. The overall LAP4 project estimate has not been updated since CD-1 approval. The current planning basis anticipates the baselining of the two remaining subprojects in FY 2026. The cost and schedule planning basis will be updated at that time. Both TEC and OPC activities will be funded through this line-item.

Per DOE O 413.3B, any cost savings realized from a LAP4 subproject will be returned to the LAP4 Total Project contingency pool for use, as needed after approval of a baseline change, in other LAP4 subprojects.

Significant Changes:
This Construction Project Data Sheet (CPDS) is an update of the FY 2026 CPDS and does not include a new start for the budget year. The Critical Milestone History and cost tables represent the current approved planning basis of LAP4. Project documentation has been developed to reflect the 30 Diamond (30D) Strategy, an execution strategy that optimally sequences both programmatic and project activities to achieve the 30 ppy capacity at LANL as soon as possible. The Baseline Change Proposals (BCPs) in line with 30D have been approved by the Deputy Secretary and cost and schedule information has been reflected in this document. The BCPs reflect changes to the original performance baselines due to the shifting and resequencing of program priorities. Outyear funding amounts may be revised in future budget requests as NNSA baselines the subprojects in accordance with DOE O 413.3B and as final designs are completed and associated reviews conducted.

Specific details on the LAP4 subprojects are listed below.

D&D Subproject (21-D-512-01): The D&D subproject has continued construction (removal of gloveboxes and equipment) and the associated support activities like development of Integrated Work Documents and work

control documents for future D&D efforts. The TPC and CD-4 have been adjusted to reflect the approved BCP with a revised performance measurement baseline TPC of $538,600,000 and a schedule completion date of 1Q FY 2029. The subproject schedule has been updated to align with the implementation of the 30D execution strategy consistent with the BCP and reflects an 18 month delay in the completion of the subproject.

30B Subproject (21-D-512-02): Achieved CD-3A, *Approve Long-Lead Procurements* on January 3, 2022, with a TPC of $72,000,000 and a completion date of 3Q FY 2024. Achieved CD-3B, *Approve Long-Lead Procurements* on August 5, 2022, with a TPC of $43,000,000 and a completion date of 3Q FY 2024. The 30B subproject reached 90 percent design completion, established a performance baseline (CD-2), and approved start of construction (CD-3) on January 19, 2023. The TPC and CD-4 have been adjusted to reflect the approved BCP with a revised performance measurement baseline TPC of $2,235,935,000 and a schedule completion date of 1Q FY 2032.

30R Subproject (21-D-512-03): Achieved CD-3A, *Approve Long-Lead Procurements* package on March 29, 2023, with a TPC of $99,000,000 and a completion date of 1Q FY 2026. The final design – except for the Product Development Line scope – was completed December 2024, and establishing a performance baseline (CD-2) and approving start of construction (CD-3) has intentionally been shifted to no sooner than September 2026 as the focus will be on 30B and in alignment with the 30D strategy. The TPC value of 30R was adjusted to align the overall TPC of LAP4 within the currently planned funding and will be adjusted as the subproject achieves CD-2/3 in 4Q FY 2026. The long-lead procurement activities will continue as the NNSA is currently evaluating an additional CD-3X activity and will ultimately mitigate the delays associated with fabrications prior to achieving CD-2/3.

TDC Subproject (21-D-512-04): Currently at CD-1 with a TPC of $450,000,000, the TDC subproject anticipates establishing a performance baseline (CD-2), and approving start of construction (CD-3) in September 2026 and is based on a design-build-to-budget acquisition approach.

WECF Subproject (21-D-512-05): The WECF subproject achieved CD-3A, *Approve Long-Lead Procurements* package on December 15, 2023, with a cost of $27,800,000 and a completion of 1Q FY 2025. Final design is complete and the NNSA approved the performance baseline (CD-2) and start of construction (CD-3) on January 3, 2025 for a TPC of $209,000,000 and CD-4 by the 4Q FY 2029. The subproject is on schedule and continues to make good field construction progress.

A Federal Project Director (FPD) has been assigned to the project.

Critical Milestone History:

LAP4 (21-D-512)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2021	11/25/2015	4Q FY 2020	1Q FY 2021	4Q FY 2022	4Q FY 2022	4Q FY 2022	2Q FY 2024	4Q FY 2028
FY 2022	11/25/2015	4Q FY 2020	4/27/2021	2Q FY 2023	1Q FY 2023	2Q FY 2023	N/A	4Q FY 2028
FY 2023	11/25/2015	3/8/2021	4/27/2021	4Q FY 2024	3Q FY 2024	4Q FY 2024	N/A	4Q FY 2028
FY 2024	11/25/2015	3/8/2021	4/27/2021	3Q FY 2025	3Q FY 2025	3Q FY 2025	N/A	4Q FY 2031
FY 2025	11/25/2015	3/8/2021	4/27/2021	4Q FY 2026	4Q FY 2026	4Q FY 2026	N/A	4Q FY 2032
FY 2026	11/25/2015	3/8/2021	4/27/2021	4Q FY 2026	4Q FY 2026	4Q FY 2026	N/A	4Q FY 2032
FY 2027	11/25/2015	3/8/2021	4/27/2021	4Q FY 2026	4Q FY 2026	4Q FY 2026	N/A	4Q FY 2034[1]

D&D Subproject (21-D-512-01)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2023	11/25/2015	3/8/2021	4/27/2021	11/18/2021	2Q FY 2022	11/18/2021	2Q FY 2027
FY 2024	11/25/2015	3/8/2021	4/27/2021	11/18/2021	7/20/2022	11/18/2021	2Q FY 2027
FY 2025	11/25/2015	3/8/2021	4/27/2021	11/18/2021	7/20/2022	11/18/2021	2Q FY 2027
FY 2026	11/25/2015	3/8/2021	4/27/2021	11/18/2021	7/20/2022	11/18/2021	2Q FY 2027
FY 2027	11/25/2015	3/8/2021	4/27/2021	11/18/2021	7/20/2022	11/18/2021	1Q FY 2029

30B Subproject (21-D-512-02)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2023	11/25/2015	3/8/2021	4/27/2021	1Q FY 2023	4Q FY 2022	1Q FY 2023	4Q FY 2026
FY 2024	11/25/2015	3/8/2021	4/27/2021	1/19/2023	4Q FY 2023	1/19/2023	4Q FY 2030
FY 2025	11/25/2015	3/8/2021	4/27/2021	1/19/2023	3Q FY 2024	1/19/2023	4Q FY 2030
FY 2026	11/25/2015	3/8/2021	4/27/2021	1/19/2023	3Q FY 2024	1/19/2023	4Q FY 2030
FY 2027	11/25/2015	3/8/2021	4/27/2021	1/19/2023	4/25/2024	1/19/2023	1Q FY 2032

[1] Currently reflects draft schedule information without contingency that has not been through an EIR or ICE but is being shared ahead of time. This date will be adjusted to as the 30R subproject achieves CD-2/3.

Fiscal Year	CD-3A	CD-3B
FY 2022	2Q FY 2022	N/A
FY 2023	1/3/2022	N/A
FY 2024	1/3/2022	8/5/2022
FY 2025	1/3/2022	8/5/2022
FY 2026	1/3/2022	8/5/2022
FY 2027	1/3/2022	8/5/2022

CD-3A – Approve Long-Lead Procurements – Gloveboxes, enclosures, and equipment
CD-3B – Approve Long-Lead Procurements – Gloveboxes, enclosures, and equipment

30R Subproject (21-D-512-03)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2023	11/25/2015	3/8/2021	4/27/2021	1Q FY 2024	4Q FY 2023	1Q FY 2024	4Q FY 2028
FY 2024	11/25/2015	3/8/2021	4/27/2021	4Q FY 2024	1Q FY 2025	4Q FY 2024	4Q FY 2031
FY 2025	11/25/2015	3/8/2021	4/27/2021	1Q FY 2025	1Q FY 2025	1Q FY 2025	4Q FY 2032
FY 2026	11/25/2015	3/8/2021	4/27/2021	1Q FY 2026	4Q FY 2025	1Q FY 2026	4Q FY 2032
FY 2027	11/25/2015	3/8/2021	4/27/2021	4Q FY 2026	3Q FY 2026	4Q FY 2026	4Q FY 2034[1]

Fiscal Year	CD-3A
FY 2023	1Q FY 2023
FY 2024	3Q FY 2023
FY 2025	3/29/2023
FY 2026	3/29/2023
FY 2027	3/29/2023

CD-3A – Approve Long-Lead Procurements – Gloveboxes, enclosures, and equipment

[1] Currently reflects draft schedule information without contingency that has not been through an EIR or ICE but is being shared ahead of time. This date will be adjusted to as the 30R subproject achieves CD-2/3.

TDC (21-D-512-04)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2023	11/25/2015	3/8/2021	4/27/2021	4Q FY 2024	3Q FY 2024	4Q FY 2024	4Q FY 2028
FY 2024	11/25/2015	3/8/2021	4/27/2021	3Q FY 2025	3Q FY 2025	3Q FY 2025	4Q FY 2030
FY 2025	11/25/2015	3/8/2021	4/27/2021	4Q FY 2026	4Q FY 2026	4Q FY 2026	4Q FY 2030
FY 2026	11/25/2015	3/8/2021	4/27/2021	4Q FY 2026	4Q FY 2026	4Q FY 2026	4Q FY 2030
FY 2027	11/25/2015	3/8/2021	4/27/2021	4Q FY 2026	4Q FY 2026	4Q FY 2026	4Q FY 2031

WECF Subproject (21-D-512-05)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2023	11/25/2015	3/8/2021	4/27/2021	2Q FY 2023	4Q FY 2022	2Q FY 2023	2Q FY 2026
FY 2024	11/25/2015	3/8/2021	4/27/2021	3Q FY 2024	3Q FY 2024	3Q FY 2024	4Q FY 2028
FY 2025	11/25/2015	3/8/2021	4/27/2021	4Q FY 2024	3Q FY 2024	4Q FY 2024	4Q FY 2028
FY 2026	11/25/2015	3/8/2021	4/27/2021	1/3/2025	10/17/2024	1/3/2025	4Q FY 2029
FY 2027	11/25/2015	3/8/2021	4/27/2021	1/3/2025	10/17/2024	1/3/2025	4Q FY 2029

Fiscal Year	CD-3A
FY 2025	12/15/2023
FY 2026	12/15/2023
FY 2027	12/15/2023

CD-3A – Approve Long-Lead Procurements – Early minor site work and equipment

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Actual date the conceptual design was completed
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete(d)
CD-3 – Approve Start of Construction
CD-4 – Approve Start of Operations or Project Closeout

Project Cost History ($K)
Total Project (21-D-512)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC	OPC, Total	TPC
FY 2021	116,900	79,100	196,000	30,000	30,000	226,000[1]
FY 2022	456,000	3,035,000	3,491,000	404,000	404,000	3,895,000[2]
FY 2023	489,897	3,005,340	3,495,237	399,763	399,763	3,895,000[2]
FY 2024	555,285	3,525,496	4,080,781	649,094	649,094	4,729,875[3]
FY 2025	483,407	4,350,888	4,834,295	615,394	615,394	5,449,689[3]
FY 2026	485,859	4,363,933	4,849,792	1,015,561	1,015,561	5,865,353[3]
FY 2027	488,798	4,854,704	5,343,502	535,929	535,929	5,879,431

D&D Subproject (21-D-512-01)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC	OPC, Total	TPC
FY 2023	22,689	459,695	482,384	46,616	46,616	529,000
FY 2024	22,689	459,695	482,384	46,616	46,616	529,000
FY 2025	22,684	459,700	482,384	46,616	46,616	529,000
FY 2026	22,684	459,700	482,384	46,616	46,616	529,000
FY 2027	27,183	503,677	530,860	7,740	7,740	538,600

30B Subproject (21-D-512-02)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC	OPC, Total	TPC
FY 2023	212,626	1,599,990	1,812,616	213,384	213,384	2,026,000
FY 2024	204,894	1,268,160	1,473,054	391,072	391,072	1,864,126
FY 2025	120,449	1,397,697	1,518,146	345,980	345,980	1,864,126
FY 2026	120,449	1,397,697	1,518,146	345,980	345,980	1,864,126
FY 2027	110,992	1,959,719	2,070,711	165,224	N/A	2,235,935

[1] The project cost history amounts for FY 2021 reflected only funding requested in that budget year; TPC is not indicative of the total project cost.
[2] The TPC reflects the top of the CD-1 cost range.
[3] NNSA continues to assess the impacts on the TPC and the CD-4 date. Over time the schedule and cost estimates have increased due to refinement of scope during design and partially accounting for parametric estimates on 30R in advance of having a fully developed baseline estimates. NNSA/LANL is currently refining scope in light of the project reaching the threshold of requiring a CD-1R. Additionally, other contributing factors include escalation, longer glovebox fabrication durations, and ongoing challenges with executing work within an operating nuclear facility.

30R Subproject (21-D-512-03)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC	OPC, Total	TPC
FY 2023	163,074	517,871	680,945	79,055	79,055	760,000
FY 2024	236,194	1,369,857	1,606,051	150,698	150,698	1,756,749
FY 2025	236,194	2,089,671	2,325,865	150,698	150,698	2,476,563
FY 2026	236,194	2,026,335	2,262,529	550,698	550,698	2,813,227
FY 2027	244,091	1,911,107	2,155,198	290,698	290,698	2,445,896[1]

TDC Subproject (21-D-512-04)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC	OPC, Total	TPC
FY 2023	71,185	331,947	403,132	46,868	46,868	450,000
FY 2024	71,185	331,947	403,132	46,868	46,868	450,000
FY 2025	83,757	307,983	391,740	58,260	58,260	450,000
FY 2026	83,757	307,983	391,740	58,260	58,260	450,000
FY 2027	83,757	307,983	391,740	58,260	58,260	450,000

WECF Subproject (21-D-512-05)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC	OPC, Total	TPC
FY 2023	20,323	95,837	116,160	13,840	13,840	130,000
FY 2024	20,323	95,837	116,160	13,840	13,840	130,000
FY 2025	20,323	95,837	116,160	13,840	13,840	130,000
FY 2026	22,775	172,218	194,993	14,007	14,007	209,000
FY 2027	22,775	172,218	194,993	14,007	14,007	209,000

2. Project Scope and Justification

Scope

The project scope includes the further repurposing of spaces within the existing LANL Plutonium Facility 4 (PF-4) and Sigma facility, beyond the scope of repurposing in the Chemistry and Metallurgy Research Replacement (CMRR) project, including removal of previously installed equipment and support systems as necessary to accommodate new pit production equipment. Scope includes design, construction, and installation of processing equipment, support systems, utilities infrastructure, physical infrastructure, and security features to reach the capability to produce 30 ppy. PF-4 is an operating Hazard Category (HC)- 2, Security Category 1

[1] The current funding profile for 30R with a total project cost of $2,445,896,000 is less than the previous total project cost estimate of $2,813,227,000 but will be updated as the subproject achieves CD-2/3.

Nuclear Facility. Sigma is a radiological support facility. PF-4 and supporting capabilities need to be modified to achieve the required pit production capability/capacity.

The LAP4 project is composed of the five subprojects identified below.

D&D Subproject (21-D-512-01)

Decontamination and demolition of gloveboxes and programmatic equipment in PF-4 in preparation for installation of pit production equipment. The re-baselined scope continues to encompass waste characterization, D&D, size reduction, removal, waste handling, and disposition.

30B Subproject (21-D-512-02)

A major contributor of pit production enclosures and programmatic equipment procurement and installation to support pit production capacity of a base of 30 ppy at 50 percent confidence. The re-baselined scope continues to encompass designing, procuring, installing, testing, transitioning to operations (TTO), and hot startup of new gloveboxes and associated equipment in PF-4. To support reduced project and program risk, long-lead procurement and fabrication of enclosures and process equipment was approved on January 3, 2022, with a cost of $72M. Additional long lead procurement and site preparation was approved on August 5, 2022, with a cost of $43M. Advanced procurement of the long-lead equipment integrates with the approval of CD-2/3 on January 19, 2023, enabling installation to proceed immediately after the approval of the performance baseline. Installation of the long-lead procurement will proceed as the remainder of the 30B enclosures and equipment are fabricated. This tailored approach minimizes impacts to program operations and increases construction efficiencies. Additionally, temporary 80,000 sq ft of warehouse space has been provided for the pre-staging of equipment for setup, testing, and assembly, prior to final installation.

30R Subproject (21-D-512-03)

Pit production enclosures and programmatic equipment procurement and installation to support pit production capacity of 30 ppy reliably. The scope encompasses designing, procuring, installing, testing, transitioning to operations (TTO), and hot startup of new gloveboxes and associated equipment in PF-4 and the Sigma facility. The 30R subproject expands the capability and capacity to provide 30 war reserve ppy to the stockpile at a 90 percent confidence using a single shift. To support reduced project and program risk, long-lead procurement and fabrication of enclosures and process equipment was approved on March 29, 2023, with a cost of $99M, and is expected to be complete in 1Q FY 2026. Advanced procurement of the long-lead equipment integrates with the anticipated approval of CD-2/3 to no sooner than September 2026, enabling installation to proceed immediately after the approval of the performance baseline. Installation of the long-lead procurement will proceed as the remainder of the 30R enclosures and equipment are fabricated. This tailored approach minimizes impacts to program operations and increases construction efficiency.

TDC Subproject (21-D-512-04)

The Training capability will ensure that production personnel can effectively receive approximately 700,000 required annual staff training hours for initial and annual training, including certification to fully satisfy skill and qualification requirements. The Development capability will support the enduring pit production mission by providing facilities and space for process improvement and development in a non-nuclear environment. The two nonnuclear capabilities are briefly summarized below. Design activities are underway and CD-2/3 approval followed by final design completion is anticipated in 4Q FY 2026.

- Nuclear worker training laboratories for glovebox operator and fissile material handler fundamentals training and process worker requalification training. The requalification training laboratories will have a dual purpose to also support production process and technology development activities.
- Unclassified Training areas including classrooms, computer-based training rooms, a training records management center and training staff office space.

- Classified Training areas including classrooms, conference rooms, auditorium/lecture hall, classified records management and storage, facility control system simulation area, cold machine shop, a glovebox equipment pre-installation testing area, and a classified parts vault-type room.

WECF Subproject (21-D-512-05)
The Technical Area (TA)-55 WECF is required to accommodate the additional 800 workers per day entering the property protection area at TA-55 projected to implement the 30 ppy mission. This projected increase effectively doubles the workforce entrance control processing demand. The new WECF, like the existing East ECF, must be a DOE-compliant personnel screening facility which maintains integrity of the protected area at TA-55 to enable safe and secure environment for manufacturing operations and support the required 24/7 schedule. To support reduced project and program risk, long-lead procurement was approved on December 15, 2023, with a cost of $28M. Final design is complete and CD-2/3 was approved on January 3, 2025.

Justification
The NNSA's ability to produce pits in the required quantities established by the Nuclear Weapons Council (NWC) is an essential component of the nuclear deterrent. An Analysis of Alternatives (AoA) was conducted after CD-0, in accordance with the requirements of Office of Management and Budget (OMB) Circular A-11. The NNSA Administrator selected a preferred alternative on May 10, 2018, to continue pit production investments to reach the 30 ppy capability at LANL, and to repurpose facilities at the Savannah River Site (SRS) to produce 50 pits per year.

Sustained and reliable pit production at LANL additionally requires a commensurate increase in infrastructure and support facilities to accommodate the increased activity in a nuclear facility with a diversified mission portfolio. Resources necessary to operate and maintain a sustained and substantial production capacity drives a critical need for training infrastructure, which is included in this project. Increased ingress and egress of production personnel is also essential, and this project includes a new personnel access point/facility into Technical Area-55, which encloses the plutonium facilities.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets.* Funds appropriated under the Plutonium Modernization Program and described in this data sheet may be used for contracted support services to the FPD and to conduct independent reviews of design and construction for LAP4.

Key Performance Parameters (KPPs)
The KPPs represent the minimum acceptable performance that the project must achieve. KPP were developed as part of the CD-1 approval and will be finalized for CD-2 approval. The KPPs for the subprojects with CD-2 are as follows:

D&D Subproject (21-D-512-01)

Item No.	KPP Threshold	KPP Objective	Project Completion Criteria
KPP-1	Complete LAP4 D&D subproject activities identified in the LAP4 D&D baseline to prepare space for follow-on LAP4	None	KPP completion criteria for LAP4 D&D KPP-1 will be verification of the design package closeout.

Item No.	KPP Threshold	KPP Objective	Project Completion Criteria
	equipment installation subprojects or alternate use.		
KPP-2	Complete removal of LAP4 D&D gloveboxes from PF-4.	Complete disposition and removal of LAP4 D&D gloveboxes from LANL.	Threshold: The KPP completion criteria will be the verification that LAP4 D&D gloveboxes are removed from PF-4. Objective: The KPP completion criteria will be the verification of LAP4 D&D gloveboxes are removed from LANL.

30B Subproject (21-D-512-02

Item	KPP Threshold	KPP Objective	Project Completion Criteria
KPP-1	Complete turnover to operations and equipment hot testing *(as applicable)* for equipment capabilities required to support the fastest path to rate production.[(a)]	None	Equipment capabilities required to support the fastest path to rate production are defined in the Transition to Operation Section (Section 9) of this PEP. KPP completion objective evidence includes • Design package closeout • Operational startup preparation and assessment report *(as applicable[(b)])* • Facility Operations Director's authorization to start up hot operations • Equipment hot testing completion document *(as applicable[(c)])*. • Declaration of equipment hot testing completion by responsible line manager. • Photo of equipment/process • KPP package transmittal to FPD. • FPD KPP verification and notice of acceptance.
KPP-2	Complete LAP4 30B equipment D&D activities identified in the LAP4 30B baseline for future equipment installation and lab integration.	None	D&D of equipment to meet the fastest path to rate production is defined in the Transition to Operation Section (Section 9) of this PEP. KPP completion criteria for LAP4 30B KPP-2 will be verification of the closure of D&D design change packages.
KPP-3	Complete disposition of removal of gloveboxes D&D by LAP4 30B subproject from PF-4.	Complete disposition and removal of gloveboxes D&D by LAP4 30B subproject from LANL.	**Threshold:** KPP completion criteria will be the verification that gloveboxes D&D by LAP4 30B subproject are removed from PF-4. **Objective:** KPP completion criteria will be the verification of D&D gloveboxes by LAP4 30B subproject are removed from LANL.

[(a)] Per NNSA-2024-002809, 30-Diamond (30D) Scope and Los Alamos Plutonium Pit Production Project (LAP4) Decontamination & Decommissioning (D&D) and 30 Base (30B) Subprojects Realignment; and subsequent update approved by NNSA
[(b)] Based on the LAP4 Operational Readiness Strategy for PF-4 Equipment Installation (PA-PLAN-01872) some equipment sets will only require design package closeout with no startup assessment
[(c)]Not all the equipment will require equipment hot testing

WECF Subproject (21-D-512-05)

Item No.	KPP Threshold	KPP Objective	Project Completion Criteria
KPP-1	Construct facility and provide infrastructure to increase pedestrian throughput capacity at TA-55 for 800 workers.	None	KPP completion objective evidence includes: • Design package closeout • Commissioning closure report • Final Certificate of Occupancy • Successful completion of evaluation of Security Systems performance and Protective Force operations by ALDDP and the ODFSA.
KPP-2	Provide sufficient entry control equipment for 12 access points.	None	
KPP-3	Provide a facility that meets DOE O 473.1A, Physical Protection Program.	None	

The preliminary KPPs for the subprojects that do not have CD-2 are as follows:

Preliminary Key Performance Measures
30R: Complete equipment hot testing and turnover of all 30 ppy reliable equipment and structures, systems, and components in PF-4 and Sigma identified in the LAP4 PRD, Appendix B, to Weapons Production for initiation of Process Prove-in activities.
LAP4 Infrastructure: Training and Development Center will receive beneficial occupancy to allow operations.

3. Financial Schedule ($K)

Total Project (21-D-512)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	422,410	422,410	382,179
FY 2025	55,794	55,794	36,037
FY 2026	10,594	10,594	70,538
Total Design	**488,798**	**488,798**	**488,798**
Construction			
Prior Years	1,256,461	1,256,461	612,362
FY 2025	408,155	408,155	413,002
FY 2026	444,390	444,390	532,884
FY 2027	762,029	762,029	739,082
FY 2028	588,670	588,670	727,780
FY 2029	423,189	423,189	544,293
FY 2030	440,732	440,732	451,930
FY 2031	531,078	531,078	459,983
Outyears	0	0	373,388
Total Construction	**4,854,704**	**4,854,704**	**4,854,704**
TEC			
Prior Years	1,678,871	1,678,871	994,541
FY 2025	463,949	463,949	449,083
FY 2026	454,984	454,984	603,422
FY 2027	762,029	762,029	739,082
FY 2028	588,670	588,670	727,780
FY 2029	423,189	423,189	544,293
FY 2030	440,732	440,732	451,930
FY 2031	531,078	531,078	459,983
Outyears	0	0	373,388
Total TEC	**5,343,502**	**5,343,502**	**5,343,502**

	Budget Authority (Appropriations)	Obligations	Costs
Other Project Costs (OPC)			
Prior Years	210,319	210,319	72,859
FY 2025	6,095	6,095	7,131
FY 2026	2,916	2,916	35,059
FY 2027	50,071	50,071	53,900
FY 2028	99,830	99,830	64,500
FY 2029	86,766	86,766	68,656
FY 2030	79,932	79,932	91,868
FY 2031	0	0	88,663
Outyears	0	0	53,293
Total, OPC	**535,929**	**535,929**	**535,929**
Total Project Costs (TPC)			
Prior Years[1]	1,889,190	1,889,190	1,067,400
FY 2025	470,044	470,044	456,214
FY 2026	457,900	457,900	638,481
FY 2027	812,100	812,100	792,982
FY 2028	688,500	688,500	792,280
FY 2029	509,955	509,955	612,949
FY 2030	520,664	520,664	543,798
FY 2031	531,078	531,078	548,646
Outyears	0	0	426,681
Total TPC	**5,879,431**	**5,879,431**	**5,879,431**

[1] In FY 2024, $5 million of AY 2024 funding was reprogrammed from 21-D-512 Los Alamos Pit Production Project, LANL to the Los Alamos Plutonium Operations program at LANL. The financial table reflects this reprogramming and is $5M less than the FY2024 enacted of $670M.

D&D Subproject (21-D-512-01)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	27,183	27,183	27,183
Total Design	**27,183**	**27,183**	**27,183**
Construction			
Prior Years	364,057	364,057	237,333
FY 2025	73,840	73,840	79,328
FY 2026	61,000	61,000	82,000
FY 2027	4,780	4,780	79,764
FY 2028	0	0	25,252
Total Construction	**503,677**	**503,677**	**503,677**
TEC			
Prior Years	391,240	391,240	264,516
FY 2025	73,840	73,840	79,328
FY 2026	61,000	61,000	82,000
FY 2027	4,780	4,780	79,764
FY 2028	0	0	25,252
Total TEC	**530,860**	**530,860**	**530,860**
Other Project Costs (OPC)			
Prior Years	7,740	7,740	7,740
Total, OPC	**7,740**	**7,740**	**7,740**
Total Project Costs (TPC)			
Prior Years	398,980	398,980	272,256
FY 2025	73,840	73,840	79,328
FY 2026	61,000	61,000	82,000
FY 2027	4,780	4,780	79,764
FY 2028	0	0	25,252
Total TPC	**538,600**	**538,600**	**538,600**

30B Subproject (21-D-512-02)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	110,992	110,992	110,992
FY 2025	-	-	-
Total Design	**110,992**	**110,992**	**110,992**
Construction			
Prior Years	763,336	763,336	339,388
FY 2025	225,731	225,731	234,001
FY 2026	204,600	204,600	331,000
FY 2027	300,000	300,000	405,000
FY 2028	213,000	213,000	299,400
FY 2029	119,952	119,952	111,000
FY 2030	0	0	105,930
FY 2031	133,100	133,100	134,000
Total Construction	**1,959,719**	**1,959,719**	**1,959,719**
TEC			
Prior Years	874,328	874,328	450,380
FY 2025	225,731	225,731	234,045
FY 2026	204,600	204,600	330,956
FY 2027	300,000	300,000	405,000
FY 2028	213,000	213,000	299,400
FY 2029	119,952	119,952	111,000
FY 2030	0	0	105,930
FY 2031	133,100	133,100	134,000
Total TEC	**2,070,711**	**2,070,711**	**2,070,711**
Other Project Costs (OPC)			
Prior Years	165,224	165,224	27,764
FY 2025	0	0	6,925
FY 2026	0	0	33,400
FY 2027	0	0	30,400
FY 2028	0	0	21,900
FY 2029	0	0	21,900
FY 2030	0	0	21,868
FY 2031	0	0	1,067
Total, OPC	**165,224**	**165,224**	**165,224**
Total Project Costs (TPC)			
Prior Years	1,039,552	1,039,552	478,144
FY 2025	225,731	225,731	240,970
FY 2026	204,600	204,600	364,356
FY 2027	300,000	300,000	435,400
FY 2028	213,000	213,000	321,300
FY 2029	119,952	119,952	132,900
FY 2030	0	0	127,798

FY 2031	133,100	133,100	135,067
Total TPC	**2,235,935**	**2,235,935**	**2,235,935**

30R Subproject (21-D-512-03)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	213,400	213,400	206,806
FY 2025	22,794	22,794	29,388
FY2026	7,897	7,897	7,897
Total Design	**244,091**	**244,091**	**244,091**
Construction			
Prior Years	78,520	78,520	28,760
FY 2025	48,184	48,184	62,178
FY 2026	29,990	29,990	65,103
FY 2027	285,640	285,640	124,977
FY 2028	326,826	326,826	307,728
FY 2029	303,237	303,237	348,973
FY 2030	440,732	440,732	300,000
FY 2031	397,978	397,978	300,000
Outyears	0	0	373,388
Total Construction	**1,911,107**	**1,911,107**	**1,911,107**
TEC			
Prior Years	291,920	291,920	235,566
FY 2025	70,978	70,978	91,566
FY 2026	37,887	37,887	73,000
FY 2027	285,640	285,640	124,977
FY 2028	326,826	326,826	307,728
FY 2029	303,237	303,237	348,973
FY 2030	440,732	440,732	300,000
FY 2031	397,978	397,978	300,000
Outyears	0	0	373,388
Total TEC	**2,155,198**	**2,155,198**	**2,155,198**
Other Project Costs (OPC)			
Prior Years	12,405	12,405	12,405
FY 2025	5,895	5,895	0
FY 2026	257	257	0
FY 2027	32,209	32,209	20,000
FY 2028	80,000	80,000	35,000
FY 2029	80,000	80,000	40,000
FY 2030	79,932	79,932	60,000
FY 2031	0	0	70,000
Outyears	0	0	53,293
Total, OPC	**290,698**	**290,698**	**290,698**
Total Project Costs (TPC)			
Prior Years	304,325	304,325	247,971

	Budget Authority (Appropriations)	Obligations	Costs
FY 2025	76,873	76,873	91,566
FY 2026	38,144	38,144	73,000
FY 2027	317,849	317,849	144,977
FY 2028	406,826	406,826	342,728
FY 2029	383,237	383,237	388,973
FY 2030	520,664	520,664	360,000
FY 2031	397,978	397,978	370,000
Outyears	0	0	426,681
Total TPC	**2,445,896**	**2,445,896**	**2,445,896**

TDC Subproject (21-D-512-04)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	48,060	48,060	14,423
FY 2025	33,000	33,000	6,649
FY 2026	2,697	2,697	62,685
Total Design	**83,757**	**83,757**	**83,757**
Construction			
FY 2026	104,000	104,000	0
FY 2027	155,139	155,139	80,500
FY 2028	48,844	48,844	80,500
FY 2029	0	0	75,000
FY 2030	0	0	46,000
FY 2031	0	0	25,983
Total Construction	**307,983**	**307,983**	**307,983**
TEC			
Prior Years	48,060	48,060	14,423
FY 2025	33,000	33,000	6,649
FY 2026	106,697	106,697	62,685
FY 2027	155,139	155,139	80,500
FY 2028	48,844	48,844	80,500
FY 2029	0	0	75,000
FY 2030	0	0	46,000
FY 2031	0	0	25,983
Total TEC	**391,740**	**391,740**	**391,740**
Other Project Costs (OPC)			
Prior Years	17,205	17,205	17,205
FY 2025	0	0	0
FY 2026	2,459	2,459	1,459
FY 2027	12,000	12,000	2,500
FY 2028	19,830	19,830	4,500
FY 2029	6,766	6,766	5,000

FY 2030	0	0	10,000
FY 2031	0	0	17,596
Total, OPC	**58,260**	**58,260**	**58,260**
Total Project Costs (TPC)			
Prior Years	65,265	65,265	31,628
FY 2025	33,000	33,000	6,649
FY 2026	109,156	109,156	64,144
FY 2027	167,139	167,139	83,000
FY 2028	68,674	68,674	85,000
FY 2029	6,766	6,766	80,000
FY 2030	0	0	56,000
FY 2031	0	0	43,579
Total TPC	**450,000**	**450,000**	**450,000**

WECF Subproject (21-D-512-05)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	22,775	22,775	22,775
Total Design	**22,775**	**22,775**	**22,775**
Construction			
Prior Years	50,548	50,548	6,881
FY 2025	60,400	60,400	37,495
FY 2026	44,800	44,800	54,781
FY 2027	16,470	16,470	48,841
FY 2028	0	0	14,900
FY 2029	0	0	9,320
Total Construction	**172,218**	**172,218**	**172,218**
TEC			
Prior Years	73,323	73,323	29,656
FY 2025	60,400	60,400	36,754
FY 2026	44,800	44,800	54,781
FY 2027	16,470	16,470	48,841
FY 2028	0	0	14,900
FY 2029	0	0	10,061
Total TEC	**194,993**	**194,993**	**194,993**
Other Project Costs (OPC)			
Prior Years	7,745	7,745	7,745
FY 2025	200	200	206
FY 2026	200	200	200
FY 2027	5,862	5,862	1,000

	Budget Authority (Appropriations)	Obligations	Costs
FY 2028	0	0	3,100
FY 2029	0	0	1,756
Total, OPC	**14,007**	**14,007**	**14,007**
Total Project Costs (TPC)			
Prior Years	81,068	81,068	37,401
FY 2025	60,600	60,600	36,960
FY 2026	45,000	45,000	54,981
FY 2027	22,332	22,332	49,841
FY 2028	0	0	18,000
FY 2029	0	0	11,817
Total TPC	**209,000**	**209,000**	**209,000**

4. Details of Project Cost Estimate ($K)

Overall Project (21-D-512)

		Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	416,727	413,788	N/A
	Federal Design Support	13,675	13,675	N/A
	Contingency	58,396	58,396	N/A
Total Design		**488,798**	**485,859**	**N/A**
Construction				
	Site Work	133,840	106,632	N/A
	Equipment	257,969	242,491	N/A
	Construction	2,967,713	2,686,080	N/A
	Federal Design Support	103,358	89,234	N/A
	Contingency	1,391,824	1,239,496	N/A
Total Construction		**4,854,704**	**4,363,933**	**N/A**
Total Estimated Cost (TEC)[1]		**5,343,502**	**4,849,792**	**N/A**
Contingency, TEC		***1,450,220***	***1,297,892***	***N/A***
Other Project Costs (OPC)				
OPC except D&D				

[1] The reclassification of cost from OPCs to TEC reflects the implementation of the 30D strategy BCPs for 30D strategy. These shifts can be seen in the D&D, 30B, and 30R subproject Details of Project Cost Estimates.

Conceptual Activities	65,809	66,567	N/A
Startup	331,809	727,726	N/A
Contingency	138,311	221,268	N/A
Total OPC	**535,929**	**1,015,561**	**N/A**
Contingency, OPC	*138,311*	*221,268*	*N/A*
Total Project Cost[1]	**5,879,431**	**5,865,353**	**N/A**
Total Contingency (TEC+OPC)	***1,558,531***	***1,519,160***	***N/A***

[1] The current funding profile for LAP4 with a total project cost of $5,879,431,000 is more than the previous overall total project cost estimate of $5,865,353,000 but will be updated as the subprojects achieve CD-2/3.

D&D Subproject (21-D-512-01)

		Current[1] Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	27,183	22,684	22,689
	Federal Design Support	0	0	0
	Contingency	0	0	0
Total Design		**27,183**	**22,684**	**22,689**
Construction				
	Site Work	0	0	0
	Equipment	46,238	46,238	46,238
	Construction	298,159	296,164	258,244
	Federal Design Support	13,570	11,946	11,946
	Contingency	145,710	105,352	143,267
Total Construction		**503,677**	**459,700**	**459,695**
Total Estimated Cost (TEC)		**530,860**	**482,384**	**482,384**
Contingency, TEC		***145,710***	***105,352***	***143,267***
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Activities	7,740	8,616	8,616
	Startup	0	36,000	36,000
	Contingency	0	2,000	2,000
Total OPC		**7,740**	**46,616**	**46,616**
Contingency, OPC		*0*	*2,000*	*2,000*
Total Project Cost		**538,600**	**529,000**	**529,000**
Total Contingency (TEC+OPC)		***145,710***	***107,352***	***145,267***

[1] The Current Estimate reflects the implementation of 30D Strategy through the D&D BCP.

30B Subproject (21-D-512-02)

		Current[1] Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	110,992	120,449	204,894
	Federal Design Support	0	0	0
	Contingency	0	0	0
Total Design		**110,992**	**120,449**	**204,894**
Construction				
	Site Work	86,075	58,867	41,552
	Equipment	66,961	51,483	38,166
	Construction	1,090,346	746,114	729,249
	Federal Design Support	52,500	40,000	40,000
	Contingency	663,837	501,233	419,193
Total Construction		**1,959,719**	**1,397,697**	**1,268,160**
Total Estimated Cost (TEC)		**2,070,711**	**1,518,146**	**1,473,054**
Contingency, TEC		***663,837***	***501,233***	***419,193***
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Activities	27,714	27,596	27,596
	Startup	137,510	297,427	363,476
	Contingency	0	20,957	0
Total OPC		**165,224**	**345,980**	**391,072**
Contingency, OPC		*0*	*20,957*	*0*
Total Project Cost		**2,235,935**	**1,864,126**	**1,864,126**
Total Contingency (TEC+OPC)		***663,837***	***522,190***	***419,193***

[1] The Current Estimate reflects the implementation of 30D Strategy through the 30B BCP.

		Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	191,745	183,848	N/A
	Federal Design Support	9,490	9,490	N/A
	Contingency	42,856	42,856	N/A
Total Design		**244,091**	**236,194**	**N/A**
Construction				
	Site Work	0	0	N/A
	Equipment	98,414	98,414	N/A
	Construction	1,329,370	1,314,767	N/A
	Federal Design Support	22,458	22,458	N/A
	Contingency	460,865	509,287	N/A
Total Construction		**1,911,107**	**2,026,335**	**N/A**
Total Estimated Cost (TEC)		**2,155,198**	**2,262,529**	**N/A**
Contingency, TEC		***503,721***	***552,143***	***N/A***
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Activities	10,755	10,755	N/A
	Startup	152,972	352,972	N/A
	Contingency	126,971	186,971	N/A
Total OPC		**290,698**	**550,698**	**N/A**
Contingency, OPC		*126,971*	*186,971*	*N/A*
Total Project Cost		**2,445,896**	**2,813,227**	**N/A**
Total Contingency (TEC+OPC)		***630,692***	***739,114***	***N/A***

TDC Subproject (21-D-512-04)

		Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	64,332	64,332	N/A
	Federal Design Support	3,885	3,885	N/A
	Contingency	15,540	15,540	N/A
Total Design		**83,757**	**83,757**	**N/A**
Construction				
	Site Work	30,600	30,600	N/A
	Equipment	40,000	40,000	N/A
	Construction	143,642	143,642	N/A
	Federal Design Support	6,475	6,475	N/A
	Contingency	87,266	87,266	N/A
Total Construction		**307,983**	**307,983**	**N/A**
Total Estimated Cost (TEC)		**391,740**	**391,740**	**N/A**
Contingency, TEC		***102,806***	***102,806***	***N/A***
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Activities	17,760	17,760	N/A
	Startup	30,500	30,500	N/A
	Contingency	10,000	10,000	N/A
Total OPC		**58,260**	**58,260**	**N/A**
Contingency, OPC		*10,000*	*10,000*	*N/A*
Total Project Cost		**450,000**	**450,000**	**N/A**
Total Contingency (TEC+OPC)		***112,806***	***112,806***	***N/A***

WECF Subproject (21-D-512-05)

		Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	22,475	22,475	22,475
	Federal Design Support	300	300	300
	Contingency	0	0	0
Total Design		**22,775**	**22,775**	**22,775**
Construction				
	Site Work	17,165	17,165	17,165
	Equipment	6,356	6,356	6,356
	Construction	106,196	103,984	103,984
	Federal Design Support	8,355	8,355	8,355
	Contingency	34,146	36,358	36,358
Total Construction		**172,218**	**172,218**	**172,218**
Total Estimated Cost (TEC)		**194,993**	**194,993**	**194,993**
Contingency, TEC		***34,146***	***346,358***	***36,358***
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Activities	1,840	1,840	1,840
	Startup	10,827	10,827	10,827
	Contingency	1,340	1,340	1,340
Total OPC		**14,007**	**14,007**	**14,007**
Contingency, OPC		*1,340*	*1,340*	*1,340*
Total Project Cost		**209,000**	**209,000**	**209,000**
Total Contingency (TEC+OPC)		***35,486***	***37,698***	***37,698***

5. Schedule of Appropriations Requests ($K)

Request Year	Type	Prior Years	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Out Years	Total
FY 2020	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	26,156	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26,156
FY 2021	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
	TPC	1,552,156	200,000	200,000	N/A	N/A	N/A	N/A	N/A	N/A	1,952,156
FY 2022	TEC	506,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,985,000	3,491,000
	OPC	100,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	274,000	374,000
	TPC	606,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,259,000	3,865,000
FY 2023	TEC	1,735,234	593,160	563,515	305,000	12,300	0	0	0	0	3,209,209
	OPC	159,000	66,840	61,485	60,000	42,000	0	0	0	0	389,325
	TPC	1,894,234	660,000	625,000	365,000	54,300	0	0	0	0	3,598,534
FY 2024	TEC	1,628,318	591,271	521,120	665,139	674,933	0	0	0	0	4,080,781
	OPC	265,916	88,870	188,880	50,361	55,067	0	0	0	0	649,094
	TPC	1,894,234	680,141	710,000	715,500	730,000	0	0	0	0	4,729,875
FY 2025	TEC	1,628,318	381,130	626,212	850,139	853,307	503,189	0	0	0	4,842,295
	OPC	265,916	88,870	143,788	50,361	51,693	6,766	0	0	0	607,394
	TPC	1,894,234	470,000	770,000	900,500	905,000	509,955	0	0	0	5,449,689
FY 2026	TEC	1,615,318	406,875	568,079	N/A	N/A	N/A	N/A	N/A	2,259,520	4,849,792
	OPC	273,916	63,125	101,921	N/A	N/A	N/A	N/A	N/A	576,599	438,962
	TPC	1,889,234	470,000	670,000	N/A	N/A	N/A	N/A	N/A	2,836,119	5,865,353
FY 2027	TEC	1,678,871	463,949	454,984	762,029	588,670	423,189	440,732	531,078	0	5,343,502
	OPC	210,319	6,095	2,916	50,071	99,830	86,766	79,932	0	0	535,929
	TPC	1,889,190[1]	470,044	457,900	812,100	688,500	509,955	520,664	531,078	0	5,879,431

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	4Q FY 2032
Expected Useful Life (number of years)	50
Expected Future Start of D&D of this capital asset (fiscal quarter)	4Q FY 2082

Related Funding Requirements
2021 Base Year[2]
(Budget Authority in millions)

[1] In FY 2024, $5 million of AY 2024 funding was reprogrammed from 21-D-512 Los Alamos Pit Production Project, LANL to the Los Alamos Plutonium Operations program at LANL. The financial table reflects this reprogramming and is $5M less than the FY 2024 enacted of $670M.

[2] Life cycle costs associated with this project were developed as part of CD-1 and estimate updates to the operation and maintenance costs will be made as fabrication and installation progress occurs and market conditions adjust over time. Neither the Plutonium Pit Production Analysis of Alternatives (AoA) nor Plutonium Pit Production Engineering Assessment (EA) evaluated life cycle costs of reaching 30 ppy at LANL separately from reaching the full 80 ppy production rate for various LANL options.

	Annual Costs		Life Cycle Costs	
	Previous Total Estimate	Current Total Estimate	Previous Total Estimate	Current Total Estimate
Operations and Maintenance	88	88	9,800	9,800

7. D&D Information

The scope parameters established at CD-1 established the necessary site infrastructure improvements (WECF, TDC, temporary warehouse, material staging and laydown area, etc.) to support establishing a 30 ppy mission and to enable increased construction capacity, risk mitigation, and project efficiency.

These activities will include an increase in site square footage and the D&D of equipment within existing facilities. The D&D of existing facilities are not funded on this project. Some removal of contaminated equipment in PF-4 for space reuse will occur using project funds.

Gross Square Footage Created/Eliminated	WECF Square Feet	TDC Square Feet	Temporary Warehouse Square Feet
New area to be constructed by this project at Los Alamos National Laboratory	23,802	130,000	80,000
Area of D&D in this project at Los Alamos National Laboratory	0	0	0
Area at Los Alamos National Laboratory to be transferred, sold, and/or D&D outside the project including area previously "banked"	23,802	130,000	80,000
Area of D&D in this project at other sites	0	0	0
Area at other sites to be transferred, sold, and/or D&D outside the project including area previously "banked	0	0	0
Total area eliminated	0	0	0

8. Acquisition Approach

Expansion of pit production capacity at LANL will be accomplished with the installation of systems of gloveboxes and equipment. Equipment installation to provide the capability to produce ten ppy will be accomplished using program funding in the Plutonium Modernization Program. NNSA led glovebox efforts such as the Matrixed Execution Team (MET) and Interface meetings continue to drive the prioritization, integration, and coordination of critical glovebox fabrications across the complex and within the supply chain. The installation of equipment to produce more than ten ppy will be accomplished through this project. The LANL management and operating (M&O) contractor will execute design, and construction will be implemented with cleared and accomplished by the LANL craft resources. Subcontract installation of equipment is not feasible within PF-4, due to concurrent operational activities and the requisite security and safety restraints. The performance baselines for each subproject will be established upon completion of 90 percent design maturity, to allow development of credible cost estimates in accordance with DOE O 413.3B and NNSA policy. For infrastructure, non-nuclear design and construction will be executed via M&O-issued design-bid-build and design-build construction contracts. The performance baselines for each subproject will be established using a graded approach for design maturities appropriate for the various facility types, and to allow development of credible cost estimates in accordance with DOE O 413.3B and NNSA policy.

04-D-125, Chemistry and Metallurgy Research Replacement (CMRR) Project,
Los Alamos National Laboratory (LANL), Los Alamos, New Mexico
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary:
The Fiscal Year (FY) 2027 Request for the Chemistry and Metallurgy Research Replacement (CMRR) Project is $110,000,000 supporting subprojects for equipment installation in the Plutonium Facility 4 (PF-4), and associated infrastructure for related operations at PF-4.

The CMRR Project provides continuity in analytical chemistry (AC) and materials characterization (MC) capabilities through the relocation of programmatic operations from the existing Chemistry and Metallurgy Research (CMR) facility and provides infrastructure and support facilities for consolidated operations at the Technical Area-55 (TA-55) site. With the baselining of the final subproject, PF-4 Equipment Installation Phase 2 (PEI2), the overall total project cost estimate (TEC) is $2,886,230,000 at a 75 percent confidence level with a projected CD-4 date of 3Q FY 2034 at an 85 percent confidence level.

Significant Changes:
The FY 2027 Construction Project Data Sheet (CPDS) is an update of the FY 2026 CPDS and does not include a new start for the budget year.

FY 2027 funding will be used to support continued construction to replace existing equipment, install gloveboxes and equipment, increase capacity for change rooms leading into PF-4, upgrades in capacity for vehicular entrances/exits to and from TA-55, and upgrades to existing PF-4 ingress/egress security posts for essential capacity increases related to CMRR missions.

The current CMRR subprojects are listed below, and further completion details are described in Section 2 of this document.

RLUOB Subproject (04-D-125-01): *COMPLETE* - CD-4 approved on June 24, 2010.

RLUOB Equipment Installation Phase 1 (REI1) Subproject (04-D-125-02): *COMPLETE* - CD-4 approved on June 20, 2013.

Nuclear Facility (NF) Subproject (04-D-125-03): *CANCELLED* - This subproject was cancelled.

RLUOB Equipment Installation Phase 2 (REI2) Subproject (04-D-125-04): *COMPLETE – CD*-4 approved on December 20, 2021.

PEI1 Subproject (04-D-125-05): *COMPLETE* – CD-4 approved on January 8, 2021.

PEI2 Subproject (04-D-125-06): Maximizes use of PF-4 by consolidating and relocating existing capabilities, replacing existing equipment, installing gloveboxes and equipment, and development of infrastructure supporting AC/MC mission relocation to TA-55. PEI2 will establish enduring AC and MC capabilities for supporting National Nuclear Security Administration (NNSA) actinide-based missions. PEI2 also improves TA-55 and PF-4 personnel and vehicular ingress/egress, levels of worker preparation/staging and warehousing for relocated AC/MC operations and personnel. See Section 2 of this datasheet for additional detail on *Project Scope and Justification*. Underruns from PEI1 and REI2 and funding from RC3 were utilized to fund remaining

performance baselines. PEI2 was paused in 2017 and restarted in March 2022. CD-3B, Change Room Expansion and Post 118 expansion, was approved in February 2021 at $89,000,000. CD-3C, Long-Lead Equipment Procurement, was approved in December 2022 at $53,900,000. CD-2/3 was approved for PEI2 at a Total Project Cost (TPC) of $1,185,816,000 and CD-4 date of June 2034.

RC3 Subproject (04-D-125-07): *COMPLETE* – The scope maximized the use of RLUOB by converting the facility to a Hazard Category 3 Nuclear Facility from the original radiological categorization. The facility was originally limited to 8.9 grams and now limited to 400 grams of Plutonium. RC3 remaining scope was removed based on the November 2024 CD-1RR and this subproject is now considered complete.

A Level 4 Federal Project Director (FPD) has been appointed to this project and has approved this data sheet.

Critical Milestone History[1]

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2004	7/16/2002	N/A	1QFY2004		N/A	2QFY2004	N/A	1QFY2011
FY 2005	7/16/2002	N/A	3QFY2004		N/A	3QFY2005	N/A	3QFY2012
FY 2006	7/16/2002	N/A	2QFY2005	4QFY2005	N/A	1QFY2006	N/A	4QFY2010
FY 2007	7/16/2002	N/A	9/30/2005	1QFY2006	N/A	1QFY2006	N/A	1QFY2013
FY 2008	7/16/2002	N/A	9/30/2005	10/21/2005	N/A	1QFY2006	N/A	1QFY2013
FY 2009	7/16/2002	N/A	9/30/2005	TBD	N/A	TBD	N/A	TBD
FY 2010	7/16/2002	N/A	9/30/2005	TBD	N/A	TBD	N/A	TBD
FY 2011	7/16/2002	N/A	5/18/2005	TBD	N/A	TBD	N/A	TBD
FY 2012	7/16/2002	N/A	5/18/2005	4QFY2012	N/A	4QFY2012	N/A	TBD
FY 2012 Rep	7/16/2002	N/A	5/18/2005	TBD	TBD	TBD	N/A	TBD
FY 2016	7/16/2002	N/A	4QFY2014	3QFY2016	2QFY2016	3QFY2016	4QFY2019	4QFY2024
FY 2017	7/16/2002	N/A	8/21/2014	3QFY2016	2QFY2016	3QFY2016	4QFY2019	4QFY2024
FY 2018	7/16/2002	N/A	8/21/2014	2QFY2022	3QFY2021	2QFY2022	4QFY2026	4QFY2026
FY 2019	7/16/2002	N/A	8/21/2014	4QFY2022	4QFY2022	4QFY2022	4Q FY 2026	4QFY2026
FY 2020	7/16/2002	N/A	8/21/2014	10/31/2016	12/1/2016	10/31/2016	N/A	3QFY2022
FY 2021	7/16/2002	N/A	8/21/2014	1QFY2023	2QFY2023	2QFY2023	4QFY2025	4QFY2029
FY 2022	7/16/2002	N/A	8/21/2014	4QFY2023	4QFY2023	4QFY2023	3QFY2028	4QFY2029
FY 2023	7/16/2002	N/A	8/21/2014	3QFY2024	2QFY2024	3QFY2024	4QFY2029	4QFY2029
FY 2024	7/16/2002	N/A	8/21/2014	3QFY2024	2QFY2024	3QFY2024	4QFY2029	4QFY2029
FY 2026	7/16/2002	N/A	11/6/2024	11/6/2024	11/6/2024	11/6/2024	N/A	3QFY2034
FY 2027	7/16/2002	N/A	11/6/2024	11/6/2024	11/6/2024	11/6/2024	N/A[2]	3QFY2034

[1] Critical milestone history reflects no milestones in FY2013, FY2014, FY2015, and FY2025 since no budget requests were submitted in these years.
[2] The D&D scope associated with the PEI2 subproject was de-scoped as part of the CD-1RR and CD-2/3 approval process.

RLUOB Subproject (04-D-125-01)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2011	7/16/2002	N/A	5/18/2005	10/21/2005	N/A	10/21/2005	N/A	2/28/2010
FY 2012	7/16/2002	N/A	5/18/2005	10/21/2005	N/A	10/21/2005	N/A	6/24/2010
FY 2012 Rep	7/16/2002	N/A	5/18/2005	10/21/2005	N/A	10/21/2005	N/A	6/24/2010[1]

REI1 Subproject (04-D-125-02)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2011	7/16/2002	N/A	5/18/2005	7/17/2009	N/A	7/17/2009	N/A	4/30/2013
FY 2012	7/16/2002	N/A	5/18/2005	7/17/2009	N/A	7/17/2009	N/A	4/30/2013
FY 2012 Rep	7/16/2002	N/A	5/18/2005	7/17/2009	N/A	7/17/2009	N/A	6/20/2013[2]

Nuclear Facility (NF) Subproject (04-D-125-03)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2011	7/16/2002	N/A	5/18/2005	TBD	N/A	TBD	N/A	TBD
FY 2012	7/16/2002	N/A	5/18/2005	4QFY2012	N/A	4QFY2012	N/A	TBD
FY 2012 Rep	7/16/2002	N/A	5/18/2005	TBD	TBD	TBD	N/A	TBD
FY 2016	7/16/2002	N/A	5/18/2005	Cancelled	Cancelled	Cancelled	N/A	Cancelled[2]

[1] This subproject is complete, and the project history has not changed.
[2] This subproject remains canceled, and the project history has not changed.

REI2 Subproject (04-D-125-04)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2016	7/16/2002	8/21/2014	8/21/2014	3QFY2016	2QFY2016	3QFY2016	N/A	1QFY2020
FY 2017	7/16/2002	8/21/2014	8/21/2014	3QFY2016	2QFY2016	3QFY2016	N/A	1Q FY2020
FY 2018 PB	7/16/2002	8/21/2014	8/21/2014	10/31/2016	4/6/2016	10/31/2016	N/A	2QFY2022
FY 2019	7/16/2002	8/21/2014	8/21/2014	10/31/2016	4/6/2016	10/31/2016	N/A	2QFY2022
FY 2020	7/16/2002	8/21/2014	8/21/2014	10/31/2016	4/6/2016	10/31/2016	N/A	2QFY2022
FY 2021	7/16/2002	8/21/2014	8/21/2014	10/31/2016	4/6/2016	10/31/2016	N/A	2QFY2022
FY 2022	7/16/2002	8/21/2014	8/21/2014	10/31/2016	4/6/2016	10/31/2016	N/A	2QFY2022
FY 2023	7/16/2002	8/21/2014	8/21/2014	10/31/2016	4/6/2016	10/31/2016	N/A	12/20/2021[1]

Fiscal Quarter or Date

Fiscal Year	CD-3A	CD-3B
FY 2016	12/18/2014	2QFY2015
FY 2017	12/18/2014	12/22/2015
FY 2018	12/18/2014	12/22/2015
FY 2019	12/18/2014	12/22/2015
FY 2020	12/18/2014	12/22/2015
FY 2021	12/18/2014	12/22/2015
FY 2022	12/18/2014	12/22/2015
FY 2023	12/18/2014	12/22/2015

CD-3A – Approve Long-Lead Procurements
CD-3B – Approve Long-Lead Procurements

PEI1 Subproject (04-D-125-05)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2016	7/16/2002	4QFY2015	4QFY2014	3QFY2016	2QFY2016	3QFY2016	4QFY2019	1QFY2024
FY 2017	7/16/2002	8/21/2014	8/21/2014	3QFY2016	2QFY2016	3QFY2016	4QFY2019	1QFY2020
FY 2018 PB	7/16/2002	8/21/2014	8/21/2014	10/31/2016	12/1/2016	10/31/2016	4QFY2019	3QFY2022
FY 2019	7/16/2002	8/21/2014	8/21/2014	10/31/2016	12/1/2016	10/31/2016	4QFY2019	3QFY2022
FY 2020	7/16/2002	8/21/2014	8/21/2014	10/31/2016	12/1/2016	10/31/2016	4QFY2019	3QFY2022
FY 2021	7/16/2002	8/21/2014	8/21/2014	10/31/2016	12/1/2016	10/31/2016	4QFY2019	3QFY2022
FY 2022	7/16/2002	8/21/2014	8/21/2014	10/31/2016	12/1/2016	10/31/2016	11/12/2019	1/8/2021[2]

[1] This subproject is complete, and the project history has not changed.
[2] This subproject is complete, and the project history has not changed.

Fiscal Quarter or Date

Fiscal Year	CD-3A	CD-3B
FY 2016	3/18/2015	12/22/2015
FY 2017	3/18/2015	12/22/2015
FY 2018	3/18/2015	12/22/2015
FY 2019	3/18/2015	12/22/2015
FY 2020	3/18/2015	12/22/2015
FY 2021	3/18/2015	12/22/2015
FY 2022	3/18/2015	12/22/2015

CD-3A – Approve Long-Lead Procurements
CD-3B – Approve Long-Lead Procurements

PEI2 Subproject (04-D-125-06)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2016	7/16/2002	8/21/2014	4QFY2014	3QFY2016	2QFY2016	3QFY2016	4QFY2019	1QFY2024
FY 2021	7/16/2002	8/21/2014	8/21/2014	2QFY2023	2QFY2023	2QFY2023	4QFY2025	4QFY2028
FY 2022	7/16/2002	8/21/2014	8/21/2014	3QFY2023	3QFY2023	3QFY2023	3QFY2028	4QFY2029
FY 2023	7/16/2002	8/21/2014	8/21/2014	3QFY2023	2QFY2023	3QFY2023	4QFY2029	4QFY2029
FY 2024	7/16/2002	8/21/2014	8/21/2014	3QFY2023	2QFY2023	3QFY2023	4QFY2029	4QFY2029
FY 2026	7/16/2002	8/21/2014	11/6/2024	11/6/2024	11/6/2024	11/6/2024	N/A	3QFY2034
FY 2027	7/16/2002	8/21/2014	11/6/2024	11/6/2024	11/6/2024	11/6/2024	N/A[1]	3QFY2034

Fiscal Quarter or Date

Fiscal Year	CD-3A	CD-3B	CD-3C
FY 2016	3/18/2015	N/A	N/A
FY 2017	3/18/2015	N/A	N/A
FY 2018	3/18/2015	N/A	N/A
FY 2019	3/18/2015	N/A	N/A
FY 2020	3/18/2015	N/A	N/A
FY 2021	3/18/2015	2QFY2022	N/A
FY 2022	3/18/2015	2/3/2021	N/A
FY 2023	3/18/2015	2/9/2021	N/A
FY 2024	3/18/2015	2/9/2021	12/28/2022

CD-3A – D&D of Room 200 Area
CD-3B – Infrastructure scope/early site security/access
CD-3C – Approve Long-Lead Procurements

[1] The D&D scope associated with the PEI2 subproject was de-scoped as part of the CD-1RR and CD-2/3 approval process.

RC3 (04-D-125-07)[1]

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2016	7/16/2002	8/21/2014	4QFY2014	3QFY2018	2QFY2017	4QFY2017	N/A	1QFY2024
FY 2021	7/16/2002	8/21/2014	4QFY2014	2QFY2023	2QFY2023	2QFY2023	N/A	4QFY2028
FY 2022	7/16/2002	8/21/2014	8/21/2014	4QFY2023	4QFY2023	1QFY2024	N/A	4QFY2028
FY 2023	7/16/2002	8/21/2014	8/21/2014	3QFY2024	2QFY2024	3QFY2024	N/A	4QFY2028
FY 2024	7/16/2002	8/21/2014	8/21/2014	3QFY2024	2QFY2024	3QFY2024	N/A	4QFY2028
FY 2026	7/16/2002	8/21/2014	11/6/2024	N/A	N/A	N/A	N/A	N/A

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable)
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete(d)
CD-3 – Approve Start of Construction
D&D Complete – Completion of D&D work
CD-4 – Approve Start of Operations or Project Closeout

[1] RC3 has been deemed completed based on November 6,2024 CD-1RR. The completed scope maximized the use of RLUOB by converting the facility to a Hazard Category 3 Nuclear Facility from the original radiological categorization. The facility was originally limited to 8.9 grams and is now limited to 400 grams of plutonium. RC3 originally included construction scope, which was removed with CD-1RR November 6, 2024; therefore, there are no CD-2/3/4 dates associated with this subproject.

Project Cost History[1] ($K)

Fiscal Year	TEC, Design 03-D-103	TEC, Design/Construction 04-D-125	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2004	N/A	N/A	500,000	100,000	N/A	N/A	600,000
FY 2005	N/A	N/A	500,000	100,000	N/A	N/A	600,000
FY 2006	N/A	N/A	750,000	100,000	N/A	N/A	850,000
FY 2007	N/A	N/A	738,097	100,000	N/A	N/A	838,097
FY 2008	65,939	672,158	738,097	100,000	N/A	N/A	838,098
FY 2009	TBD	TBD	TBD	TBD	N/A	TBD	TBD
FY 2010	65,138	TBD	TBD	TBD	N/A	TBD	TBD
FY 2016	63,646	2,295,936	2,359,582	463,721	54,000	517,721	2,877,303
FY 2017	63,646	2,243,436	2,307,082	516,221	54,000	570,221	2,877,303
FY 2018	63,573	2,209,842	2,273,415	549,815	54,000	603,815	2,877,230
FY 2019	63,573	2,209,069	2,272,642	550,588	54,000	604,588	2,877,230
FY 2020	63,573	1,492,091	1,555,664	336,089	N/A	336,089	1,891,753[2]
FY 2021	63,573	2,209,069	2,272,642	550,588	54,000	604,588	2,877,230
FY 2022	63,573	2,241,987	2,305,560	526,670[3]	54,000	580,670	2,886,230
FY 2023	63,573	2,293,647	2,357,220	493,730	35,280	529,010	2,886,230
FY 2024	63,573	2,293,647	2,357,220	493,730	35,280	529,010	2,886,230
FY 2026	63,573	2,451,983	2,515,556	370,674	-	370,674	2,886,230
FY 2027[4]	63,573	2,349,422	2,412,995	370,574	-	370,574	2,783,569

RLUOB Subproject (04-D-125-01) ($K)

Fiscal Year	TEC, Design 03-D-103	TEC, Design/Construction 04-D-125	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2011	N/A	159,130	159,130	4,870	N/A	4,870	164,000
FY 2012	N/A	159,130	159,130	4,870	N/A	4,870	164,000
FY 2012 Rep	N/A	159,130	159,130	4,870	N/A	4,870	164,000
FY 2016[5]	N/A	194,130	194,130	4,870	N/A	4,870	199,000

[1] Project cost history reflects no budgets in FY 2013, FY 2014, FY 2015, and FY 2025 since no CPDS or budget requests were submitted in these years.
[2] In the FY 2020 CMRR Data Project Data Sheet the PEI2 and RC3 subprojects were removed from the CMRR project and funded under the Plutonium Pit Production Project in accordance with the Conference Report.
[3] The published FY 2022 CPDS OPC was incorrectly stated as $520,035,000. The rest of the FY 2022 numbers were correct. The FY 2022 number has been updated to correct this previous typographical error in the FY 2022 submittal.
[4] The FY2027 figure represents the current funding profile for CMRR with a total project cost of $2,783,569,000 and it is less than the performance baseline's overall total project cost estimate is $2,886,230,000. The FY2028 and outyear funding is currently being worked with the program to restore funding levels.
[5] This subproject is complete, and the project history has not changed.

REI1 Subproject (04-D-125-02) ($K)

Fiscal Year	TEC, Design 03-D-103	TEC, Design/Construction 04-D-125	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2011	N/A	152,900	152,900	46,500	N/A	46,500	199,400
FY 2012	N/A	152,900	152,900	46,500	N/A	46,500	199,400
FY 2012 Rep	N/A	152,900	152,900	46,500	N/A	46,500	199,400
FY 2016[1]	N/A	151,963	151,963	44,797	N/A	44,797	196,760

NF Subproject (03-D-103 and 04-D-125-03) ($K)

Fiscal Year	TEC, Design 03-D-103	TEC, Design/Construction 04-D-125	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2011	65,138	TBD	TBD	TBD	N/A	TBD	TBD
FY 2012	65,138	3,239,862 – 5,169,862	3,305,000 – 5,235,000	405,000 - 625,000	N/A	405,000- 625,000	3,710,000 - 5,860,000
FY 2012 Rep	65,138	TBD	TBD	4,870	N/A	TBD	TBD
FY 2016	63,646	391,324	454,970	40,274	N/A	40,274	495,244
FY 2017	63,646	391,324	454,970	40,274	N/A	40,274	495,244
FY 2018[2]	63,573	336,919	400,492	39,054	N/A	39,054	439,546

REI2 Subproject (04-D-125-04) ($K)

Fiscal Year	TEC, Design 03-D-103	TEC, Design/Construction 04-D-125	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2016	-	540,000	540,000	135,000	N/A	135,000	675,000
FY 2017	-	540,000	540,000	135,000	N/A	135,000	675,000
FY 2018 PB	-	488,040	488,040	145,210	N/A	145,210	633,250
FY 2019	-	488,040	488,040	145,210	N/A	145,210	633,250
FY 2020	-	488,040	488,040	145,210	N/A	145,210	633,250
FY 2021	-	488,040	488,040	145,210	N/A	145,210	633,250
FY 2022	-	451,517	451,517	111,090	N/A	111,090	562,607
FY 2023	-	410,659	410,659	106,191	N/A	106,191	516,850
FY 2024	-	410,201	410,201	103,343	N/A	103,343	513,544
FY 2026	-	412,488	412,488	103,193	N/A	103,193	515,681[3]

[1] This subproject is complete, and the project history has not changed.
[2] This subproject remains canceled, and the project history has not changed.
[3] REI2 achieved CD-4 in December 2021, with an approved TPC of $509,300,000 the subproject is currently completing financial closeout and the actual will be updated to reflect the final costs in the next project data sheet. The tables reflect the final costs of $515,681,000.

PEI1 Subproject (04-D-125-05) ($K)

Fiscal Year	TEC, Design 03-D-103	TEC, Design/Construction 04-D-125	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2016	-	1,071,000	1,071,000	240,000	54,000	294,000	1,365,000
FY 2017	-	257,595	257,595	57,405	N/A	57,405	315,000
FY 2018 PB	-	292,300	292,300	101,700	N/A	101,700	394,000
FY 2019	-	292,300	292,300	101,700	N/A	101,700	394,000
FY 2020	-	292,300	292,300	101,700	N/A	101,700	394,000
FY 2021	-	292,300	292,300	101,700	N/A	101,700	394,000
FY 2022	-	231,400	231,400	52,600	N/A	52,600	284,000
FY 2023	-	220,701	220,701	56,905	N/A	56,905	277,606
FY 2024[1]	-	220,719	220,719	56,454	N/A	56,454	277,173

PEI2 Subproject (04-D-125-06) ($K)

Fiscal Year	TEC, Design 03-D-103	TEC, Design/ Construction 04-D-125	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2016	-	471,500	471,500	159,500	54,000	213,500	685,000
FY 2020	-	28,739	28,739	296	N/A	296	29,035
FY 2021	-	475,242	475,242	146,098	54,000	200,098	675,340
FY 2022	-	538,662	538,662	156,533	54,000	210,533	749,195
FY 2023	-	590,413	590,413	118,356	35,280	153,636	744,049
FY 2024	-	625,693	625,693	118,356	-	118,356	744,049
FY 2026[2]	-	1,103,356	1,103,356	82,460	-	82,460	1,185,816
FY 2027	-	1,000,795	1,000,795	82,360	-	82,360	1,083,155

[1] This subproject is complete, and the project history has not changed.

[2] FY 2026 had an offsetting discrepancy between TEC and OPC costs. The TEC total should have been $1,103,456 and the OPC total was $82,360, consistent with detailed cost estimate baseline values. This has been corrected in FY 2027.

RC3 (04-D-125-07) ($K)

Fiscal Year	TEC, Design 03-D-103	TEC, Design/Construction 04-D-125	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2016	-	289,405	289,405	75,595	N/A	75,595	365,000
FY 2020	-	-	-	162	N/A	162	162
FY 2021	-	270,475	270,475	68,859	N/A	68,859	339,334
FY 2022	-	337,396	337,396	117,726	N/A	117,726	455,122[1]
FY 2023	-	388,862	388,862	123,557	N/A	123,557	512,419
FY 2024	-	390,801	390,801	125,357	N/A	125,357	516,158
FY 2026	-	32,408	32,408	39,848	N/A	39,848	72,254[2]

2. Project Scope and Justification

Scope

The CMRR Project, as originally proposed, relocated, and consolidated mission critical AC, material MC, and actinide research and development (R&D) capabilities; and provided special nuclear material (SNM) storage and large vessel handling capabilities. The SNM storage and large vessel handling capabilities originally planned for CMRR-NF are not included in the current set of CMRR subprojects and have been addressed by programmatic operations. This data sheet provides information related to the one ongoing subproject to transition AC and MC capabilities into PF-4, to ensure continuity in plutonium support capabilities and enable the cessation of program operations in CMR.

The list of CMRR line-item subprojects since inception are:

- **RLUOB Subproject (04-D-125-01):** Construction of a 203,686 gross square foot (gsf) facility to house laboratory space capable of handling radiological quantities of SNM; a 22,071 gsf utility building sized to provide utility services (including chilled and hot water, potable hot/cold water, compressed air, and process gases) for all CMRR facility elements; office space for CMRR workers located outside of perimeter security protection systems; and space for centralized TA-55 training activities. The RLUOB became fully functional and operational after the completion of the equipment installation effort for this facility in the REI phase.

- **RLUOB Equipment Installation (REI) Subproject (04-D-125-02):** Equipment installation included gloveboxes, hoods, AC/MC instrumentation, security and communication hardware, and final facility tie-ins and operational readiness/turnover activities. RLUOB equipment fabrication, installation, testing, and acceptance physically completed in FY 2012. Staff occupation of the office spaces in FY 2012 occurred and CD-4 was approved. The facility exceeded its sustainability goal of LEED Silver by achieving LEED Gold in June 2012.

- **Nuclear Facility (NF) Subproject (04-D-125-03):** This subproject is cancelled with the remaining mission need (excluding SNM storage and large vessel handling) for CMRR to be met by other subprojects.

[1] The high end of the cost range of the subproject was increased to reflect the completion of PEI1 and REI2 subprojects and application of the underruns to the existing scope. The underruns were used/made available to address existing scope as performance baselines were established.
[2] RC3 has been deemed complete based on CD-1RR, and the project history has not changed.

- **REI Phase 2 (REI2) Subproject (04-D-125-04):** Maximizes the use of RLUOB laboratories by both reconfiguring some existing laboratory space and equipping empty laboratories with AC and MC capabilities. Until the RC3 subproject was completed, the RLUOB was operated at a radiological limit, 38.6 g of Pu-239 equivalent, consistent with the NNSA Supplemental Guidance NA-1 SD G 1027. New gloveboxes/hoods and equipment were installed in RLUOB through this subproject. This project makes progress toward ceasing program operations in CMR. Specific capabilities in REI2 scope include the following:
  - Trace Elements Sample Preparation
  - Mass Spectrometry Sample Preparation
  - X-Ray Fluorescence Sample Preparation and Instruments
  - Radiochemistry Counting Laboratory and Sample Preparation
  - Oxide and Metal Sample Distribution
  - Coulometry
  - AC and MC Capabilities for R&D and Troubleshooting

- **PF-4 Equipment Installation Phase 1 (PEI1) Subproject (04-D-125-05):** The PEI1 subproject involved the following: relocation of existing PF-4 processes within PF-4 to create open consolidated space, reusing existing gloveboxes for new processes, decontamination and decommissioning (D&D) of old gloveboxes/equipment in PF-4 to create open laboratory space; and installation of new gloveboxes/equipment in the created open space. PEI1 supports the AC and MC capabilities that require the processing of larger amounts of nuclear material. This project made progress toward ceasing program operations in CMR. These capabilities support pit production, pit surveillance, plutonium science and other national security programs. The removal work was executed as site-prep work within this subproject. Specific capabilities in PEI1 scope included:
  - Sample Preparation Surface Science
  - Mechanical Testing
  - Physical Properties
  - Small Sample Fabrication and Preparation

- **PF-4 Equipment Installation Phase 2 (PEI2) Subproject (04-D-125-06):** This scope will maximize use of PF-4 by consolidating and relocating existing capabilities within PF-4, replacing existing equipment, and installing gloveboxes and equipment. PEI2 will establish enduring AC and MC capabilities for supporting NNSA actinide-based missions, including pit production. PEI scope also includes the following construction and facilities upgrades:
  - New Construction to increase capacity for change rooms leading into PF-4.
  - Upgrade in capacity for vehicular entrances/exits to and from TA-55.
  - Upgrades to existing PF-4 ingress/egress security posts for essential capacity increases related to CMRR missions.

- **RLUOB Hazard Category 3 (RC3) (04-D-125-07):** The subproject is deemed completed now that NNSA has converted the Radiological Laboratory to a Hazard Category 3 Nuclear Facility; remaining scope has been removed. The scope maximizes the use of RLUOB by converting the facility to a Hazard Category 3 Nuclear Facility from the original radiological categorization. The facility was originally limited to 8.9 grams and is now limited to 400 grams of Plutonium.

Justification

As defined in the most recent revision of the Mission Need Statement (MNS), the mission of the CMRR Project is to ensure continuity in AC and MC capabilities for NNSA actinide-based missions in support of stockpile stewardship. The AC and MC capabilities provided by this project support pit production, pit surveillance, plutonium science and other national security programs. During development of the plutonium strategy, the joint Department of Defense-Cost Analysis and Program Evaluation business case analysis indicated that optimizing RLUOB and repurposing space in PF-4 should be started as soon as possible to maintain continuity in AC and MC capabilities.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B. Funds appropriated under this data sheet may be used for contracted support services to the FPD to conduct independent assessments of the planning and execution of this project required by DOE O 413.3B and to conduct technical reviews of design and construction documents.

Key Performance Parameters (KPPs)

PF-4 Equipment Installation Phase 2 (PEI2) Subproject (04-D-125-06)

Item No.	Performance
KPP-PEI2-1	Complete personnel access infrastructure upgrades to enable reliable 24/7 operations for PF-4 in support of the 30 PPY mission. Specifically, Reconfigure and expand the two PF-4 security posts to accommodate 1,200 personnel/day with average wait times under 15 minutes as shown in ALDWP Engineering Process Modeling evaluation of the entry control facilities; and Expand men and women change rooms, and laundry facilities to support 24/7 operations.
KPP-PEI2-2	Increase vehicle access capacity of the TA-55 Protected Area (PA) to enable the required capability to support the required 24/7 schedule. Reconfigure East Vehicle Access and West Vehicle Access for the TA-55 PA with the required security features and be fully functional and turned over for operational activities to support expansion of vehicle access.
KPP-PEI2-3	Install enduring Material Characterization capabilities in PF-4 as described in TTO-PEI2-105118-00001, *PEI2 Transition to Operations Plan for Equipment Installation*.

3. Financial Schedule ($K)

Total Project[1]

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design (03-D-103-010)			
Prior Years - FY 2024	63,573	63,573	63,573
Total Design (03-D-103-010)	**63,573**	**63,573**	**63,573**
Design (04-D-125)			
Prior Years - FY 2024	670,290	670,290	667,781
FY 2025	-	-	2,509
Total Design (04-D-125)	**670,290**	**670,290**	**670,290**
Construction			
Prior Years - FY 2024	1,422,812	1,411,367	1,019,253
FY 2025	-	-3,560	103,624
FY 2026	-	15,005	176,340
FY 2027	110,000	110,000	126,921
FY 2028	77,200	77,200	126,737
FY 2029	69,120	69,120	75,000
FY 2030	-	-	46,914
FY 2031	-	-	2,800
Outyears	-	-	1,543
Total Construction	**1,679,132**	**1,679,132**	**1,679,132**
TEC			
Prior Years - FY 2024	2,156,675	2,145,230	1,750,607
FY 2025	-	-3,560	106,133
FY 2026	-	15,005	176,340
FY 2027	110,000	110,000	126,921
FY 2028	77,200	77,200	126,737
FY 2029	69,120	69,120	75,000
FY 2030	-	-	46,914
FY 2031	-	-	2,800
Outyears	-	-	1,543
Total TEC	**2,412,995**	**2,412,995**	**2,412,995**
Other Project Costs (OPC)			
(OPC)			
Prior Years - FY 2024	108,408	108,408	104,983
FY 2025	-	-	-

[1] Reflects reprogramming of $3M of FY 2021 BA and $2M of FY 2022 BA to the TA-55 Reinvestment Project, Phase III. Reflects reprogramming of $2M of FY 2021 BA and $3M of FY 2022 BA to the Transuranic Liquid Waste project. Reflects reprogramming of $20M of FY 2023 BA to the Uranium Processing Facility project and $232.96M used as offset in FY 2023.

	Budget Authority (Appropriations)	Obligations	Costs
FY 2026	-	-	3,425
Total OPC	**108,408**	**108,408**	**108,408**
(OPC except D&D)			
Prior Years - FY 2024	220,186	220,186	186,336
FY 2025	-	-	2,338
FY 2026	-	-	1,788
FY 2027	-	-	10,000
FY 2028	35,000	35,000	25,000
FY 2029	6,980	6,980	20,000
FY 2030	-	-	10,000
FY 2031	-	-	5,000
Outyears	-	-	1,704
Total OPC except D&D	**262,166**	**262,166**	**262,166**
OPC Total			
Prior Years - FY 2024	328,594	328,594	291,319
FY 2025	-	-	2,338
FY 2026	-	-	5,213
FY 2027	-	-	10,000
FY 2028	35,000	35,000	25,000
FY 2029	6,980	6,980	20,000
FY 2030	-	-	10,000
FY 2031	-	-	5,000
Outyears	-	-	1,704
Total, OPC	**370,574**	**370,574**	**370,574**
Total Project Costs (TPC)			
Prior Years - FY 2024[a]	2,485,269	2,473,824	2,041,926
FY 2025	-	-3,560	108,471
FY 2026	-	15,005	181,553
FY 2027	110,000	110,000	136,921
FY 2028	112,200	112,200	151,737
FY 2029	76,100	76,100	95,000
FY 2030	-	-	56,914
FY 2031	-	-	7,800
Outyears	-	-	3,247
Total TPC [1]	**2,783,569**	**2,783,569**	**2,783,569**

[1] The current funding profile for CMRR is less than the performance baseline's overall total project cost estimate of $2,886,230,000.

Prior Subprojects (RLUOB/REI/Nuclear Facility) 03-D-103-010[1] & 04-D-125-01, -02, -03)

		Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)				
Design (03-D-103-010)				
	Prior Years - FY 2018	63,573	63,573	63,573
Total Design (03-D-103-010)		**63,573**	**63,573**	**63,573**
Design (04-D-125)				
	Prior Years - FY 2018	386,929	386,929	386,929
Total Design (04-D-125)		**386,929**	**386,929**	**386,929**
Total Design				
	Prior Years - FY 2018	450,502	450,502	450,502
Total Design		**450,502**	**450,502**	**450,502**
Construction				
	Prior Years - FY 2018	296,083	296,083	296,083
Total Construction		**296,083**	**296,083**	**296,083**
TEC				
	Prior Years - FY 2018	746,585	746,585	746,585
Total TEC		**746,585**	**746,585**	**746,585**
Other Project Costs (OPC)				
(OPC non-capital)				
	Prior Years - FY 2018	88,721	88,721	88,721
Total Project Costs (TPC)		**88,721**	**88,721**	**88,721**
	Prior Years - FY 2018			
Total TPC		**835,306**	**835,306**	**835,306**

[1] 03-D-103-010 CPDS funded design efforts on multiple line-item projects starting in 2003. Subsequently the funding of design and construction was shifted to 04-D-125.

REI Phase 2 (REI2) Subproject (04-D-125-04)[1]

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design (04-D-125-04)			
Prior Years - FY 2021	42,512	42,512	42,512
Total Design (04-D-125-04)	**42,512**	**42,512**	**42,512**
Construction (04-D-125-04)			
Prior Years - FY 2024	369,976	369,976	369,976
Total Construction (04-D-125-04)	**369,976**	**369,976**	**369,976**
TEC (04-D-125-04)			
Prior Years - FY 2024	412,488	412,488	412,488
Total TEC (04-D-125-04)	**412,488**	**412,488**	**412,488**
Other Project Costs (OPC) **OPC except D&D (04-D-125-04)**			
Prior Years - FY 2024	103,193	103,193	103,193
Total OPC except D&D (04-D-125-04)	**103,193**	**103,193**	**103,193**
Total Project Costs (TPC)			
Prior Years - FY 2024	515,681	515,681	515,681
Total TPC (04-D-125-04)[2]	**515,681**	**515,681**	**515,681**

[1] Unused funding was reallocated from REI2 to support execution of the PEI2 subprojects.
[2] TPC value reflects final costs for REI2.

PF-4 Equipment Installation Phase 1 (PEI1) Subproject (04-D-125-05) [1]

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design (04-D-125-05)			
Prior Years - FY 2018	31,611	31,611	31,611
Total Design (04-D-125-05)	**31,611**	**31,611**	**31,611**
Construction (04-D-125-05)			
Prior Years - FY 2024	189,108	189,108	189,108
Total Construction (04-D-125-05)	**189,108**	**189,108**	**189,108**
TEC (04-D-125-05)			
Prior Years - FY 2024	220,719	220,719	220,719
Total TEC (04-D-125-05)	**220,719**	**220,719**	**220,719**
Other Project Costs (OPC) **OPC except D&D (04-D-125-05)**			
Prior Years - FY 2024	56,454	56,454	56,454
Total OPC except D&D (04-D-125-05)	**56,454**	**56,454**	**56,454**
Total Project Costs (TPC)			
Prior Years - FY 2024	277,173	277,173	277,173
Total TPC (04-D-125-05)	**277,173**	**277,173**	**277,173**

[1] Funding was reallocated from PEI1 to remaining subprojects.

PF-4 Equipment Installation Phase 2 (PEI2) Subproject (04-D-125-06)[1]

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design (04-D-125-06)			
Prior Years - FY 2024	176,830	176,830	174,321
FY 2025	-	-	2,509
Total Design (04-D-125-06)	**176,830**	**176,830**	**176,830**
Construction (04-D-125-06)			
Prior Years - FY 2024	567,645	556,200	164,086
FY 2025	-	-3,560	103,624
FY 2026	-	15,005	176,340
FY 2027	110,000	110,000	126,921
FY 2028	77,200	77,200	126,737
FY 2029	69,120	69,120	75,000
FY 2030	-	-	46,914
FY 2031	-	-	2,800
Outyears	-	-	1,543
Total Construction (04-D-125-06)	**823,965**	**823,965**	**823,965**
TEC (04-D-125-06)			
Prior Years - FY 2024	744,475	733,030	338,407
FY 2025	-	-3,560	106,133
FY 2026	-	15,005	176,340
FY 2027	110,000	110,000	126,921
FY 2028	77,200	77,200	126,737
FY 2029	69,120	69,120	75,000
FY 2030	-	-	46,914
FY 2031	-	-	2,800
Outyears	-	-	1,543
Total TEC (04-D-125-06)	**1,000,795**	**1,000,795**	**1,000,795**
Other Project Costs (OPC)			
OPC (04-D-125-06)			
Prior Years - FY 2024	6,438	6,438	3,013
FY 2025	-	-	-
FY 2026	-	-	3,425
Total OPC (04-D-125-06)	**6,438**	**6,438**	**6,438**
OPC except D&D (04-D-125-06)			

[1] Reflects reprogramming of $3M of FY 2021 BA and $2M of FY 2022 BA to the TA-55 Reinvestment Project, Phase III. Reflects reprogramming of $2M of FY 2021 BA and $3M of FY 2022 BA to the Transuranic Liquid Waste project. Reflects reprogramming of $20M of FY 2023 BA to the Uranium Processing Facility project and $232.96M used as offset in FY 2023.

	Budget Authority (Appropriations)	Obligations	Costs
Prior Years - FY 2024	33,942	33,942	92
FY 2025	-	-	2,338
FY 2026	-	-	1,788
FY 2027	-	-	10,000
FY 2028	35,000	35,000	25,000
FY 2029	6,980	6,980	20,000
FY 2030	-	-	10,000
FY 2031	-	-	5,000
Outyears	-	-	1,704
Total OPC except D&D (04-D-125-06)	**75,922**	**75,922**	**75,922**
Total OPC (04-D-125-06)			
Prior Years - FY 2024	40,380	40,380	3,105
FY 2025	-	-	2,338
FY 2026	-	-	5,213
FY 2027	-	-	10,000
FY 2028	35,000	35,000	25,000
FY 2029	6,980	6,980	20,000
FY 2030	-	-	10,000
FY 2031	-	-	5,000
Outyears	-	-	1,704
Total OPC (04-D-125-06)	**82,360**	**82,360**	**82,360**
Total Project Costs (TPC)			
Prior Years - FY 2024	784,855	773,410	341,512
FY 2025	-	-3,560	108,471
FY 2026	-	15,005	181,553
FY 2027	110,000	110,000	136,921
FY 2028	112,200	112,200	151,737
FY 2029	76,100	76,100	95,000
FY 2030	-	-	56,914
FY 2031	-	-	7,800
Outyears	-	-	3,247
Total TPC (04-D-125-06) [1]	**1,083,155**	**1,083,155**	**1,083,155**

[1] The current funding profile for PEI2 of $1,083,155 is less than the TPC of $1,185,816,000 in CD-1RR.

RLUOB Hazard Category 3 (RC3) (04-D-125-07)

		Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)				
Design (04-D-125-07)				
	Prior Years - FY 2024	32,408	32,408	32,408
Total Design (04-D-125-07)		**32,408**	**32,408**	**32,408**
Construction (04-D-125-07)				
	Prior Years - FY 2024	-	-	-
Total Construction (04-D-125-07)		**-**	**-**	**-**
TEC (04-D-125-07)				
	Prior Years - FY 2024	32,408	32,408	32,408
Total TEC (04-D-125-07)		**32,408**	**32,408**	**32,408**
Other Project Costs (OPC) OPC non-capital (04-D-125-07)				
	Prior Years - FY 2024	13,249	13,249	13,249
Total OPC non-capital (04-D-125-07)		**13,249**	**13,249**	**13,249**
OPC except D&D (04-D-125-07)				
	Prior Years - FY 2024	26,597	26,597	26,597
Total OPC except D&D (04-D-125-06)		**26,597**	**26,597**	**26,597**
Total OPC (04-D-125-06)				
	Prior Years - FY 2023	39,846	39,846	39,846
Total OPC (04-D-125-06)		**39,846**	**39,846**	**39,846**
Total Project Costs (TPC)				
	Prior Years - FY 2024	72,254	72,254	72,254
Total TPC (04-D-125-06)		**72,254**	**72,254**	**72,254**

4. Details of Project Cost Estimate ($K)

Total Project

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design			N/A
	Contingency			N/A
Total Design		**733,863**	**728,097**	**N/A**
Construction				
	Site Work			N/A
	Equipment			N/A
	Construction			N/A
	Contingency			N/A
Total Construction		**1,679,132**	**1,787,559**	**N/A**
Other TEC (if any)				
	Cold Startup	-	-	N/A
	Contingency	-	-	N/A
Total, Other TEC		**-**	**-**	**N/A**
Total Estimated Cost (TEC)		**2,412,995**	**2,515,656**	**N/A**
Contingency, TEC		*129,213*	*143,979*	*N/A*
Other Project Costs (OPC)				
OPC except D&D		370,574	370,574	
Total OPC		**370,574**	**370,574**	**N/A**
Contingency, OPC		14,812	14,812	N/A
Total Project Cost[1]		**2,783,569**	**2,886,230**	**N/A**
Total Contingency (TEC+OPC)		***144,025***	***158,791***	***N/A***

[1] The current funding profile for CMRR with a total project cost of $2,783,569 is less than the performance baseline's overall total project cost estimate is $2,886,230,000.

Prior Subprojects (RLUOB/REI/Nuclear Facility) 03-D-103-010 & 04-D-125-01, -02, -03)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design Contingency			
Total Design		**450,502**	**450,502**	**N/A**
Construction				
	Site Work			
	Equipment			
	Construction			
	Contingency			
Total Construction		**296,083**	**296,083**	**N/A**
Total Estimated Cost (TEC)		**746,585**	**746,585**	**N/A**
Contingency, TEC				
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning			N/A
	Conceptual Design			N/A
	Other OPC Costs			N/A
	Contingency			N/A
Total OPC		**88,721**	**88,721**	**N/A**
Contingency, OPC				
Total Project Cost		**835,306**	**835,306**	**N/A**
Total Contingency (TEC+OPC)		**-**	**-**	**N/A**

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	42,512	42,512	N/A
	Contingency			N/A
Total Design		**42,512**	**42,512**	**44,816**
Construction				
	Site Work	4,463	4,463	5,461
	Equipment	42,750	42,750	52,089
	Construction	322,763	320,476	305,023
	Contingency	-	-	80,651
Total Construction		**369,976**	**367,689**	**443,224**
Total Estimated Cost (TEC)		**412,488**	**410,201**	**488,040**
Contingency, TEC		-	-	*80,651*
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning	2,595	2,595	1,883
	Conceptual Design	3,670	3,670	2,663
	Other OPC Costs	96,928	97,078	81,707
	Contingency	-	-	59,594
Total OPC		**103,193**	**103,343**	**145,847**
Contingency, OPC		-	-	59,594
Total Project Cost[a]		**515,681**	**513,544**	**633,887**
Total Contingency (TEC+OPC)		**-**	**-**	**140,245**

[1]REI2 achieved CD-4, with an approved TPC of $509,300,000. Current TPC reflect final costs.

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	31,611	31,611	N/A
	Contingency			N/A
Total Design		**31,611**	**31,611**	**34,308**
Construction				
	Site Work	30,054	30,054	43,054
	Equipment	11,842	11,842	11,842
	Construction	147,212	147,212	137,892
	Contingency			65,204
Total Construction		**189,108**	**189,108**	**257,992**
Total Estimated Cost (TEC)		**220,719**	**220,719**	**292,300**
Contingency, TEC		-	-	*65,204*
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning	2,189	2,189	2,189
	Conceptual Design	-	-	-
	Other OPC Costs	54,265	54,265	63,686
	Contingency	-	-	35,825
Total OPC		**56,454**	**56,454**	**101,700**
Contingency, OPC		-	-	35,825
Total Project Cost		**277,173**	**277,173**	**394,000**
Total Contingency (TEC+OPC)		**-**	**-**	**101,029**

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	173,464	167,698	167,698
	Federal Design Support	3,366	3,366	3,366
	Contingency		-	
Total Design		**176,830**	**171,064**	**171,064**
Construction				
	Site Work	0	0	0
	Equipment	32,658	32,658	32,658
	Construction	612,794	706,455	706,455
	Federal Construction Support	49,300	49,300	49,300
	Contingency	129,213	143,979	143,979
Total Construction		**823,965**	**932,392**	**932,392**
Other TEC (if any)				
	Cold Startup	-	-	-
	Contingency	-	-	-
Total, Other TEC		**-**	**-**	**-**
Total Estimated Cost (TEC)		**1,000,795**	**1,103,456**	**1,103,456**
Contingency, TEC		*129,213*	*143,979*	*143,979*
Other Project Costs (OPC)				
OPC D&D				
OPC except D&D				
	Conceptual Planning	-	-	-
	Conceptual Design	-	-	-
	Other OPC Costs	64,114	64,114	64,114
	Federal OPC Support	3,434	3,434	3,434
	Contingency	14,812	14,812	14,812
Total OPC		**82,360**	**82,360**	**82,360**
Contingency, OPC		*14,812*	*14,812*	*14,812*
Total Project Cost[1]		**1,083,155**	**1,185,816**	**1,185,816**
Total Contingency (TEC+OPC)		***144,025***	***158,791***	***158,791***

[1] The current funding profile for PEI2 of $1,083,155 is less than the TPC of $1,185,816,000 in CD-1RR.

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	32,408	32,408	N/A
	Contingency	-	-	N/A
Total Design		**32,408**	**32,408**	**N/A**
Construction				
	Site Work	-	-	N/A
	Equipment/Construction	-	-	N/A
	Other, as needed	-	-	N/A
	Contingency	-	-	*N/A*
Total Construction		**-**	**-**	**N/A**
Other TEC (if any)				
	Cold Startup	-	-	N/A
	Contingency	-	-	N/A
Total, Other TEC		**-**	**-**	**N/A**
Total Estimated Cost (TEC)		**32,408**	**32,408**	**N/A**
Contingency, TEC		-	-	*N/A*
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning	-	-	N/A
	Conceptual Design	-	-	N/A
	Other OPC Costs	39,846	39,846	N/A
	Contingency	-	-	N/A
Total OPC		**39,846**	**39,846**	**N/A**
Contingency, OPC		**-**	**-**	***N/A***
Total Project Cost		**72,254**	**72,254**	**N/A**
Total Contingency (TEC+OPC)		**-**	**-**	***N/A***

5. Schedule of Appropriations Requests ($K)

Request Year	Type	Prior Years	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Outyears	Total
FY 2019	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	2,513,236	-	-	-	-	-	-	-	363,994	2,877,230
FY 2020	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	1,891,753	-	-	-	-	-	-	-	-	1,891,753
FY 2021	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	2,667,549	198,477	11,204	-	-	-	-	-	-	2,877,230
FY 2022	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	2,197,487	-	-	-	-	-	-	-	688,743	2,886,230
FY 2023	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	2,610,693	167,867	-	-	-	-	-	-	-	2,778,560
FY 2024	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	2,554,109	77,000	21,204	-	-	-	-	-	-	2,652,313
FY 2026	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	2,485,269	-	50,000	N/A	N/A	N/A	N/A	N/A	350,961	2,886,230
FY 2027[1]	TEC	2,156,675	-	-	110,000	77,200	69,120	-	-	-	2,412,995
	OPC	328,594	-	-	-	35,000	6,980	-	-	-	370,574
	TPC	2,485,269	-	-	110,000	112,200	76,100	-	-	-	2,783,569

[1] The current funding profile for CMRR with a total project cost of $2,783,569 is less than the performance baseline's overall total project cost estimate is $2,886,230,000.

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy[1]	3Q FY 2034
Expected Useful Life	50 years
Expected Future Start of D&D of this capital asset	3Q FY 2084

Related Funding Requirements (Budget Authority in Millions of Dollars)
2016 Base Dollars

Funding Requirement	Annual Costs		Life Cycle Costs	
Estimate Totals	Previous Estimate	Current Estimate	Previous Estimate	Current Estimate
Operations and Maintenance	25	25	1,250	1,250

7. D&D Information

The scope parameters established at CD-1 provided necessary Site Infrastructure Improvements (office facilities, physical security, warehouse, material staging and laydown area, access control and change rooms, etc.) to support AC/MC mission relocation, and to enable increased construction capacity, risk mitigation, and project efficiency. These activities will include an increase in site square footage and the D&D of equipment within existing facilities. The D&D of existing facilities is not funded on this project.

CMR D&D is not part of the CMRR project scope. Some removal of contaminated equipment in PF-4 for space reuse will occur using project funds.

Gross Square Footage Created/Eliminated	RLUOB/ REI1 Square Feet	REI2/ PEI1 Square Feet	RC3/ PEI2 Square Feet
New area constructed previously by this project at Los Alamos National Laboratory	225,757	50,000	127,500
Area of D&D in this project at Los Alamos National Laboratory	-	-	-
Area at Los Alamos National Laboratory to be transferred, sold, and/or D&D outside the project including area previously “banked”	225,757	50,000	127,500
Area of D&D in this project at other sites	-	-	-
Area at other sites to be transferred, sold, and/or D&D outside the project including area previously “banked”	-	-	-
Total area eliminated	-	-	-

[1] Start date tied to anticipated programmatic operation of RLUOB as a hazard category 3 facility. Individual portions of CMRR project will have different completion dates and life spans.

8. Acquisition Approach

The CMRR Acquisition Strategy is based on procurement strategies specific for each subproject of the CMRR project in order to mitigate overall technical and schedule risk. The RLUOB subproject was executed via LANL-issued design-build subcontract based on performance specifications developed during CMRR Conceptual Design. The REI1 subproject was executed via LANL-issued final design-bid build construction contracts. The REI2 subproject is being executed via LANL-issued final design-bid-build construction contracts. The PEI1 subproject was executed via LANL-issued final design, and the construction was self-performed in the PF-4. The PEI2 subproject is being executed via LANL-issued design subcontracts, and construction is being self-performed in the PF-4. Construction work external to PF-4 is being executed through construction subcontracts. The performance baselines for each baselined subproject have been established upon completion of 90 percent design maturity to allow development of credible cost estimates in accordance with DOE O 413.3B and NNSA policy.

21-D-511, Savannah River Plutonium Processing Facility (SRPPF)
Savannah River Site (SRS), Aiken, South Carolina
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary:
The Fiscal Year (FY) 2027 Request for the Savannah River Plutonium Processing Facility (SRPPF) project is $1,946,523,000. Appropriations may be used for design, construction, or other project costs (OPC). The most recent Department of Energy (DOE) approved Critical Decisions (CD) for the project are:

- Main Processing Building (MPB) Subproject (21-D-511-02) CD-3J, Approve Site Preparation, approved January 16, 2026, by the Deputy Administrator for Defense Programs.
- MPB Subproject (21-D-511-02) CD-3Q (previous scope under CD-3B for Sandfilter and Fanhouse (S&F) Subproject (21-D-511-06)), Approve Long Lead Procurement or Site Preparation, approved October 17, 2025, by the Acting Deputy Administrator for Defense Programs.
- High Fidelity Training and Operations Center (HFTOC) Subproject (21-D-511-05) CD-3A, Approve Early Site Preparation and Long Lead Procurement, approved September 26, 2025, by the Acting Deputy Administrator for Defense Programs.
- HFTOC Subproject (21-D-511-05) CD-3C, Approve Long Lead Specialty Equipment Procurements and Critical Bulk Materials, approved September 26, 2025, by the Acting Deputy Administrator for Defense Programs.
- HFTOC Subproject (21-D-511-05) CD-2/3, Approve Performance Baseline and Start of Construction/Execution, approved February 6, 2026, by the Under Secretary for Nuclear Security and NNSA Administrator.

CD-0, Approve Mission Need for the "Plutonium Modular Approach," was approved on November 25, 2015. The approved mission need established the requirement for a responsive infrastructure to meet plutonium pit production requirements. This data sheet has been updated to reflect the outcome from approved programmatic changes in the project's scope that have occurred since CD-1 approval, which is further described in the Significant Changes section below. A Tailoring Strategy (TS), endorsed by the Project Management Risk Committee (PMRC) and Energy Systems Acquisition Advisory Board (ESAAB), was approved October 29, 2024, by the Deputy Secretary as the Chief Executive for Project Management (CE) and Project Management Executive (PME) for SRPPF. The Tailoring Strategy included an exemption to requirements of DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets,* to allow establishing the DOE O 413.3 Performance Baseline for Hazard Category 1, 2 and 3 nuclear facilities at less than 90 percent design completion to support a CD-2/3 approval in FY 2026. A Federal Project Director (Level IV) is assigned to this project and has approved this Construction Project Data Sheet (CPDS).

NNSA completed the Plutonium Pit Production Analysis of Alternatives (AoA) in October 2017 and the follow-on Plutonium Pit Production Engineering Assessment (EA) in April 2018. Both efforts informed NNSA's selection of a preferred alternative on May 10, 2018, to continue to invest in Los Alamos National Laboratory (LANL) for the capability to produce no fewer than 30 pits per year (ppy) in 2026, and to repurpose existing facilities at Savannah River Site (SRS) to produce a capability of no fewer than 50 ppy in 2030. Based on information developed to support the CD-1 approval, NNSA determined that achieving the required 50 war reserve (WR) ppy production capacity at the SRS in 2030 is not feasible. Establishing the required SRPPF pit production capacity to support Department of Defense (DoD) requirements remains a high-priority and is essential for sustaining the effectiveness of the Nation's nuclear deterrent.

The scope, cost and schedule estimates approved at CD-1 include an estimated cost range of $6,900,000,000 to $11,100,000,000 and a CD-4 schedule range of 1st Quarter FY 2032 to 4th Quarter FY 2035. The full project TPC will not be determined until all the subprojects are baselined at CD-2/3 approval. The FY 2027 CPDS reflects a Total Project Cost (TPC) of $25B as a budgetary placeholder, which aligns with the high end of the $18B - $25B estimate range briefed subsequent to the release of the FY 2025 CPDS and reflected as the basis of the Section 4 tables in the FY 2026 CPDS. However, the TPC estimate for the project may change once the MPB subproject achieves CD-2/3.

The M&O contractor submitted a cost and schedule estimate for all project scope through CD-4 in January 2024 based on 50 percent design complete. NNSA evaluated this estimate and determined that the top end of the original approved CD-1 cost range has grown by more than 50 percent. As such and in accordance with DOE O 413.3, NNSA acknowledged that it must reassess the alternative selection process to identify a new alternative or reaffirm the selected alternative. This analysis is commonly referred to as CD-1 Reaffirmation (CD-1R). NNSA began the CD-1R analysis in FY 2025, to confirm the preferred alternative and that it was essential to national security, and CD-1R was approved in August 2025 by the Deputy Secretary of the Department of Energy.

Significant Changes:
This CPDS is an update of the FY 2026 CPDS and is not a new start.

The FY 2026 appropriation and FY 2027 Request support final design and construction execution of authorized CD-3Xs (as shown in and described under the Critical Milestone History section below), for HFTOC having received CD-2/3 approval in 2Q FY 2026, and for MPB after CD-2/3 approval, which is expected 4Q FY 2026. Construction is expected to continue for the Administrative Building Subproject, providing a Construction Maintenance Building and Procurement Warehouse by the current PME approved CD-4 completion date of 1Q FY 2030.

Providing a status update for ADMIN, HFTOC and MPB since the FY 2026 CPDS:

In FY 2025, NNSA issued letters of concern to the M&O regarding Construction Management (CM) subcontractor performance issues with design progression and execution of authorized CD-3Xs. In February 2025, NNSA authorized the M&O contractor to de-scope the HFTOC design from the CM subcontractor due to CM staff limitations and performance issue with completing design for both HFTOC and MPB. In April 2025, based on opportunities identified during CD-1R, NNSA directed the M&O to relax HFTOC glovebox requirements to maximize the potential for delivery of the completed HFTOC in 4Q FY 2028.

The contractor optimized the HFTOC design, allowing most HFTOC gloveboxes to be fabricated as 'mock' versions. These 'mock' gloveboxes are simpler, less costly, and do not require the stringent specifications or inert atmospheric controls of standard production gloveboxes yet still meet project requirements. This change reduced costs and improves schedules for both the HFTOC subproject and the MPB, especially considering industry's limited glovebox manufacturing capacity. Cost and schedule reductions were detailed in the contractor’s CD-2/3 packages.

In May 2025, the M&O contractor submitted a CD-2/3 package for the entire SRPPF Project. NNSA conducted a sufficiency review to determine readiness for an Independent Cost Estimate (ICE) and External Independent Review (EIR) to be conducted by the DOE Office of Project Management (DOE PM). After NNSA sufficiency review, NNSA notified the M&O in June 2025 that the HFTOC CD-2/3 package met sufficiency necessary to perform the ICE for CD-2/3, but that the MPB CD-2/3 package was not sufficient to move forward for ICE

purposes. NNSA identified issues requiring revision of the MPB CD-2/3 package and directed the M&O to revise and resubmit the package to enable NNSA determination of readiness to begin the EIR and ICE process. The HFTOC ICE and EIR were completed leading to HFTOC CD-2/3 approval on February 6, 2026. The revised MPB CD-2/3 package was received from the M&O contractor in January 2026 and NNSA has incentivized the M&O contractor to achieve CD-2/3 approval in 4Q FY 2026. NOTE: Multiple MPB CD-3Xs are planned to be approved through FY 2026. These additional CD-3Xs continue to provide the best value for the project critical path by generating work scopes having final design ready to execute at CD-3X approval versus attempting to re-integrate CD-3X work scopes into the MPB CD-2/3 package. Attempting to reintegrate the CD-3X work scopes into the MPB CD-2/3 package would create significant rework and delay finalization of the MPB CD-2/3 package, which would delay the package review and approval currently forecast for 4Q FY 2026.

In FY 2026 the project continues to focus on acceleration of mature design scopes of work that will be proposed as long lead procurement and site preparation packages as described in the Critical Milestone section with forecasted approval dates. In November 2025 NNSA directed the M&O contractor to further improve the Final Design Complete milestone date to September 2026 by using additional engineering resources external to the MPB. This direction, along with the additional resources the CM gained from the HFTOC descope in FY 2025, pulled the Final Design package delivery into 2Q FY 2026. NNSA has incentivized the M&O contractor to achieve Final Design Completion in conjunction with a CD-2/3 approval of 4Q FY 2026 to enable the project to start full MPB construction execution going into FY 2027.

As of August 2025, there are 81 gloveboxes in fabrication and almost all MPB gloveboxes have been released for limited notice to proceed for vendors to begin procuring materials and long lead specialty facility equipment items. The FY 2027 request will be managed to allow procurement of long lead equipment and materials, initiating fabrication for additional gloveboxes, increased execution of CD-3X work, and HFTOC construction, while balancing the start of full MPB construction in 1Q FY2027.

The MPB CD-2/3 submittal is anticipated to support achievement of CD-4 within the current 1Q FY 2032 – 4Q FY 2035 range and NNSA intends to continue forward with approval of the CD-2/3 package as submitted. The TPC in the Project Cost History tables, and the CD-4 date shown in the Critical Milestone History tables, for the Overall Project will continue to reflect estimates totaling to a $25B TPC budgetary placeholder until the Performance Baseline TPC and CD-4 date for the MPB Subproject is established by approval of MPB CD-2/3.

In FY 2025, the Defense Nuclear Nonproliferation (DNN) Program partnered with the Offices of Defense Programs (DP) and Nuclear Energy (NE) to assess surplus plutonium inventories at SRS. This assessment was conducted to implement the President’s Executive Order on Reinvigorating the Nuclear Industrial Base (EO), which halted the Dilute and Dispose Program except for DOE’s legal obligations to the State of South Carolina. The goal of the assessment was to determine which materials are suitable for defense or industry purposes and which, if any, still require disposition. Prior to this assessment, and accounting for potential disposition needs, the Surplus Plutonium Disposition (SPD) Project, a post-CD-2/3 line-item construction project (18-D-150) being executed at SRS, was originally designed to supplement and increase process throughput with the existing SRS surplus plutonium disposition operations. An opportunity to support the SRPPF pit production mission was identified for DNN, working with DP, to repurpose the gloveboxes being procured by the SPD Project and provide them to the Office of Defense Programs to support the SRPPF Project.

NNSA DP evaluated the feasibility of repurposing the SPD gloveboxes, which are intended to be installed in K Area, to perform plutonium purification activities instead of plutonium disposition activities. This repurpose will allow for plutonium purification activities, including the preparation of plutonium metal for eventual transfer to the SRPPF, which is projected to accelerate the First Production Unit (FPU) schedule at SRS. In

early FY 2026, DNN determined that the existing glovebox at Savannah River being used to process surplus plutonium is sufficient to disposition the remaining material to meet the legal obligations to the State of South Carolina and therefore DP could repurpose all three of the SPD gloveboxes for pit production. As a risk mitigation measure, DNN requested that one of the three SPD gloveboxes maintain the capability to perform the dilute and dispose mission, specifically to ensure continued disposition flexibility should industry not accept certain materials for alternative uses.

NNSA DP is completing design and safety basis work and pursuing appropriate DOE O 413.3 approval authority to allow transfer of all equipment, gloveboxes, and support systems from the SPD Project to the SRPPF Project. As part of this effort, design flexibility is being incorporated into one glovebox to retain the capability for the dilute and dispose mission, providing future risk mitigation. Upon receipt of necessary approvals, the CPDS and DOE O 413.3 documentation will be updated, and the equipment, gloveboxes, and support systems will be transferred to the SRPPF project. This transfer will be integrated as a new sub-project, tentatively referred to as the K-Area Plutonium Metal Preparation (KPuMP) Subproject, within the SRPPF Project's scope, cost and schedule baseline. NNSA is considering potentially one or more CD-3Xs, utilizing SRPPF funding, to progress the KPuMP Subproject starting in FY 2026.

Critical Milestone History

Overall Project (21-D-511-02, 21-D-511-03 and 21-D-511-05)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2021	11/25/2015	4Q FY 2020	2Q FY 2021	TBD	TBD	TBD	4Q FY 2026 - 4Q FY 2031[1]
FY 2022	11/25/2015	3Q FY 2021	3Q FY 2021	TBD	TBD	TBD	1Q FY 2032 - 4Q FY 2035
FY 2023	11/25/2015	06/25/2021	06/25/2021	1Q FY 2024	4Q FY 2023	1Q FY 2024	1Q FY 2032 - 4Q FY 2035
FY 2024	11/25/2015	06/25/2021	06/25/2021	3Q FY 2025	2Q FY 2025	3Q FY 2025	1Q FY 2032 - 4Q FY 2035[2]
FY 2025	11/25/2015	06/25/2021	06/25/2021	3Q FY 2026	2Q FY 2026	3Q FY 2026	1Q FY 2032 - 4Q FY 2035[2]
FY 2026	11/25/2015	06/25/2021	06/25/2021	1Q - 3Q FY 2026	4Q FY 2027	1Q - 3Q FY 2026	1Q FY 2032 - 4Q FY 2035[2]
FY 2027	11/25/2015	06/25/2021	06/25/2021	4Q FY 2026	4Q FY 2026	4Q FY 2026	1Q FY 2032 - 4Q FY 2035[2]

[1] CD-4 range was based on the *Plutonium Pit Production Engineering Assessment*
[2] CD-4 range reflects the range approved at CD-1.

Main Process Buildings (MPB) Subproject (21-D-511-02)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2022	11/25/2015	3Q FY 2021	3Q FY 2021	TBD	TBD	TBD	TBD
FY 2023	11/25/2015	06/25/2021	6/25/2021	1Q FY 2024	4Q FY 2023	1Q FY 2024	1Q FY 2032 - 4Q FY 2035[1]
FY 2024	11/25/2015	06/25/2021	6/25/2021	3Q FY 2025	2Q FY 2025	3Q FY 2025	1Q FY 2032 - 4Q FY 2035[1]
FY 2025	11/25/2015	06/25/2021	6/25/2021	3Q FY 2026	2Q FY 2026	3Q FY 2026	1Q FY 2032 - 4Q FY 2035[1]
FY 2026	11/25/2015	06/25/2021	6/25/2021	1Q - 3Q FY 2026	4Q FY 2027	1Q - 3Q FY 2026	1Q FY 2032 - 4Q FY 2035[1]
FY 2027	11/25/2015	06/25/2021	6/25/2021	4Q FY 2026	4Q FY 2026	4Q FY 2026	1Q FY 2032 - 4Q FY 2035[1]

Fiscal Quarter or Date

Fiscal Year	MPB CD-3A	MPB CD-3C	MPB CD-3D	MPB CD-3E	MPB CD-3F	MPB CD-3G	MPB CD-3H
FY 2022	3Q FY 2021	N/A	N/A	N/A	N/A	N/A	N/A
FY 2023	4Q FY 2022	N/A	N/A	N/A	N/A	N/A	N/A
FY 2024	08/30/2022	4Q FY 2023	N/A	4Q FY 2023	1Q FY 2025	1Q FY 2025	1Q FY 2025
FY 2025	08/30/2022	11/20/2023	N/A	2Q FY 2024	1Q FY 2025	3Q FY 2025	1Q FY 2025
FY 2026	08/30/2022	11/20/2023	12/30/2024	04/03/2024	1Q FY 2026	2Q FY 2026	10/15/2024
FY 2027	08/30/2022	11/20/2023	12/30/2024	04/03/2024	4Q FY 2026	3Q FY 2026	10/15/2024

Fiscal Quarter or Date

Fiscal Year	MPB CD-3I	MPB CD-3J	MPB CD-3K	MPB CD-3L	MPB CD-3M
FY 2022	N/A	N/A	N/A	N/A	N/A
FY 2023	N/A	N/A	N/A	N/A	N/A
FY 2024	TBD	N/A	N/A	N/A	N/A
FY 2025	TBD	N/A	N/A	N/A	N/A
FY 2026	12/16/2024	4Q FY 2025	1Q FY 2026	3Q FY 2026	3Q FY 2026
FY 2027	12/16/2024	01/16/2026	4Q FY 2026	4Q FY 2026	4Q FY 2026

[1] CD-4 range reflects the range approved at CD-1.

Fiscal Quarter or Date

Fiscal Year	MPB CD-3N (Formerly USPI CD-3A)	MPB CD-3O (Formerly S&F CD-3A)	MPB CD-3P (Formerly USPI CD-3B)	MPB CD-3Q (Formerly S&F CD-3B)	MPB CD-3R (Formerly S&F CD-3A Scope)
FY 2022	3Q FY 2021	N/A	N/A	N/A	N/A
FY 2023	4Q FY 2022	N/A	N/A	N/A	N/A
FY 2024	4Q FY 2023	4Q FY 2023	TBD	1Q FY 2025	N/A
FY 2025	12/21/2023	2Q FY 2024	2Q FY 2025	1Q FY 2025	N/A
FY 2026	12/21/2023	02/27/2024	2Q FY 2026	2Q FY 2026	02/10/2025
FY 2027	12/21/2023	02/27/2024	3Q FY 2026	10/17/2025	02/10/2025

Administrative Building (ADMIN) Subproject (21-D-511-03)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2022	11/25/2015	3Q FY 2021	3Q FY 2021	TBD	TBD	TBD	TBD
FY 2023	11/25/2015	06/25/2021	06/25/2021	2Q FY 2023	1Q FY 2023	2Q FY 2023	4Q FY 2030
FY 2024	11/25/2015	06/25/2021	06/25/2021	1Q FY 2024	1Q FY 2024	1Q FY 2024	2Q FY 2026
FY 2025	11/25/2015	06/25/2021	06/25/2021	12/12/2023	12/12/2023	12/12/2023	3Q FY 2027
FY 2026	11/25/2015	06/25/2021	06/25/2021	12/12/2023	12/12/2023	12/12/2023	1Q FY 2030
FY 2027	11/25/2015	06/25/2021	06/25/2021	12/12/2023	12/12/2023	12/12/2023	1Q FY 2030

High Fidelity Training and Operations Center (HFTOC) Subproject (21-D-511-05)

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2022	11/15/2015	3Q FY 2021	3Q FY 2021	TBD	TBD	TBD	TBD
FY 2023	11/25/2015	06/25/2021	06/25/2021	2Q FY 2023	1Q FY 2023	2Q FY 2023	4Q FY 2028
FY 2024	11/25/2015	06/25/2021	06/25/2021	3Q FY 2025	3Q FY 2025	3Q FY 2025	4Q FY 2028
FY 2025	11/25/2015	06/25/2021	06/25/2021	4Q FY 2025	3Q FY 2025	4Q FY 2025	4Q FY 2028
FY 2026	11/25/2015	06/25/2021	06/25/2021	1Q – 3QFY 2026	4Q FY 2026	1Q – 3Q FY 2026	4Q FY 2028
FY 2027	11/25/2015	06/25/2021	06/25/2021	2/6/2026	2/6/2026	2/6/2026	4Q FY 2028

Fiscal Quarter or Date

Fiscal Year	HFTOC CD-3A	HFTOC CD-3B	HFTOC CD-3C
FY 2024	1Q FY 2024	1Q FY 2025	N/A
FY 2025	1Q FY 2025	1Q FY 2025	N/A
FY 2026	4Q FY 2025	10/25/2024	N/A
FY 2027	09/26/2025	10/25/2024	09/26/2025

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable)
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete (d)
CD-3 – Approve Start of Construction
D&D Complete – Completion of Demolition and Disposal (D&D) work
CD-4 – Approve Start of Operations or Project Closeout

MPB Subproject (21-D-511-02) Long Lead Procurement and Site Preparation (Dismantle and Removal (D&R)) CD-3A – Dismantle and removal of equipment, partially installed commodities, and coatings from Building 226-F. Site preparation activities including temporary ventilation, temporary electrical, temporary communications, and site services contract support activities.

MPB Subproject (21-D-511-02) Site Preparation CD-3C – Site preparation activities, including structural demolition and removal of wall sections to facilitate installation of gloveboxes and process equipment to support MPB.

MPB Subproject (21-D-511-02) Site Preparation CD-3D – site preparation activities, including construction area fencing, access control stations, parking lot expansion / improvements, and road improvements necessary for logistical coordination and execution.

MPB Subproject (21-D-511-02) Long Lead Procurement CD-3E – Initial long lead procurement of gloveboxes and process equipment to support MPB.

MPB Subproject (21-D-511-02) Long Lead Procurement CD-3F – Long lead procurement of bulk materials to support MPB.

MPB Subproject (21-D-511-02) Long Lead Procurement CD-3G – Long lead procurement of BOP equipment to support MPB.

MPB Subproject (21-D-511-02) Long Lead Procurement CD-3H – Second package of long lead procurement of gloveboxes and process equipment to support MPB.

MPB Subproject (21-D-511-02) Long Lead Procurement CD-3I –Third package of long lead procurement of gloveboxes and process equipment to support MPB and PRD, Revision 4.

MPB Subproject (21-D-511-02) Site Preparation CD-3J - Interior Building Preparation (early construction) to include wall repairs, embed cleanup, exposed rebar mitigations, pour backs and coating (re)application.

MPB Subproject (21-D-511-02) Site Preparation CD-3K - Building Modifications (early construction) including structural concrete and mezzanines interior to the MPB, construct North and South Annexes, transformer pads, stair towers, elevator shafts and additional concrete penetrations.

MPB Subproject (21-D-511-02) Site Preparation CD-3L - Building Modifications (early construction) including all building, equipment and commodities related to the Compressor Building, Diesel Generator and Fuel Oil Storage, Waste Buildings, Nitrogen Generation, Cooling Tower, Firewater Pumphouse & Tank, and Diesel Fuel Station.

MPB Subproject (21-D-511-02) Site Preparation CD-3M – If needed, Overhead Commodity Fabrication and Installation (early construction) to include structural steel, fire sprinkler and HVAC in room branch lines requiring installation prior to glovebox delivery and impacting critical path; balance of concrete modifications and penetrations.

MPB Subproject (21-D-511-02) Long Lead Procurement and Site Preparation CD-3N (formerly USPI Subproject CD-3A) – Site preparation and installation of all temporary facilities, utilities (above and below ground), other general temporary infrastructure necessary to support mobilization and onboarding of construction resources, i.e., storage / laydown of construction materials and equipment, shop / fabrication / work areas, etc., to support initiation of SRPPF construction activities. Final site work, including installation of buried process support utilities and a waste transfer line, demolition, and removal of any unneeded MFFF support buildings (temporary and some permanent), and final roadways/grading.

MPB Subproject (21-D-511-02) Site Preparation CD-3O (formerly S&F Subproject CD-3A) – Site preparation activities for the sandfilter and fanhouse facilities that includes stormwater drainage relocation and sand filter and fan house excavation.

MPB Subproject (21-D-511-02) Site Preparation CD-3P (formerly the USPI Subproject CD-3B) – If needed, additional site preparation activities including underground utilities to support the MPB (early construction).

MPB Subproject (21-D-511-02) Site Preparation CD-3Q (formerly S&F Subproject CD-3B) – If needed, additional site preparation activities, including the base mat installation for the sandfilter (early construction).

MPB Subproject (21-D-511-02) Site Preparation CD-3R (formerly scope under the S&F Subproject CD-3A) – Site preparation activities for the sandfilter and fanhouse facilities that includes sheet piling / shoring for sand filter excavation and installation of the sand filter mudmat.

HFTOC Subproject (21-D-511-05) Early Site Preparation and Long Lead Procurement CD-3A – Site preparation activities for the HFTOC including underground utilities work and building modifications to support receipt and installation of future equipment.

HFTOC Subproject (21-D-511-05) Long Lead Procurement CD-3B – Long lead procurement of gloveboxes and equipment to support the HFTOC.

HFTOC Subproject (21-D-511-05) Long Lead Specialty Equipment Procurements and Critical Bulk Materials CD-3C – Long lead procurement of major bulk materials and specialty equipment in support of start of HFTOC construction.

Project Cost History

Overall Project (21-D-511-02, 21-D-511-03 and 21-D-511-05)

($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Other	TEC, Total	OPC	OPC, Total	TPC
FY 2021	241,896	0	N/A	241,896	110,000	110,000	4,590,000[1]
FY 2022	TBD	TBD	TBD	TBD	TBD	TBD	11,100,000
FY 2023	1,550,896	6,779,766	589,104	8,919,766	2,180,234	2,180,234	11,100,000
FY 2024	1,686,388	6,629,274	604,104	8,919,766	2,180,234	2,180,234	11,100,000[2]
FY 2025	2,386,388	TBD	TBD	TBD	TBD	TBD	TBD
FY 2026	2,821,596	15,928,404	N/A	18,750,000	6,250,000	6,250,000	25,000,000[3]
FY 2027	2,828,078	16,390,649	N/A	19,218,727	5,781,273	5,781,273	25,000,000[3]

MPB Subproject (21-D-511-02)

($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Other	TEC, Total	OPC	OPC, Total	TPC
FY 2022	TBD	TBD	TBD	TBD	TBD	TBD	TBD
FY 2023	1,318,896	5,704,766	441,104	7,464,766	1,935,234	1,935,234	9,400,000
FY 2024	1,454,388	5,297,274	441,104	7,192,766	1,866,234	1,866,234	9,059,000
FY 2025	2,154,388	TBD	TBD	TBD	TBD	TBD	TBD
FY 2026	2,650,596	14,508,204	N/A	17,158,800	5,548,000	5,548,000	22,706,800[3]
FY 2027	2,643,709	15,265,091	N/A	17,908,800	5,598,000	5,598,000	$23,506,800[3]

ADMIN Subproject (21-D-511-03)

($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Other	TEC, Total	OPC	OPC, Total	TPC
FY 2022	TBD	TBD	TBD	TBD	TBD	TBD	TBD
FY 2023	5,500	46,500	6,000	58,000	22,000	22,000	80,000
FY 2024	5,500	46,500	6,000	58,000	22,000	22,000	80,000
FY 2025	5,500	73,700	12,000	91,200	2,000	2,000	93,200
FY 2026	6,000	85,200	N/A	91,200	2,000	2,000	93,200
FY 2027	5,387	85,813	N/A	91,200	2,000	2,000	93,200

[1] TEC and OPC amounts reflect estimated costs for FY 2021 only, the TPC amount reflects the high end of the cost range developed during the *Plutonium Pit Production Engineering Assessment* (EA) in 2018.
[2] TPC amount reflects the high-end cost range developed for the CD-1 package.
[3] TPC values are budgetary placeholders representing the high end of the $18B - $25B estimate range.

HFTOC Subproject (21-D-511-05)

($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Other	TEC, Total	OPC	OPC, Total	TPC
FY 2022	TBD	TBD	TBD	TBD	TBD	TBD	TBD
FY 2023	33,000	262,000	22,000	317,000	53,000	53,000	370,000
FY 2024	33,000	262,000	22,000	317,000	53,000	53,000	370,000
FY 2025	48,000	247,000	22,000	317,000	53,000	53,000	370,000
FY 2026	165,000	1,335,000	N/A	1,500,000	700,000	700,000	2,200,000[1]
FY 2027	178,982	1,039,745	N/A	1,218,727	181,273	181,727	1,400,000

2. Project Scope and Justification

Scope

The 21-D-511 project scope includes repurposing Building 226-F, including removal of previously installed equipment and support systems as necessary to accommodate the new pit production mission. Scope includes turnover of all necessary design and quality documentation from the previous mission, any required modifications to Building 226-F and the design, construction and installation of processing equipment, process support systems and buildings, utilities and security features for a capability to produce 50 ppy. The 21-D-511 project will also include transfer, stewardship, and incorporation of select MFFF project government property into the SRPPF project, conversion of the Building 226-2F warehouse building into a high-fidelity training facility, and design and construction of support facilities. Given the special nuclear material (SNM) expected during operations in the SRPPF, Building 226-F will be a Hazard Category 2, Security Category I facility.

The SRPPF approved tailoring strategy includes the following subprojects.

MPB Subproject (21-D-511-02): The MPB includes design, procurement, 226-F construction, including CD-3A removal of equipment, partially installed commodities, and coatings from 226-F, testing and start-up of structures, systems and components necessary to produce a minimum of 50 ppy, and upgrade a facility to house first shift of Protection Force safeguards and security staff for training and construction interface purposes during overall project construction. The MPB Subproject now includes - a) the former USPI Subproject scope including: early preparation and installation for all temporary facilities, utilities (above and below ground) and other general temporary infrastructure necessary to support mobilization and onboarding of construction resources, storage / laydown of construction materials and equipment, shop / fabrication / work areas, etc., to support initiation of SRPPF construction activities; and, final site work including installation of buried process support utilities and a waste transfer line, and demolition and removal of any unneeded MFFF temporary support buildings, and final roadways and grading, b) the former S&S Subproject scope including: design and construction of entry control facilities, security fencing, reconfigure and remodel of Building 706-4F building for protective forces and other security infrastructure, and c) the S&F Subproject scope including: site preparation activities and the installation of the sandfilter and fanhouse facilities, with supporting utilities.

[1] TPC value was a budgetary placeholder associated with the high end of the $18B - $25B estimate range.

ADMIN Subproject (21-D-511-03): The ADMIN Subproject will include design and construction of an approximately 50,000 square foot new Maintenance and Construction support building and an approximately 22,000 square foot procurement warehouse. The Maintenance and Construction support building and procurement warehouse will be constructed to allow for offices and management support during construction and start-up.

HFTOC Subproject (21-D-511-05): The HFTOC includes conversion of the 226-2F warehouse building into a high-fidelity training facility for both classroom and hands-on equipment training. This high-fidelity training facility will contain select nearly identical and mock process gloveboxes and equipment lines for key processes, including balance of plant systems, simulating what will be installed in the main process building. This facility will provide the ideal location to perform cold development of future pit builds and train the future pit production workforce at SRS.

Justification

NNSA's ability to produce pits in the required quantities established by the Nuclear Weapons Council (NWC) is an essential component of the nuclear deterrent. An Independent AoA was conducted after CD-0, in accordance with the requirements of Office of Management and Budget (OMB) Circular A-11. Multiple alternatives were analyzed and the AoA identified two preferred alternatives with different construction approaches at two separate locations:

- Refurbishment and repurposing of facilities at the SRS; and,
- Additional footprint to accommodate pit production requirements at LANL.

The NNSA Office of Cost Estimating and Program Evaluation (CEPE) conducted a review of the AoA in October 2017 and recommended that further refinement of the preferred alternatives be completed before selecting an alternative that meets requirements. NNSA contracted with an independent architecture and engineering (A&E) firm to complete the follow-on EA to evaluate two preferred alternatives and two additional alternatives to better inform the selection of an alternative and support conceptual design which was completed on April 20, 2018, along with a workforce analysis.

The NNSA Administrator selected a recommended alternative on May 10, 2018, to repurpose Building 226-F, a partially constructed facility at the SRS, for pit production to meet DoD plutonium pit requirements by 2030. The selected alternative will continue to invest in LANL for the capability to produce 30 ppy, and to repurpose existing facilities at SRS to produce a capability of 80 ppy (both sites) as close to 2030 as possible.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets.* Funds appropriated under this project may be used for contracted support services to the Federal Project Director and to conduct independent reviews and oversight of design and construction for SRPPF.

Key Performance Parameters (KPPs)

KPPs will be finalized in support of CD-2 documentation, the preliminary KPPs below will be revised in support of CD-2.

Performance Measure[1]
226-F Dismantle and Removal (D&R): Complete dismantlement and removal of MFFF equipment and utility commodities in 226-F.
50 ppy Process and Equipment: Complete successful Operational Readiness Review including completion of integrated Cold System Testing and turnover of all 50 ppy facility, systems and components identified in the SRPPF PRD to Weapons Production for initiation of hot operations Process Prove-in activities.
Physical S&S Infrastructure: Complete successful S&S integrated systems and components testing and reconfiguration of 706-4F including project turnover in support of the 50 PPY SRPPF Process and Equipment Operational Readiness Review.
HFTOC: Complete Turnover to Operations, and testing of all cold development and training process equipment, and receive approval for HFTOC beneficial occupancy to allow utilization by the Project for Technology maturation and operational preparations, with ultimate turnover to Plutonium Operations
SRPPF Infrastructure: Receive beneficial occupancy to support early project utilization and ultimate operations in accordance with the PRD.

3. Project Cost and Schedule

Financial Schedule ($K)

SRPPF funding will be appropriated at the Overall Project level (21-D-511) and be allocated to the subprojects shown in the tables below.

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior - FY 2024	1,657,396	1,657,396	1,443,676
FY 2025	619,879	619,879	759,524
FY 2026	550,803	550,803	538,376
FY 2027	0	0	86,503
Total Design	**2,828,078**	**2,828,078**	**2,828,078**
Construction			
Prior - FY 2024	1,193,485	1,193,485	221,611
FY 2025[2]	870,217	142,217	556,197

[1] These Preliminary Key Performance Parameters were developed as part of the CD-1 package.
[2] P.L. 119-21 Working Families Tax Cut (WFTC) Act included Budget Authority of $728M for SRPPF; obligations occurred in FY 2026.

FY 2026	475,947	1,203,947	1,136,267
FY 2027	1,770,750	1,770,750	1,695,140
FY 2028	2,195,055	2,195,055	2,150,612
FY 2029	2,003,053	2,003,053	1,962,906
FY 2030	2,005,820	2,005,820	2,074,034
FY 2031	1,916,059	1,916,059	1,826,346
Outyears	3,960,263	3,960,263	4,767,536
Total Construction	**16,390,649**	**16,390,649**	**16,390,649**
TEC			
Prior - FY 2024	2,850,881	2,850,881	1,665,287
FY 2025	1,490,096	762,096	1,315,720
FY 2026	1,026,750	1,754,750	1,674,643
FY 2027	1,770,750	1,770,750	1,781,643
FY 2028	2,195,055	2,195,055	2,150,612
FY 2029	2,003,053	2,003,053	1,962,906
FY 2030	2,005,820	2,005,820	2,074,034
FY 2031	1,916,059	1,916,059	1,826,346
Outyears	3,960,263	3,960,263	4,767,536
Total TEC	**19,218,727**	**19,218,727**	**19,218,727**

Overall Project (21-D-511-02, 21-D-511-03 and 21-D-511-05)

	Budget Authority (Appropriations)	Obligations	Costs
Other Project Costs (OPC)			
Prior - FY 2024	487,463	487,463	379,817
FY 2025	37,904	37,904	89
FY 2026	103,250	103,250	55,450
FY 2027	175,773	175,773	128,300
FY 2028	79,545	79,545	202,128
FY 2029	317,039	317,039	391,127
FY 2030	360,674	360,674	340,492
FY 2031	497,765	497,765	541,962
Outyears	3,721,860	3,721,860	3,741,908
Total, OPC	**5,781,273**	**5,781,273**	**5,781,273**
Total Project Costs (TPC)			
Prior - FY 2024	3,338,344	3,338,344	2,045,104
FY 2025	1,528,000	800,000	1,315,809
FY 2026	1,130,000	1,858,000	1,730,093
FY 2027	1,946,523	1,946,523	1,909,943
FY 2028	2,274,600	2,274,600	2,352,740
FY 2029	2,320,092	2,320,092	2,354,033

FY 2030	2,366,494	2,366,494	2,414,526
FY 2031	2,413,824	2,413,824	2,368,308
Outyears	7,682,123	7,682,123	8,509,444
Total TPC	**25,000,000**	**25,000,000**	**25,000,000**

MPB (MPB) Subproject (21-D-511-02) ($K)

MPB	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior - FY 2024	1,551,396	1,551,396	1,356,365
FY 2025	555,492	555,492	688,820
FY 2026	536,821	536,821	512,021
FY 2027	0	0	86,503
Total Design	**2,643,709**	**2,643,709**	**2,643,709**
Construction			
Prior - FY 2024	1,125,735	1,125,735	221,379
FY 2025[1]	728,000	0	500,063
FY 2026	0	728,000	630,943
FY 2027	1,331,106	1,331,106	1,282,380
FY 2028	2,195,055	2,195,055	1,999,504
FY 2029	2,003,053	2,003,053	1,962,906
FY 2030	2,005,820	2,005,820	2,074,034
FY 2031	1,916,059	1,916,059	1,826,346
Outyears	3,960,263	3,960,263	4,767,536
Total Construction	**15,265,091**	**15,265,091**	**15,265,091**
TEC			
Prior - FY 2024	2,677,131	2,677,131	1,577,744
FY 2025	1,283,492	555,492	1,188,883
FY 2026	536,821	1,264,821	1,142,964
FY 2027	1,331,106	1,331,106	1,368,883
FY 2028	2,195,055	2,195,055	1,999,504
FY 2029	2,003,053	2,003,053	1,962,906
FY 2030	2,005,820	2,005,820	2,074,034

[1] P.L. 119-21 Working Families Tax Cut (WFTC) Act included Budget Authority of $728M for SRPPF; obligations occurred in FY 2026.

FY 2031	1,916,059	1,916,059	1,826,346
Outyears	3,960,263	3,960,263	4,767,536
Total TEC	**17,908,800**	**17,908,800**	**17,908,800**

	Budget Authority (Appropriations)	Obligations	Costs
Other Project Costs (OPC)			
Prior - FY 2024	484,213	484,213	379,817
FY 2025	23,904	23,904	89
FY 2026	53,000	53,000	4,550
FY 2027	60,000	60,000	55,200
FY 2028	79,545	79,545	142,855
FY 2029	317,039	317,039	391,127
FY 2030	360,674	360,674	340,492
FY 2031	497,765	497,765	541,962
Outyears	3,721,860	3,721,860	3,741,908
Total, OPC	**5,598,000**	**5,598,000**	**5,598,000**
Total Project Costs (TPC)			
Prior - FY 2024	3,161,344	3,161,344	1,957,561
FY 2025	1,307,396	579,396	1,188,972
FY 2026	589,821	1,317,821	1,147,514
FY 2027	1,391,106	1,391,106	1,424,083
FY 2028	2,274,600	2,274,600	2,142,359
FY 2029	2,320,092	2,320,092	2,354,033
FY 2030	2,366,494	2,366,494	2,414,526
FY 2031	2,413,824	2,413,824	2,368,308
Outyears	7,682,123	7,682,123	8,509,444
Total TPC	**23,506,800**	**23,506,800**	**23,506,800**

ADMIN Subproject (21-D-511-03) ($K)

ADMIN	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior - FY 2024	6,000	6,000	5,656
FY 2025	(613)	(613)	(269)
FY 2026	0	0	0
FY 2027	0	0	0
Total Design	**5,387**	**5,387**	**5,387**
Construction			
Prior - FY 2024	33,750	33,750	232
FY 2025	41,217	41,217	28,920
FY 2026	10,846	10,846	39,501
FY 2027	0	0	17,160
FY 2028	0	0	0
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	0	0	0
Total Construction	**85,813**	**85,813**	**85,813**
TEC			
Prior - FY 2024	39,750	39,750	5,888
FY 2025	40,604	40,604	28,651
FY 2026	10,846	10,846	39,501
FY 2027	0	0	17,160
FY 2028	0	0	0
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	0	0	0
Total TEC	**91,200**	**91,200**	**91,200**

	Budget Authority (Appropriations)	Obligations	Costs
Other Project Costs (OPC)			
Prior - FY 2024	750	750	0
FY 2025	1,000	1,000	0
FY 2026	250	250	900
FY 2027	0	0	1,100
FY 2028	0	0	0
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	0	0	0
Total, OPC	**2,000**	**2,000**	**2,000**
Total Project Costs (TPC)			
Prior - FY 2024	40,500	40,500	5,888
FY 2025	41,604	41,604	28,651
FY 2026	11,096	11,096	40,401
FY 2027	0	0	18,260
FY 2028	0	0	0
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	0	0	0
Total TPC	**93,200**	**93,200**	**93,200**

HFTOC Subproject (21-D-511-05)

HFTOC	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior - FY 2024	100,000	100,000	81,655
FY 2025	65,000	65,000	70,972
FY 2026	13,982	13,982	26,355
FY 2027	0	0	0
Total Design	**178,982**	**178,982**	**178,982**
Construction			
Prior - FY 2024	34,000	34,000	0
FY 2025	101,000	101,000	27,214
FY 2026	465,101	465,101	465,823
FY 2027	439,644	439,644	395,600
FY 2028	0	0	151,108
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	0	0	0
Total Construction	**1,039,745**	**1,039,745**	**1,039,745**
TEC			
Prior - FY 2024	134,000	134,000	81,655
FY 2025	166,000	166,000	98,186
FY 2026	479,083	479,083	492,178
FY 2027	439,644	439,644	395,600
FY 2028	0	0	151,108
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	0	0	0
Total TEC	**1,218,727**	**1,218,727**	**1,218,727**

	Budget Authority (Appropriations)	Obligations	Costs
Other Project Costs (OPC)			
Prior - FY 2024	2,500	2,500	0
FY 2025	13,000	13,000	0
FY 2026	50,000	50,000	50,000
FY 2027	115,773	115,773	72,000
FY 2028	0	0	59,273
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	0	0	0
Total, OPC	**181,273**	**181,273**	**181,273**
Total Project Costs (TPC)			
Prior - FY 2024	136,500	136,500	81,655
FY 2025	179,000	179,000	98,186
FY 2026	529,083	529,083	542,178
FY 2027	555,417	555,417	467,600
FY 2028	0	0	210,381
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	0	0	0
Total TPC	**1,400,000**	**1,400,000**	**1,400,000**

4. Details of Project Cost Estimate[1]

Overall Project (21-D-511-02, 21-D-511-03 and 21-D-511-05) ($K)

	Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	2,828,078	2,492,500	N/A
Contingency	0	329,096	N/A
Total Design	**2,828,078**	2,821,596	N/A

[1] The subprojects are pre-CD-2, so there are no validated baselines to include in the tables.

Construction				
	Site Preparation	1,342,618	1,337,250	N/A
	Equipment	3,866,723	4,021,800	N/A
	Construction	8,758,697	8,160,600	N/A
	Contingency	2,422,611	2,408,754	N/A
Total Construction		**16,390,649**	15,928,404	N/A
Other TEC (if any)				
	Cold Startup	N/A	N/A	N/A
	Contingency	N/A	N/A	N/A
	Total, Other TEC	N/A	N/A	N/A
Total Estimated Cost (TEC)		19,218,727	18,750,000	**N/A**
Contingency, TEC		***2,422,611***	2,737,850	***N/A***
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning & Design	367,896	367,896	N/A
	Post CD-1 Costs	4,863,127	5,301,854	N/A
	Contingency	550,250	580,250	N/A
Total OPC		5,781,273	6,250,000	**N/A**
Contingency, OPC		550,250	580,250	*N/A*
Total Project Cost		25,000,000	25,000,000	**N/A**
Total Contingency (TEC+OPC)		**2,972,861**	3,318,100	***N/A***

MPB Subproject (21-D-511-02) ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	2,643,709	2,342,000	N/A
	Contingency	0	308,596	N/A
Total Design		**2,643,709**	**2,650,596**	**N/A**
Construction				
	Site Preparation	1,250,000	1,250,000	N/A
	Equipment	3,516,800	3,516,800	N/A
	Construction	8,306,887	7,550,000	N/A
	Contingency	2,191,404	2,191,404	N/A
Total Construction		**15,265,091**	**14,508,204**	**N/A**
Other TEC (if any)				
	Cold Startup	N/A	N/A	N/A
	Contingency	N/A	N/A	N/A
	Total, Other TEC	N/A	N/A	N/A
Total Estimated Cost (TEC)		**17,908,800**	**17,158,800**	**N/A**
Contingency, TEC		***2,191,404***	2,500,000	***N/A***
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning & Design	367,896	367,896	N/A
	Post CD-1 OPC Costs	4,730,104	4,680,104	N/A
	Contingency	500,000	500,000	N/A
Total OPC		5,598,000	5,548,000	**N/A**
Contingency, OPC		500,000	500,000	*N/A*
Total Project Cost		**23,506,800**	**22,706,800**	**N/A**
Total Contingency (TEC+OPC)		***2,691,404***	**3,000,000**	***N/A***

ADMIN Subproject (21-D-511-03)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	5,387	5,500	5,000
	Contingency	0	500	500
Total Design		**5,387**	**6,000**	**5,500**
Construction				
	Site Preparation	7,250	7,250	7,250
	Equipment	5,000	5,000	5,000
	Construction	61,213	60,600	51,100
	Contingency	12,350	12,350	10,350
Total Construction		**85,813**	**85,200**	**73,700**
Other TEC (if any)				
	Cold Startup	N/A	N/A	10,000
	Contingency	N/A	N/A	2,000
	Total, Other TEC	N/A	N/A	12,000
Total Estimated Cost (TEC)		**91,200**	**91,200**	**91,200**
Contingency, TEC		***12,350***	***12,850***	***12,850***
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning & Design	0	0	0
	Post CD-1 OPC Costs	1,750	1,750	1,750
	Contingency	250	250	250
Total OPC		**2,000**	**2,000**	**2,000**
Contingency, OPC		*250*	*250*	*250*
Total Project Cost		**93,200**	**93,200**	**93,200**
Total Contingency (TEC+OPC)		***12,600***	***13,100***	***13,100***

HFTOC Subproject (21-D-511-05)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	178,982	145,000	N/A
	Contingency	0	20,000	N/A
Total Design		**178,982**	**165,000**	**N/A**
Construction				
	Site Preparation	85,368	80,000	N/A
	Equipment	344,923	500,000	N/A
	Construction	390,597	550,000	N/A
	Contingency	218,857	205,000	N/A
Total Construction		**1,039,745**	**1,335,000**	**N/A**
Other TEC (if any)				
	Cold Startup	N/A	N/A	N/A
	Contingency	N/A	N/A	N/A
	Total, Other TEC	N/A	N/A	N/A
Total Estimated Cost (TEC)		**1,218,727**	**1,500,000**	**N/A**
Contingency, TEC		***218,857***	***225,000***	***N/A***
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning & Design	0	0	N/A
	Post CD-1 OPC Costs	131,273	620,000	N/A
	Contingency	50,000	80,000	N/A
Total OPC		**181,273**	**700,000**	**N/A**
Contingency, OPC		*50,000*	*80,000*	*N/A*
Total Project Cost		**1,400,000**	**2,200,000**	**N/A**
Total Contingency (TEC+OPC)		***268,857***	***305,000***	***N/A***

5. Schedule of Appropriations Requests ($K)

($K)

Request Year	Type	Prior Years	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	Out Years	Total
FY 2021	TEC	241,896	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	436,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	677,896	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FY 2022	TEC	686,896	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	451,213	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	1,138,109	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9,961,891	11,100,000
FY 2023	TEC	2,199,131	984,508	1,001,339	877,000	1,100,000	450,000	800,000	1,000,000	507,788	8,919,766
	OPC	497,213	30,000	50,000	75,000	100,000	750,000	400,000	200,000	78,021	2,180,234
	TPC	2,696,344	1,014,508	1,051,339	952,000	1,200,000	1,200,000	1,200,000	1,200,000	585,809	11,100,000
FY 2024	TEC	2,699,131	1,070,000	1,150,000	1,125,000	1,130,500	450,000	600,000	400,000	295,135	8,919,766
	OPC	497,213	30,000	50,000	75,000	99,500	749,000	399,500	202,000	78,021	2,180,234
	TPC	3,196,344	1,100,000	1,200,000	1,200,000	1,230,000	1,199,000	999,500	602,000	373,156	11,100,000
FY 2025	TEC	2,708,881	1,158,000	1,402,750	1,545,000	1,307,875	1,386,979	TBD	TBD	TBD	TBD
	OPC	487,463	42,000	77,250	215,000	622,125	782,021	TBD	TBD	TBD	TBD
	TPC	3,196,344	1,200,000	1,480,000	1,760,000	1,930,000	2,169,000	TBD	TBD	TBD	TBD
FY 2026	TEC	1,870,896	979,985	758,000	1,618,750	N/A	N/A	N/A	N/A	13,522,369	18,750,000
	OPC	467,213	20,250	42,000	107,250	N/A	N/A	N/A	N/A	5,613,287	6,250,000
	TPC	2,338,109	1,000,235	800,000	1,726,000	N/A	N/A	N/A	N/A	19,135,656	25,000,000
FY 2027	TEC	2,850,881	1,490,096	1,026,750	1,770,750	2,195,055	2,003,053	2,005,820	1,916,059	3,960,263	19,218,727
	OPC	487,463	37,904	103,250	175,773	79,545	317,039	360,674	497,765	3,721,860	5,781,273
	TPC	3,338,344	1,528,000	1,130,000	1,946,523	2,274,600	2,320,092	2,366,494	2,413,824	7,682,123	25,000,000

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	1Q FY 2032 – 4Q FY 2035
Expected Useful Life (number of years)	50
Expected Future Start of D&D of this capital asset (fiscal quarter)	1Q FY 2082 – 4Q FY 2085

Related Funding Requirements
(Budget Authority in Millions of Dollars)

	Annual Costs		Life Cycle Costs[1]	
	Previous Total Estimate	Current Total Estimate	Previous Total Estimate	Current Total Estimate
Operations and Maintenance	600	600	48,100	48,100

7. D&D Information

The SRPPF plutonium processing capability will be constructed within the existing partially completed 226-F building. This will require dismantlement and removal of previously installed MFFF equipment and support systems and facilities as necessary to accommodate the new plutonium production mission. Costs for dismantlement and removal of previously installed MFFF equipment will be part of the MPB Subproject.

8. Acquisition Approach

On May 10, 2018, in support of CD-1, NNSA requested SRNS to lead the SRPPF CD-1 Conceptual Design development activities while leveraging the LANL plutonium processing knowledge and ongoing project and operation activities. SRNS utilized a LANL subcontract with Merrick to provide the process conceptual design. The SRNS utilized an affiliate sub-contract relationship with Fluor Inc., located in Greenville S.C., to provide design of the balance of plant systems. SRNS was responsible for the nuclear safety and Environmental Safety & Health (ES&H) system conceptual design development while relying on the Physical Security Center of Excellence (PSCOE) from Sandia National Laboratories (SNL) for the physical security conceptual design.

In FY 2022, NNSA directed the M&O contractor to solicit and award a CM Contractor to assume all the Engineering, Procurement, and Construction (EPC) responsibilities. The CM and design partners will continue engaging qualified specialty equipment and materials suppliers to improve the quality of design enabling optimum procurements and construction execution. Transition of the EPC activities is complete to the CM contractor, and SRNS remains responsible as the Facility Design Authority (FDA) for the facility, the production equipment, balance of plant support systems, and nuclear safety and security systems. SRNS also remains as the operational authority for ensuring SRPPF operability, maintainability, and sustainability requirements flowed down to the CM are implemented and controlled throughout the project execution. As the plutonium program and project integrator, SRNS is also responsible for the program and operational assurance during design, procurement, construction, start-up and properly sequencing of the project operational readiness and transition. LANL will continue to support the FDA by providing process inputs and oversight for specialty process equipment. LANL will also support the FDA and serve as the Weapons Design Agency for the first pit type to be produced at SRS. The SRNS contract will include Contract Line-Item Numbers (CLINS) to execute NNSA capital line items at SRS to align the applicable requirements and appropriate incentives to optimize the project execution and completion.

Additionally, as a result of M&O performance issues after approval of CD-2/3, an acquisition strategy change was proposed to, and approved by, the PME for the ADMIN Subproject. The ADMIN Subproject is now being executed through an IA with the USACE. The USACE will be considered a construction execution option for other scopes of work if NNSA determines the USACE would provide better value to the government and improve the confidence of project completion.

[1] Current Life Cycle Costs and Annual Costs are based on an updated Life Cycle Cost Estimate performed in January 2021.

The SRPPF project is continuing to look for opportunities to expedite execution and has implemented concurrent review processes to support the technical, acquisition and project management submittal processes. Federal reviews are being executed in parallel with the contractor's independent team and management reviews. A consolidated comment resolution process is being implemented. The Contractor providing complete, quality submittals will be key to successful implementation and minimizing the Federal oversight and risk acceptance.

The SRPPF project continues to utilize lessons learned in acquisition and execution of similarly sized nuclear projects, including the execution of the Los Alamos Plutonium Pit Production Project and Y-12 UPF Project. These lessons learned include:

- early long-lead material and engineered procurements, including gloveboxes, BOP equipment, and bulk materials; and
- early site preparation, to include D&R required to prepare existing SRS facilities for SRPPF CD-2/3 design and construction activities.
- Construction planning and productivity factors
- Testing, Start-up and Transition to Operations

The approved CD-1 package identified a multi-subproject construction execution approach. This acquisition approach is continuing to be refined as design matures, along with integration with the national supply chain. Within each subproject, where appropriate, a phasing approach is being applied that includes the following to optimize project schedule and cash flow:

- early site preparation and installation of temporary facilities / utilities necessary to enable construction mobilization, demolition and removal actions, long lead procurements (i.e., CD-3A);
- performance of independent and usable segments of project scope as subprojects utilizing a "phasing" tailoring strategy approach per DOE O 413.3B, (i.e., a phased subproject that would be managed under its own independent CD-2/3 and CD-4.).

07-D-220-04 Transuranic Liquid Waste (TLW) Treatment Facility Upgrade Project,
Los Alamos National Laboratory (LANL), Los Alamos, New Mexico
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary:
The Fiscal Year (FY) 2027 request is $10,000,000 for Total Estimated Cost (TEC) activities. The FY 2027 Request includes funds to finish construction and commissioning, as well as continued execution of the transition to operations activities that will enable the next project phases with the completion of construction and commissioning. Critical Decision (CD) 2/3 was approved on January 6, 2022, with a Total Estimated Cost (TEC) of $193,228,000, Total Project Cost (TPC) of $215,327,000, and a CD-4 Approval date of 4Q FY 2027.

Significant Changes:

This Construction Project Data Sheet (CPDS) is an update of the FY 2026 CPDS and does not include a new start for the budget year. It was recognized that the TLW project was likely going to deviate from the performance baseline (PB) established in FY 2022.

The current schedule estimate indicates that beneficial occupancy and construction completion are anticipated in 1Q FY 2027. The Project team recently developed an Over-Target Baseline (OTB)/Over-Target Schedule (OTS) baseline change proposal (BCP) based on a comprehensive estimate at completion (CEAC) that recognizes schedule delays and cost growth currently under review.

NNSA initiated a root cause analysis (RCA) and DOE independent review of the package consistent with DOE O 413.3B. The RCA review was completed in 2Q FY2026. The FY 2027 funding request provides funding that will support the completion of the project in accordance with the replan BCP.

The OTB/OTS accounts for past challenges and a better understanding of the required testing, commissioning, and readiness activities that will be required to achieve CD-4. The project expects to complete within the FY27 request which reflects a TEC of $204,890,000, TPC of $266,272,000, and a CD-4 date of 2Q FY 2030. After construction completion and commissioning, the project will transition to system testing and evaluation, including surrogate testing to demonstrate the achievement of key performance parameters. The project will then begin the required operational readiness reviews required for nuclear facility operation.

A Federal Project Director has been appointed.

Critical Milestone History

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2014	10/04/2004		09/16/2011	4QFY 2016	1QFY 2017	1Q FY 2017	N/A	4Q FY 2020
FY 2015	10/04/2004		09/23/2013	4QFY 2016	1QFY 2017	2Q FY 2017	N/A	4Q FY 2020
FY 2016	10/04/2004	09/23/2013	09/23/2013	4QFY 2017	1QFY 2017	4Q FY 2017	N/A	4Q FY 2020

FY 2017	10/04/2004	09/23/2013	09/23/2013	4Q FY 2017	1Q FY 2017	4Q FY 2017	N/A	4Q FY 2021
FY 2018	10/04/2004	09/23/2013	09/23/2013	2Q FY 2018	02/06/2017	2Q FY 2018	N/A	4Q FY 2023
FY 2021	10/04/2004	09/23/2013	09/23/2013	4Q FY 2020	1Q FY 2021	4Q FY 2020	N/A	4Q FY 2024
FY 2023	10/04/2004	09/23/2013	09/23/2013	01/06/2022	04/15/2021	01/06/2022	N/A	4Q FY 2027
FY 2026	10/04/2004	09/23/2013	01/06/2022	01/06/2022	04/15/2021	01/06/2022	N/A	2Q FY 2028
FY 2027	10/04/2004	09/23/2013	01/06/2022	01/06/2022	04/15/2021	01/06/2022	N/A	2Q FY 2030

CD-0 – Approve Mission Need
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable)
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Project Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete(d)
CD-3 – Approve Start of Construction/Execution
D&D Complete – Completion of D&D work (see Section 9)
CD-4 – Approve Start of Operations or Project Completion

Project Cost History

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC Except D&D	OPC, D&D	OPC, Total	TPC
FY 2014	20,546	74,270	94,816	12,780	0	12,780	107,596
FY 2015	25,605	60,000	85,605	10,428	0	10,428	96,033
FY 2016	25,605	66,997	92,602	10,428	0	10,428	103,030
FY 2017	25,605	66,997	92,602	10,428	0	10,428	103,030
FY 2018	25,605	67,244	92,849	12,940	0	12,940	105,789
FY 2021	40,500	84,260	124,760	14,464	0	14,464	139,224
FY 2023	44,829	148,399	193,228	22,099	0	22,099	215,327
FY 2026	44,829	150,061	194,890	31,182	0	31,182	226,072
FY 2027	44,829	160,061	204,890	61,382	0	61,382	266,272

2. Project Scope and Justification

Scope
The project will design and construct a new hazard category 3 nuclear facility of approximately 5,000 square feet. The facility will house processing equipment capable of treating at least 29,000 liters of transuranic (TRU) liquid waste each year, a TRU liquid influent storage system, and necessary utilities.

Justification
The existing degraded and outdated treatment facility systems pose elevated risk to workers, public, environment and plutonium missions at LANL. Continuous workarounds are required to keep systems running and excessive corrosion threatens system availability. The replacement is needed to remediate significant

deficiencies associated with the existing Radioactive Liquid Waste (RLW) treatment capabilities that pose a threat to the long-term availability of this function. The replacement is ultimately aimed at providing a RLW treatment capability that is safe, reliable, and effective for the next 50 years in support of primary plutonium missions at LANL. Delays in TLW could have a significant risk to the NNSA plutonium mission due to the potential risks associated with the aging existing Radioactive Liquid Waste Treatment Facility. The new facility will be built to comply with the current codes, Nuclear Safety/Quality, standards including International Building Code, seismic design/construction codes, and the National Electric Code (NEC).

The project is being executed in accordance with the project management requirements in DOE Order 413.3B. Funds appropriated under this data sheet may be used for independent assessments of the planning and execution of this project and for contracted support services to the federal project team for oversight and support.

Key Performance Parameters (KPPs)
The Threshold KPPs, represent the minimum acceptable performance that the project must achieve. Achievement of the Threshold KPPs will be a prerequisite for approval of CD-4, Project Completion. The Objective KPPs represent the desired project performance.

Key Performance Parameters (KPPs)

Performance Measure	Threshold KPP	Objective KPP
-Design and construct the capability to process 29,000 liters per year of TRU liquid waste	-Process 29,000 liters per year	Any additional throughput will be accomplished through operational tempo
-Design and construct the TLW Facility such that the TLW effluent will meet the Waste Acceptance Criteria (WAC) for the LLW collection system	-Meet the WAC for the LLW collection system	

3. Financial Schedule[1]

($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior - FY 2024	44,829	44,829	44,829
Total Design			
Construction			
Prior - FY 2024	144,196	139,196	126,054
FY 2025	0	5,000	15,924
FY 2026	5,865	5,865	8,083
FY 2027	10,000	10,000	10,000
Total Construction	**160,061**	**160,061**	**160,061**
TEC			
Prior - FY 2024	189,025	184,025	170,883
FY 2025	-	5,000	15,924
FY 2026	5,865	5,865	8,083
FY 2027	10,000	10,000	10,000
Total TEC	**204,890**	**204,890**	**204,890**
Other Project Costs (OPC)			
Prior - FY 2024	17,464	17,464	4,244
FY 2025	4,635	4,635	12,093
FY 2026	9,083	9,083	14,707
FY 2027	20,000	20,000	12,500
FY 2028	10,200	10,200	12,200
FY 2029	-	-	5,000
FY 2030	-	-	638
Total, OPC	**61,382**	**61,382**	**61,382**
Total Project Costs (TPC)			
Prior - FY 2024	206,489	201,489	175,127
FY 2025	4,635	9,635	28,017
FY 2026	14,948	14,948	22,790
FY 2027	30,000	30,000	22,500
FY 2028	10,200	10,200	12,200
FY 2029	0	0	5,000
FY 2030	0	0	638
Total TPC	**266,272**	**266,272**	**266,272**

[1]TLW received $5M through an internal reprogramming in FY 2025. The funds received were $2M in AY 2021 and $3M in AY 2022, so the budget authority is reflected in the Prior – FY 2024 row of the Construction section.

4. Details of Project Cost Estimate

Details of Project Cost Estimate		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	44,829	44,829	44,711
	Federal Support	0	0	0
	Contingency	0	0	118
Total Design		**44,829**	**44,829**	**44,829**
Construction				
	Other Construction	153,827	141,485	112,150
	Equipment (GFE)	1,011	1,279	0
	Safety Basis	0	2,539	2,421
	Federal Support	2,100	2,100	5,275
	Contingency	3,123	2,658	28,553
Total Construction		**160,061**	**150,061**	**148,399**
Total Estimated Cost (TEC)		**204,890**	**194,890**	**193,228**
Contingency, TEC		*8,877*	*2,658*	*28,671*
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning	0	0	0
	Conceptual Design			
	Design Support	1,547	1,547	1,547
	Start-Up	49,629	28,553	15,904
	Safety Basis	4,623	0	0
	Federal Support	500	0	725
	Contingency	5,083	1,082	3,923
Total OPC		**61,382**	**31,182**	**22,099**
Contingency, OPC		*5,083*	*1,082*	*3,923*
Total Project Cost		**266,272**	**226,072**	**215,327**
Total Contingency (TEC+OPC)		***13,960***	***3,740***	***32,594***

5. Schedule of Appropriations Requests

Schedule of Appropriation Requests Year	Type	Prior Years	FY2025	FY2026	FY 2027	FY 2028	Total
FY 2014	TEC	86,053	0	0	0	0	86,053
	OPC	12,780	0	0	0	0	12,780
	TPC	98,833	0	0	0	0	98,833
FY 2015	TEC	85,605	0	0	0	0	85,605
	OPC	10,428	0	0	0	0	10,428
	TPC	96,033	0	0	0	0	96,033
FY 2016	TEC	85,102	0	0	0	0	85,102
	OPC	10,428	0	0	0	0	10,428
	TPC	95,530	0	0	0	0	95,530
FY 2017	TEC	85,102	0	0	0	0	85,102
	OPC	10,428	0	0	0	0	10,428
	TPC	95,530	0	0	0	0	95,530
FY 2018	TEC	92,849	0	0	0	0	92,849
	OPC	7,746	0	0	0	0	7,746
	TPC	100,595	0	0	0	0	100,595
FY 2021	TEC	129,536	0	0	0	0	129,536
	OPC	14,464	0	0	0	0	14,464
	TPC	144,000	0	0	0	0	144,000
FY 2023	TEC	193,228	0	0	0	0	193,228
	OPC	17,464	4,635	0	0	0	22,099
	TPC	210,692	4,635	0	0	0	215,327
FY 2026	TEC	184,025	5,000	5,865	0	0	194,890
	OPC	17,464	4,635	9,083	0	0	31,182
	TPC	201,489	9,635	14,948	0	0	226,072
FY 2027	TEC	189,025	0	5,865	10,000	0	204,890
	OPC	17,464	4,635	9,083	20,000	10,200	61,382
	TPC	206,489	4,635	14,948	30,000	10,200	266,272

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	Q2 FY 2030
Expected Useful Life (number of years)	50
Expected Future Start of D&D of this capital asset (fiscal quarter)	Q2 FY 2080

Related Funding Requirements
(Budget Authority in Millions of Dollars)
2013 Base Dollars

	Annual Costs		Life Cycle Costs	
	Current Total Estimate	Previous Total Estimate	Current Total Estimate	Previous Total Estimate
Operations	1.400	1.400	70.0	70.0
Utilities	0.050	0.050	2.5	2.5
Maintenance & Repair	0.400	0.400	20.0	20.0
Total	1.850	1.850	92.5	92.5

7. D&D Information

The one-for-one offset requirement will be met by utilizing site-banked square footage. A plan for D&D of the existing facility will be developed at the end of construction of the new facility when characterization data is available.

	Square Feet
New area being constructed by this project at LANL	5,000
Area of D&D in this project at LANL	0
Area at LANL to be transferred, sold, and/or D&D outside the project including area previously "banked"	5,000
Area of D&D in this project at other sites	0
Area at other sites to be transferred, sold, and/or D&D outside the project including area previously "banked"	0
Total area eliminated	5,000

8. Acquisition Approach

The TLW acquisition strategy assigns project execution activities to the LANL Management and Operating (M&O) Contractor. The final design was completed by the M&O prior to CD-2/3. CD-2/3 approval was received on January 6, 2022, and a firm fixed price contract for construction was awarded on March 23, 2022. Most construction activities were performed by the construction sub-contractor Hensel Phelps, with some activities performed by the M&O. Specifically, the startup/commissioning, along with Turnover to Operations and Readiness will be performed by the M&O as cost plus.

06-D-141 Uranium Processing Facility (UPF)
Y-12 National Security Complex, Oak Ridge, Tennessee
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary:

The Fiscal Year (FY) 2027 Request for the Uranium Processing Facility (UPF) is $290,000,000[1]. The most recent Critical Decision (CD)-2/3 was approved on March 21, 2018, by the Deputy Secretary of Energy, with a Total Project Cost (TPC) of $6,500,000,000 and a Critical Decision (CD)-4 of December 31, 2025. A Level 4 Federal Project Director has been assigned to this project and has approved this Construction Project Data Sheet (CPDS). An increase in the TPC and a change to the CD-4 date was approved by the Deputy Secretary on December 4, 2024, with the TPC increased to $10,350,000,000 and the CD-4 date of January 2032.

The project plans to allocate $84,232,000 in FY 2027 for the Salvage and Accountability Building (SAB) Subproject (06-D-141-09). The CD-2/3 for this subproject was approved on March 21, 2018, by the Deputy Secretary of Energy with a TPC of $1,180,000,000. The long-lead equipment authorized as part of the Main Process Building (MPB) CD-3B for the SAB was included in the SAB TPC at CD-2/3. An increase in the TPC and change in CD-4 date for the SAB was approved by the Deputy Secretary on December 4, 2024. The TPC was increased from $1,180,000,000 to $2,250,000,000, and the CD-4 date was extended from December 2025 to January 2032.

The project plans to allocate $455,768,000 in FY 2027 for the MPB Subproject (06-D-141-04). The CD-2/3 was approved on March 21, 2018, by the Deputy Secretary of Energy with a TPC of $4,731,786,000. The CD-3A for Long-Lead Procurement and Site Preparation was approved on March 30, 2016. The long-lead equipment authorized as part of CD-3B for the MPB was included in the MPB TPC at CD-2/3. An increase in the TPC and change in CD-4 date for the MPB was approved by the Deputy Secretary on December 4, 2024. The TPC was increased from $4,731,786,000 to $7,450,000,000, and the CD-4 date was extended from December 2025 to January 2032.

As represented since the FY 2012 Request, design, construction, and Other Project Costs (OPC) will continue to be executed through the line-item funding. Since October 1, 2011, OPC work has been and will only be performed using funding specifically appropriated by Congress for the project.

Significant Changes:

Construction associated with the UPF project is ongoing, and the project is performing startup and commissioning activities for completed scope as appropriate. Significant activities completed in FY 2025 include the completion of Process Support Facilities (PSF); the energization of Medium and Low voltage electrical systems, the cumulative installation of 463 miles of electrical cable in the MPB/SAB (out of a total of 603 miles of electrical cable to be installed); and turning over of 93 of 192 total systems from construction to startup in the SAB, and 51 of 159 total systems from construction to startup in the MPB.

The PSF subproject achieved CD-4 on September 24, 2025 (16 months ahead of the revised baseline), at a TPC of $178,000,000 ($16,000,000 under the revised baseline). The unspent contingency will be held on the top line UPF project to support MPB and SAB completion, if required.

[1] P.L. 119-21 (Working Families and Tax Cut Act or WFTC) provided $3,885,000,000 in funding to DOE/NNSA, of which $250 million is for the Uranium Processing Facility project.

FY 2027 and prior year funds will be used for ongoing construction, startup, and commissioning activities for the MPB, and SAB subprojects. Subproject descriptions are included in Section 2.

Critical Milestone History

Table 1: Uranium Processing Facility Project (06-D-141)
Critical Milestone History by Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2011	12/17/2004	N/A	7/25/2007	TBD	2Q FY 2014	TBD	TBD	TBD
FY 2012	12/17/2004	N/A	7/25/2007	4Q FY 2013	2Q FY 2014	4Q FY 2013	TBD	TBD
FY 2013	12/17/2004	N/A	7/25/2007	4Q FY 2013	2Q FY 2014	4Q FY 2013	N/A	TBD
FY 2014	12/17/2004	N/A	6/8/2012	3Q FY 2014	4Q FY 2015	3Q FY 2015	N/A	TBD
FY 2015	12/17/2004	N/A	6/8/2012	TBD	TBD	TBD	N/A	TBD
FY 2016	12/17/2004	2/9/2006	6/8/2012	TBD	TBD	TBD	N/A	TBD
FY 2017	12/17/2004	6/24/2015	6/8/2012	4Q FY 2017	4Q FY 2017	4Q FY 2017	N/A	4Q FY 2025
FY 2018	12/17/2004	6/24/2015	6/8/2012	2Q FY 2018	4Q FY 2017	2Q FY 2018	N/A	4Q FY 2025
FY 2019	12/17/2004	6/24/2015	6/8/2012	2Q FY 2018	8/25/2017	2Q FY 2018	N/A	4Q FY 2025
FY 2020 PB	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2021	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2022	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2023	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2024	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	1Q-2Q FY 2029
FY 2025	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	3Q-4Q FY 2030
FY 2026	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	2Q FY 2032
FY 2027	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	2Q FY 2032

Table 1.1: Site Readiness Subproject (06-D-141-01)
Critical Milestone History by Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2014 PB	12/17/2004	N/A	6/8/2012	1/29/2013	1/29/2013	1/29/2013	N/A	2Q FY 2015
FY 2015	12/17/2004	N/A	6/8/2012	1/29/2013	1/29/2013	1/29/2013	N/A	2Q FY 2015
FY 2016	12/17/2004	2/9/2006	6/8/2012	1/29/2013	1/29/2013	1/29/2013	N/A	2Q FY 2015
FY 2017	12/17/2004	2/9/2006	6/8/2012	1/29/2013	1/29/2013	1/29/2013	N/A	2/27/2015

Table 1.2: Site Infrastructure and Services Subproject (06-D-141-05)
Critical Milestone History by Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2015	12/17/2004	N/A	7/25/2007	4Q FY 2014	4Q FY 2013	4Q FY 2014	N/A	4Q FY 2016
FY 2016	12/17/2004	2/9/2006	6/8/2012	2Q FY 2015	3Q FY 2015	2Q FY 2015	N/A	4Q FY 2016
FY 2017 PB	12/17/2004	2/9/2006	6/8/2012	3/12/2015	3/12/2015	3/12/2015	N/A	4/28/2018
FY 2018	12/17/2004	2/9/2006	6/8/2012	3/12/2015	3/12/2015	3/12/2015	N/A	4/28/2018
FY 2019	12/17/2004	2/9/2006	6/8/2012	3/12/2015	3/12/2015	3/12/2015	N/A	4/28/2018
FY 2020	12/17/2004	2/9/2006	6/8/2012	3/12/2015	3/12/2015	3/12/2015	N/A	2/28/2018

Table 1.3: Substation Subproject (06-D-141-07)
Critical Milestone History by Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2017	12/17/2004	6/24/2015	6/8/2012	4Q FY 2016	4Q FY 2016	4Q FY 2016	N/A	1Q FY 2019
FY 2018 PB	12/17/2004	6/24/2015	6/8/2012	9/14/2016	9/30/2017	9/14/2016	N/A	6/30/2020
FY 2019	12/17/2004	6/24/2015	6/8/2012	9/14/2016	12/22/2017	9/14/2016	N/A	6/30/2020
FY 2020	12/17/2004	6/24/2015	6/8/2012	9/14/2016	12/22/2017	9/14/2016	N/A	6/30/2020
FY 2021	12/17/2004	6/24/2015	6/8/2012	9/14/2016	12/22/2017	9/14/2016	N/A	12/20/2019

Table 1.4: Mechanical Electrical Building Subproject (06-D-141-06)
Critical Milestone History by Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2017	12/17/2004	6/24/2015	6/8/2012	2Q FY 2017	4Q FY 2017	2Q FY 2017	N/A	4Q FY 2021
FY 2018 PB	12/17/2004	6/24/2015	6/8/2012	12/13/2016	4Q FY 2017	12/13/2016	N/A	1/31/2022
FY 2019	12/17/2004	6/24/2015	6/8/2012	12/13/2016	9/30/2017	12/13/2016	N/A	1/31/2022
FY 2020	12/17/2004	6/24/2015	6/8/2012	12/13/2016	9/30/2017	12/13/2016	N/A	1/31/2022
FY 2021	12/17/2004	6/24/2015	6/8/2012	12/13/2016	9/30/2017	12/13/2016	N/A	1/31/2022
FY 2022	12/17/2004	6/24/2015	6/8/2012	12/13/2016	9/30/2017	12/13/2016	N/A	1/31/2022
FY 2023	12/17/2004	6/24/2015	6/8/2012	12/13/2016	9/30/2017	12/13/2016	N/A	8/31/2022
FY 2024	12/17/2004	6/24/2015	6/8/2012	12/13/2016	9/30/2017	12/13/2016	N/A	7/8/2022

Table 1.5: Process Support Facilities Subproject (06-D-141-08)
Critical Milestone History by Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2017	12/17/2004	6/24/2015	6/8/2012	3Q FY 2017	3Q FY 2017	3Q FY 2017	N/A	4Q FY 2021
FY 2018	12/17/2004	6/24/2015	6/8/2012	2Q FY 2018	4Q FY 2017	2Q FY 2018	N/A	4Q FY 2025
FY 2019	12/17/2004	6/24/2015	6/8/2012	2Q FY 2018	9/30/2017	2Q FY 2018	N/A	4Q FY 2025
FY 2020 PB	12/17/2004	6/24/2015	6/8/2012	3/16/2018	9/30/2017	3/16/2018	N/A	12/31/2025
FY 2021	12/17/2004	6/24/2015	6/8/2012	3/16/2018	9/30/2017	3/16/2018	N/A	12/31/2025
FY 2022	12/17/2004	6/24/2015	6/8/2012	3/16/2018	9/30/2017	3/16/2018	N/A	12/31/2025
FY 2023	12/17/2004	6/24/2015	6/8/2012	3/16/2018	9/30/2017	3/16/2018	N/A	12/31/2025
FY 2024	12/17/2004	6/24/2015	6/8/2012	3/16/2018	9/30/2017	3/16/2018	N/A	12/31/2026
FY 2025	12/17/2004	6/24/2015	6/8/2012	3/16/2018	9/30/2017	3/16/2018	N/A	1Q FY 2027
FY 2026	12/17/2004	6/24/2015	6/8/2012	3/16/2018	9/30/2017	3/16/2018	N/A	1Q FY 2027
FY 2027	12/17/2004	6/24/2015	6/8/2012	3/16/2018	9/30/2017	3/16/2018	N/A	9/24/2025

Table 1.6: Salvage and Accountability Building Subproject (06-D-141-09)
Critical Milestone History by Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2017	12/17/2004	6/24/2015	6/8/2012	4Q FY 2017	4Q FY 2017	4Q FY 2017	N/A	4Q FY 2025
FY 2018	12/17/2004	6/24/2015	6/8/2012	3/21/2018	4Q FY 2017	3/21/2018	N/A	4Q FY 2025
FY 2019	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	4Q FY 2025
FY 2020 PB	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2021	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2022	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2023	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2024	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	1Q-2Q FY 2029
FY 2025	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	3Q-4QFY 2030
FY 2026	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	2Q FY 2032
FY 2027	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	2Q FY 2032

Table 1.7: Main Process Building Subproject (06-D-141-04)
Critical Milestone History by Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2014	12/17/2004	N/A	6/8/2012	3Q FY 2014	4Q FY 2015	3Q FY 2015	N/A	TBD
FY 2015	12/17/2004	N/A	6/8/2012	TBD	TBD	TBD	N/A	TBD
FY 2016	12/17/2004	2/9/2006	6/8/2012	TBD	TBD	TBD	N/A	TBD
FY 2017	12/17/2004	6/24/2015	6/8/2012	4Q FY 2017	4Q FY 2017	4Q FY 2017	N/A	4Q FY 2025
FY 2018	12/17/2004	6/24/2015	6/8/2012	2Q FY 2018	4Q FY 2017	2Q FY 2018	N/A	4Q FY 2025
FY 2019	12/17/2004	6/24/2015	6/8/2012	2Q FY 2018	8/25/2017	2Q FY 2018	N/A	4Q FY 2025
FY 2020	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2021	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2022	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2023	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	12/31/2025
FY 2024	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	1Q-2Q FY 2029
FY 2025	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	3Q-4Q FY 2030
FY 2026	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	2Q FY 2032
FY 2027	12/17/2004	6/24/2015	6/8/2012	3/21/2018	8/25/2017	3/21/2018	N/A	2Q FY 2032

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable)
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete (d)
CD-3 – Approve Start of Construction
D&D Complete – Completion of D&D work
CD-4 – Approve Start of Operations or Project Closeout

Table 2: Uranium Processing Facility Project (06-D-141) Baseline and Long-Lead Approval by Fiscal Quarter or Date

Fiscal Year	UPF CD-2/3	MPB CD-3A	MPB CD-3B	MPB CD-3C	Substation CD-3A
FY 2017	N/A	2Q FY 2016	1Q F Y2017	1Q FY 2017	3Q FY 2016
FY 2018	3/21/2018	3/30/2016	1/13/2017	N/A	N/A

MPB CD-3A – Long Lead Procurement for site preparation and long lead procurements
MPB CD-3B – Long Lead Procurements
MPB CD-3C – Cancelled as reflected in the FY 2018 CPDS
Substation CD-3A – Cancelled as reflected in the FY 2018 CPDS

Project Cost History

Table 3: Uranium Processing Facility Project (06-D-141) Financial Data ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2011	351,149	935,000-1,604,000	1,124,000-1,928,000	276,000-472,000	TBD	TBD	1,400,000-3,500,000
FY 2012	528,690	3,174,779-5,320,310	3,703,000-5,849,000	497,000-651,000	N/A	497,000-651,000	4,200,000-6,500,000
FY 2013	566,192	3,136,808-5,150,808	3,703,000-5,717,000	497,000-783,000	N/A	497,000-783,000	4,200,000-6,500,000
FY 2014	1,164,000	TBD	TBD	TBD	N/A	TBD	TBD
FY 2015	TBD	TBD	TBD	TBD	N/A	TBD	TBD
FY 2016	TBD	TBD	TBD	TBD	N/A	TBD	TBD
FY 2017	1,880,000	4,103,000	5,983,000	517,000	-	517,000	6,500,000
FY 2018	1,926,000	4,148,500	6,074,500	425,500	-	425,500	6,500,000
FY 2019	1,855,809	4,463,724	6,319,533	180,467	-	180,467	6,500,000
FY 2020	1,838,000	4,283,337	6,121,337	378,663	-	378,663	6,500,000
FY 2021	1,838,000	4,283,337	6,121,337	378,663	-	378,663	6,500,000
FY 2022	1,838,000	4,283,337	6,121,337	378,663	-	378,663	6,500,000
FY 2023	1,838,000	4,283,337	6,121,337	378,663	-	378,663	6,500,000
FY 2024	1,838,000	6,356,467	8,194,467	378,663	-	378,663	8,500,000-8,950,000
FY 2025	1,838,000	7,122,504	8,960,504	378,663	-	378,663	9,339,167
FY 2026	1,838,000	6,979,259	8,817,259	1,532,741	-	1,532,741	10,350,000
FY 2027[1]	1,838,000	6,963,259	8,801,259	1,532,741	-	1,532,741	10,350,000

[1] $16M of unspent contingency from PSF is held on the top line UPF project to support MPB and SAB completion, in the event its required. Value is not reflected in subprojects' tables or in overall project TEC.

Table 3.1: Site Readiness Subproject (06-D-141-01) Financial Data ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2015	N/A	64,000	64,000	1,000	N/A	1,000	65,000
FY 2016	-	64,000	64,000	1,000	N/A	1,000	65,000
FY 2017	-	43,277	43,277	-	-	-	43,277
FY 2018	-	43,277	43,277	-	-	-	43,277
FY 2019	-	43,714	43,714	-	-	-	43,714

Table 3.2: Site Infrastructure and Services Subproject (06-D-141-05) Financial Data ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2015	N/A	58,000	58,000	1,500	N/A	1,500	59,500
FY 2016	N/A	84,500	84,500	500	N/A	500	85,000
FY 2017	-	78,000	78,000	500	-	500	78,500
FY 2018	-	78,000	78,000	500	-	500	78,500
FY 2019	-	78,000	78,000	500	-	500	78,500
FY 2020	-	60,500	60,500	-	-	-	60,500

Table 3.3: Substation Subproject (06-D-141-07) Financial Data ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2017	-	48,000	48,000	2,000	-	2,000	50,000
FY 2018	-	60,000	60,000	-	-	-	60,000
FY 2019	-	60,000	60,000	-	-	-	60,000
FY 2020	-	60,000	60,000	-	-	-	60,000
FY 2021	-	48,568	48,568	-	-	-	48,568
FY 2022	-	43,650	43,650	-	-	-	43,650

Table 3.4: Mechanical Electrical Building Subproject (06-D-141-06) Financial Data ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2017	-	540,000	540,000	60,000	-	60,000	600,000
FY 2018	-	284,000	284,000	-	-	-	284,000
FY 2019	-	283,917	283,917	83	-	83	284,000
FY 2020	-	282,980	282,980	1,020	-	1,020	284,000
FY 2021	-	282,980	282,980	1,020	-	1,020	284,000
FY 2022	-	282,980	282,980	1,020	-	1,020	284,000
FY 2023	-	307,116	307,116	1,020	-	1,020	308,136

Table 3.5: Process Support Facilities Subproject (06-D-141-08) Financial Data ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2017	-	55,000	55,000	5,000	-	5,000	60,000
FY 2018	-	111,000	111,000	10,000	-	10,000	121,000
FY 2019	-	116,702	116,702	4,298	-	4,298	121,000
FY 2020	-	118,000	118,000	22,000	-	22,000	140,000
FY 2021	-	118,000	118,000	22,000	-	22,000	140,000
FY 2022	-	118,000	118,000	22,000	-	22,000	140,000
FY 2023	-	118,000	118,000	22,000	-	22,000	140,000
FY 2024	-	172,000	172,000	22,000	-	22,000	194,000
FY 2025	-	172,000	172,000	22,000	-	22,000	194,000
FY 2026	-	166,000	166,000	28,000	-	28,000	194,000
FY 2027[1]	-	155,000	155,000	23,000	-	23,000	178,000

Table 3.6: Salvage and Accountability Building Subproject (06-D-141-09) Financial Data ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2017	-	1,200,000	1,200,000	130,000	-	130,000	1,330,000
FY 2018	-	1,060,250	1,060,250	25,000	-	25,000	1,085,250
FY 2019	-	1,013,761	1,013,761	16,239	-	16,239	1,030,000
FY 2020	-	1,105,000	1,105,000	75,000	-	75,000	1,180,000
FY 2021	-	1,105,000	1,105,000	75,000	-	75,000	1,180,000
FY 2022	-	1,105,000	1,105,000	75,000	-	75,000	1,180,000
FY 2023	-	1,105,000	1,105,000	75,000	-	75,000	1,180,000
FY 2024	-	1,595,403	1,595,403	75,000	-	75,000	1,670,403
FY 2025	-	1,801,762	1,801,762	75,000	-	75,000	1,876,762
FY 2026	-	2,017,930	2,017,930	232,070	-	232,070	2,250,000
FY 2027	-	2,017,930	2,017,930	232,070	-	232,070	2,250,000

[1] Represents subproject final closeout cost.

Table 3.7: Main Process Building Subproject (06-D-141-04) Financial Data ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2015	TBD	TBD	TBD	TBD	N/A	TBD	TBD
FY 2016	TBD	TBD	TBD	TBD	N/A	TBD	TBD
FY 2017	1,880,000	2,138,723	4,018,723	319,500	-	319,500	4,338,223
FY 2018	1,926,000	2,511,973	4,437,973	390,000	-	390,000	4,827,973
FY 2019	1,855,809	2,867,630	4,723,439	159,347	-	159,347	4,882,786
FY 2020	1,838,000	2,613,143	4,451,143	280,643	-	280,643	4,731,786
FY 2021	1,838,000	2,613,143	4,451,143	280,643	-	280,643	4,731,786
FY 2022	1,838,000	2,613,143	4,451,143	280,643	-	280,643	4,731,786
FY 2023	1,838,000	2,603,343	4,441,343	280,643	-	280,643	4,721,986
FY 2024	1,838,000	4,132,070	5,970,070	280,643	-	280,643	6,250,713
FY 2025	1,838,000	4,693,612	6,513,612	280,643	-	280,643	6,812,555
FY 2026	1,838,000	4,340,349	6,178,349	1,271,651	-	1,271,651	7,450,000
FY 2027	1,838,000	4,335,349	6,173,349	1,276,651	-	1,276,651	7,450,000

2. Project Scope and Justification

Scope

The UPF Project is a design and construction project. The UPF Project consists of a series of industrial and nuclear buildings and supporting infrastructure. It is a major system acquisition that was selected in the Record of Decision for the Complex Transformation Supplemental Programmatic Environmental Impact Statement to ensure the long-term viability, safety, and security of the Enriched Uranium (EU) capability at the Y-12 National Security Complex (Y-12). The UPF consists of 6 buildings, totaling 568,524 square feet. The UPF project focuses on modernizing uranium processing capabilities at Y-12 to reduce program and safety risk. The UPF project provides new buildings to replace the Building 9212 capabilities for Highly Enriched Uranium (HEU) casting, oxide production, recovery, decontamination, and assay. Coordination between Headquarters Office of Infrastructure, Enriched Uranium Modernization Program, the National Nuclear Security Administration (NNSA) Y-12 Field Office (YFO), and the Y-12 Project Management Office (PMO) is essential as the uranium mission strategy and associated implementation plans define how the uranium capabilities are transitioned, relocated, sustained, and/or replaced.

The goals and objectives of the UPF Project are to support the following modernization strategy:

- Ensure the long-term capability and improve the reliability of EU operations;
- Replace deteriorating, end-of-life buildings with modern manufacturing buildings;
- Significantly improve the health and safety posture for workers and the public by replacing administrative controls with engineered controls to manage the risks related to worker safety, criticality safety, fire protection, and environmental compliance.

The UPF project consists of the following subprojects:

Site Readiness Subproject (06-D-141-01): The Site Readiness Subproject scope included Bear Creek Road relocation, including a bridge overpass of the haul road; installation of potable water lines paralleling the new road; electrical line demolition to make way for the road and clear the construction site; electrical line and communication cable installation; preparation of the West Borrow area to receive excess-soil and preparation and maintenance of a spoil area for wet soil; extension of an existing haul road for access to the construction

site; and jack-and-bore installation of casings for future utilities. The Site Readiness Subproject completed in February 2015.

Site Infrastructure and Services (SIS) Subproject (06-D-141-05): The SIS Subproject scope included demolition of Building 9107 and its hillside, installation of haul road security features, completion of a sedimentation basin, a concrete batch plant, and completion of the Construction Support Building, which is 66,000 square feet. The SIS Subproject completed in February 2018.

Substation Subproject (06-D-141-07): The Substation Subproject provided for the installation of the 161 kilovolt (kV) Main Electrical Substation for the UPF Project and capacity for most of the rest of the Y-12 plant. The Substation provides electrical power from the Tennessee Valley Authority (TVA) 161kV transmission system. The Substation Subproject includes all equipment, facilities, and structures needed for a fully operational substation. The Substation Subproject completed in December 2019.

Mechanical Electrical Building (MEB) Subproject (06-D-141-06): The MEB Subproject constructed a 66,384 square feet facility and installed the utility equipment and support systems required by both the MPB and the SAB. The MEB is a stand-alone building housing mechanical, electrical, heating, ventilation, air conditioning, utility equipment, and support systems. The MEB is constructed to nonnuclear commercial industrial standards. This subproject includes a leased warehouse and fabrication facility; a cooling tower; and an onsite warehouse. The MEB Subproject completed in July 2022.

Process Support Facilities (PSF) Subproject (06-D-141-08): The PSF Subproject constructed a 23,914 square foot building and provide facilities for instrument air, demineralized water, waste management, and chemical and gas storage needed to support the MPB and SAB. The PSF subproject achieved CD-4 on September 24, 2025.

Salvage and Accountability Building (SAB) Subproject (06-D-141-09): The SAB Subproject consists of two buildings totaling 160,113 square feet that will contain the following processes: waste preparation, decontamination, nondestructive analysis, the clean and contaminated shops, chemical recovery, calcination and leaching, electronics and calibration maintenance, filter room, and personnel-related rooms. The SAB will be constructed to standards commensurate with the radioactive hazard and security requirements for the materials and processes contained within. This subproject includes support buildings including a fire tank pump building as well as the Personnel Support Building which provides personnel access and monitoring station, truck bay, loading dock, and material access. Long-lead equipment purchases associated with the SAB Subproject are allocated to the SAB TPC. No change in scope since the previous Request.

Long Lead Procurements, CD-3B: Included long lead gloveboxes, skids, and select long-lead procurements for structural steel, rebar, embeds, and specialty items associated with SAB.

Main Process Building (MPB) Subproject (06-D-141-04): The MPB Subproject consists of a nuclear building totaling 252,113 square feet that will house the casting and oxide production capabilities. It also contains nondestructive analysis and waste preparations, furnaces and repacking, and spaces needed for process support such as the shift manager's office, restrooms, and other personnel-related rooms. The MPB will be constructed to nuclear standards commensurate with high-hazard materials and security for the processes to be carried out within. The MPB Subproject will include the construction of the Highly Enriched Uranium Materials Facility (HEUMF) connector, and the new Perimeter Intrusion Detection and Assessment System surrounding the UPF campus and support buildings. Design costs for the UPF project are included in the MPB Subproject baseline, as design costs are not tracked for each individual UPF subproject. No change in scope since the previous Request.

Site Preparation and Long Lead Procurements, CD-3A: Included excavation and fill for the MPB, SAB, and the MEB; installation of temporary facilities, power, storm water and sanitary sewers; and long lead procurements of tower cranes and rebar for the MEB slab.

Long Lead Procurements, CD-3B: Included long-lead gloveboxes, skids, and select long-lead procurements for structural steel, rebar, embeds, and specialty items associated with MPB.

Justification and Mission Need

The UPF Project is needed to ensure the long-term viability, safety, and security of the Enriched Uranium (EU) capability in the United States (U.S). The UPF Project will support the Nation's nuclear weapons stockpile, down blending of EU in support of nonproliferation, and provide uranium as feedstock for fuel for naval reactors. Currently, these capabilities reside in aged Manhattan Project-era facilities. There is substantial risk that the existing facilities will continue to deteriorate to the point of significant impact to Defense Programs, Defense Nuclear Nonproliferation, and Naval Reactors programs. The impacts could result in loss of the U.S. capability to maintain the nuclear weapons stockpile through life extension programs, shutdown of the U.S. Navy nuclear powered fleet due to lack of EU fuel feedstock materials, and impact to the Defense Nuclear Nonproliferation program's ability to reduce the enrichment level of foreign research reactors through supply of lower enrichment fuels manufactured at Y-12. The risk of inadvertent or accidental shutdown of the existing facilities is high and may occur prior to completion and startup of the UPF Project.

The UPF Mission Need Statement approved in December 2004, states that safe, efficient, and secure enriched uranium processing capabilities are needed within the Nuclear Weapons Complex to meet the mission of the DOE's NNSA. The UPF Project is needed to ensure the long-term viability, safety, and security of the EU capability in the U.S. The UPF Mission Need was reexamined at each of the subsequent CD phases and remains valid.

Key Performance Parameters (KPPs)

The Threshold KPPs represent the minimum acceptable performance that the project must achieve. Achievement of the Threshold KPPs will be a prerequisite for approval of CD-4, Project Completion. The Objective KPPs represent the desired project performance.

Table 4: Key Performance Parameters

Performance Measure	Threshold	Objective
UPF supports phasing out mission dependency on 9212	Threshold Performance Parameters are identified in the Classified Project Requirements Document	Objective Performance Parameters are identified in the Classified Project Requirements Document

3. Financial Schedule

UPF funding is appropriated at the Overall Project level (06-D-141) and is allocated to the subprojects in the tables below.

Table 5: Uranium Processing Facility Project (06-D-141) ($K)

	Budget Authority (Appropriations)[1]	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
PY to FY 2018	1,838,000	1,838,000	1,838,000
Total Design	**1,838,000**	**1,838,000**	**1,838,000**
Construction			
PY to FY 2024	5,279,943	5,274,924	4,921,877
FY 2025	684,569	608,131	731,979
FY 2026	803,900	667,658	682,613
FY 2027	96,479	280,295	418,936
FY 2028	98,368	91,516	136,074
FY 2029	-	35,735	59,451
FY 2030	-	5,000	11,553
FY 2031	-	-	776
Outyears	-	-	-
Total Construction	**6,963,259**	**6,963,259**	**6,963,259**
TEC			
PY to FY 2024	7,117,943	7,112,924	6,759,877
FY 2025	684,569	608,131	731,979
FY 2026	803,900	667,658	682,613
FY 2027	96,479	280,295	418,936
FY 2028	98,368	91,516	136,074
FY 2029	-	35,735	59,451
FY 2030	-	5,000	11,553
FY 2031	-	-	776
Outyears	-	-	-
Total TEC	**8,801,259**	**8,801,259**	**8,801,259**

[1] PSF completed and funding aligned to final TPC, appropriated funds remain under UPF project.

	Budget Authority (Appropriations)[1]	Obligations	Costs
Other Project Costs (OPC)			
PY to FY 2024	269,057	276,663	185,433
FY 2025	115,431	58,000	60,758
FY 2026	176,100	81,100	155,829
FY 2027	193,521	331,346	346,837
FY 2028	387,632	333,692	326,864
FY 2029	290,000	293,000	191,000
FY 2030	101,000	86,700	133,685
FY 2031	-	14,731	73,340
Outyears	-	57,509	58,995
Total, OPC	**1,532,741**	**1,532,741**	**1,532,741**
Total Project Costs (TPC)			
PY to FY 2024	7,387,000	7,389,587	6,945,310
FY 2025	800,000	666,131	792,737
FY 2026	980,000	748,758	838,442
FY 2027	290,000	611,641	765,773
FY 2028	486,000	425,208	462,938
FY 2029	290,000	328,735	250,451
FY 2030	117,000[2]	107,700	161,238
FY 2031	-	14,731	74,116
Outyears	-	57,509	58,995
Total TPC	**10,350,000**	**10,350,000**	**10,350,000**

[2] $16M of unspent contingency from PSF is held on the top line UPF project to support MPB and SAB completion, in the event its required. Value is not reflected in subprojects' tables.

Table 5.1: Site Readiness Subproject (06-D-141-01) Financial Schedule

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
PY to FY 2017	-	-	-
Total Design	**-**	**-**	**-**
Construction			
PY to FY 2017	43,714	43,714	43,714
Total Construction	**43,714**	**43,714**	**43,714**
TEC			
PY to FY 2017	43,714	43,714	43,714
Total TEC	**43,714**	**43,714**	**43,714**
Other Project Costs (OPC)			
PY to FY 2017	-	-	-
Total, OPC	**-**	**-**	**-**
Total Project Costs (TPC)			
PY to FY 2017	43,714	43,714	43,714
Total TPC	**43,714**	**43,714**	**43,714**

Table 5.2: Site Infrastructure and Services Subproject (06-D-141-05)

		Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)				
Design				
	PY to FY 2017	-	-	-
Total Design		**-**	**-**	**-**
Construction				
	PY to FY 2019	60,500	60,500	60,500
Total Construction		**60,500**	**60,500**	**60,500**
TEC				
	PY to FY 2019	60,500	60,500	60,500
Total TEC		**60,500**	**60,500**	**60,500**
Other Project Costs (OPC)				
	PY to FY 2017	-	-	-
Total, OPC		**-**	**-**	**-**
	PY to FY 2017	60,500	60,500	60,500
Total TPC		**60,500**	**60,500**	**60,500**

Table 5.3: Substation Subproject (06-D-141-07)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
PY to FY 2017	-	-	-
Total Design	**-**	**-**	**-**
Construction			
PY to FY 2020	43,650	43,650	43,650
Total Construction	**43,650**	**43,650**	**43,650**
TEC			
PY to FY 2020	43,650	43,650	43,650
Total TEC	**43,650**	**43,650**	**43,650**
Other Project Costs (OPC)			
PY to FY 2017	-	-	-
Total, OPC	**-**	**-**	**-**
Total Project Costs (TPC)			
PY to FY 2020	43,650	43,650	43,650
Total TPC	**43,650**	**43,650**	**43,650**

Table 5.4: Mechanical Electrical Building Subproject (06-D-141-06)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
PY to FY 2017	-	-	-
Total Design	**-**	**-**	**-**
Construction			
PY to FY 2023	307,116	307,116	307,116
Total Construction	**307,116**	**307,116**	**307,116**
TEC			
PY to FY 2023	307,116	307,116	307,116
Total TEC	**307,116**	**307,116**	**307,116**
Other Project Costs (OPC)			
PY to FY 2023	1,020	1,020	1,020
Total, OPC	**1,020**	**1,020**	**1,020**
Total Project Costs (TPC)			
PY to FY 2023	308,136	308,136	308,136
Total TPC	**308,136**	**308,136**	**308,136**

Table 5.5: Process Support Facilities Subproject (06-D-141-08)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Total Design	**-**	**-**	**-**
Construction			
PY to FY 2024	155,000	155,000	145,309
FY 2025	-	-	9,691
Total Construction	**155,000**	**155,000**	**155,000**
TEC			
PY to FY 2024	155,000	155,000	145,309
FY 2025	-	-	9,691
Total TEC	**155,000**	**155,000**	**151,000**
Other Project Costs (OPC)			
PY to FY 2024	23,000	23,000	22,044
FY 2025	-	-	796
FY 2026	-	-	160
Total, OPC	**23,000**	**23,000**	**23,000**
Total Project Costs (TPC)			
PY to FY 2024[1]	178,000	178,000	167,353
FY 2025	-	-	10,487
FY 2026	-	-	160
Total TPC	**178,000**	**178,000**	**178,000**

[1] PSF completed and funding aligned to final TPC, appropriated funds remain under UPF project.

Table 5.6: Salvage and Accountability Building Subproject (06-D-141-09)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Total Design	**-**	**-**	**-**
Construction			
PY to FY 2024	1,377,003	1,377,003	1,346,607
FY 2025	330,000	274,265	210,348
FY 2026	244,179	260,179	265,731
FY 2027	48,232	76,232	135,832
FY 2028	18,516	18,516	47,212
FY 2029	-	11,735	12,200
FY 2030	-	-	-
FY 2031	-	-	-
Outyears	-	-	-
Total Construction	**2,017,930**	**2,017,930**	**2,017,930**
TEC			
PY to FY 2024	1,377,003	1,377,003	1,346,607
FY 2025	330,000	274,265	210,348
FY 2026	244,179	260,179	265,731
FY 2027	48,232	76,232	135,832
FY 2028	18,516	18,516	47,212
FY 2029	-	11,735	12,200
FY 2030	-	-	-
FY 2031	-	-	-
Outyears	-	-	-
Total TEC	**2,017,930**	**2,017,930**	**2,017,930**
Other Project Costs (OPC)			
PY to FY 2024	27,000	27,000	21,187
FY 2025	40,000	38,000	19,240
FY 2026	30,000	25,000	48,644
FY 2027	36,000	36,000	26,708
FY 2028	47,000	45,000	51,645
FY 2029	39,000	42,000	37,020
FY 2030	13,070	19,070	22,626
FY 2031	-	-	5,000
Outyears	-	-	-
Total, OPC	**232,070**	**232,070**	**232,070**

	Budget Authority (Appropriations)	Obligations	Costs
Total Project Costs (TPC)			
PY to FY 2024	1,404,003	1,404,003	1,367,794
FY 2025	370,000	312,265	229,588
FY 2026	274,179	285,179	314,375
FY 2027	84,232	112,232	162,540
FY 2028	65,516	63,516	98,857
FY 2029	39,000	53,735	49,220
FY 2030	13,070	19,070	22,626
FY 2031	-	-	5,000
Outyears	-	-	-
Total TPC	**2,250,000**	**2,250,000**	**2,250,000**

Table 5.7: Main Process Building Subproject (06-D-141-04)

	Budget Authority (Appropriations)[1]	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
PY to FY 2023	1,838,000	1,838,000	1,838,000
Total Design	**1,838,000**	**1,838,000**	**1,838,000**
Construction			
PY to FY 2024	3,292,960	3,287,941	2,974,981
FY 2025	354,569	333,866	511,940[2]
FY 2026	559,721	407,479	416,882
FY 2027	48,247	204,063	283,104
FY 2028	79,852	73,000	88,862
FY 2029	-	24,000	47,251
FY 2030	-	5,000	11,553
FY 2031	-	-	776
Outyears	-	-	-
Total Construction	**4,335,349**	**4,335,349**	**4,335,349**
TEC			
PY to FY 2024	5,130,960	5,125,941	4,812,981
FY 2025	354,569	333,866	511,940
FY 2026	559,721	407,479	416,882
FY 2027	48,247	204,063	283,104
FY 2028	79,852	73,000	88,862
FY 2029	-	24,000	47,251
FY 2030	-	5,000	11,553
FY 2031	-	-	776
Outyears	-	-	-
Total TEC	**6,173,349**	**6,173,349**	**6,173,349**

[1] PSF completed and funding aligned to final TPC, appropriated funds remain under UPF project. Annual appropriated values updated to reflect alignment.
[2] 2025 Updated with actual cost

	Budget Authority (Appropriations)[1]	Obligations	Costs
Other Project Costs (OPC)			
PY to FY 2024	218,037	225,643	141,182
FY 2025	75,431	20,000	40,722
FY 2026	146,100	56,100	107,025
FY 2027	157,521	295,346	320,129
FY 2028	340,632	288,692	275,219
FY 2029	251,000	251,000	153,980
FY 2030	87,930	67,630	111,059
FY 2031	-	14,731	68,340
Outyears	-	57,509	58,995
Total, OPC	**1,276,651**	**1,276,651**	**1,276,651**
Total Project Costs (TPC)			
PY to FY 2024	5,348,997	5,351,584	4,954,163
FY 2025	430,000	353,866	552,662[2]
FY 2026	705,821	463,579	523,907
FY 2027	205,768	499,409	603,233
FY 2028	420,484	361,692	364,081
FY 2029	251,000	275,000	201,231
FY 2030	87,930	72,630	122,612
FY 2031	-	14,731	69,116
Outyears	-	57,509	58,995
Total TPC	**7,450,000**	**7,450,000**	**7,450,000**

[2] 2025 Updated with actual cost

4. Details of Project Cost Estimate

Table 6: Details of UPF Project (06-D-141) ($K)

	Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	1,838,000	1,838,000	1,838,000
Contingency	-	-	-
Total Design	**1,838,000**	**1,838,000**	**1,838,000**
Construction			
Site Preparation	156,214	156,214	191,700
Equipment	1,176,641	1,176,641	1,370,180
Construction	5,409,090	5,416,254	2,420,463
Contingency	221,314	230,300	340,300
Total Construction	**6,963,259**	**6,979,409**	**4,322,643**
Total Estimated Cost (TEC)	**8,801,259**	**8,817,409**	**6,160,643**
Contingency, TEC	*221,314*	*230,300*	*340,300*
Other Project Costs (OPC)			
OPC except D&D			
Conceptual Planning	30,000	30,000	30,000
Conceptual Design	64,643	64,643	64,643
Start-up	1,068,702	1,068,248	225,000
Contingency	369,396	369,850	59,000
Total OPC	**1,532,741**	**1,532,741**	**378,643**
Contingency, OPC	369,396	369,850	59,000
Total Project Cost	**10,350,000[1]**	**10,350,150**	**6,539,286**
Total Contingency (TEC+OPC)	***590,710***	***600,150***	***399,300***

[1] $16M of unspent contingency from PSF is held on the top line UPF project to support MPB and SAB completion, in the event its required. Value is not reflected in subprojects' tables.

Table 6.1: Details of Site Readiness Subproject (06-D-141-01)

	Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	-	-	-
Contingency	-	-	-
Total Design	**-**	**-**	**-**
Construction			
Site Preparation	43,714	43,714	50,200
Equipment	-	-	-
Construction	-	-	-
Contingency	-	-	13,800
Total Construction	**43,714**	**43,714**	**64,000**
Total Estimated Cost (TEC)	**43,714**	**43,714**	**64,000**
Contingency, TEC	-	-	*13,800*
Other Project Costs (OPC)			
OPC except D&D			
Conceptual Planning	-	-	-
Conceptual Design	-	-	-
Start-up	-	-	1,000
Contingency	-	-	-
Total OPC	**-**	**-**	**1,000**
Contingency, OPC	-	-	-
Total Project Cost	**43,714**	**43,714**	**65,000**
Total Contingency (TEC+OPC)	**-**	**-**	***13,800***

Table 6.2: Details of Site Infrastructure and Services Subproject (06-D-141-05)

	Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	-	-	-
Contingency	-	-	-
Total Design	**-**	**-**	**-**
Construction			
Site Preparation	-	-	26,000
Equipment	-	-	-
Construction	60,500	60,500	30,000
Contingency	-	-	22,500
Total Construction	**60,500**	**60,500**	**78,500**
Total Estimated Cost (TEC)	**60,500**	**60,500**	**78,500**
Contingency, TEC	-	-	*22,500*
Other Project Costs (OPC)			
OPC except D&D			
Conceptual Planning	-	-	-
Conceptual Design	-	-	-
Start-up	-	-	-
Contingency	-	-	-
Total OPC	**-**	**-**	**-**
Contingency, OPC	-	-	-
Total Project Cost	**60,500**	**60,500**	**78,500**
Total Contingency (TEC+OPC)	***-***	***-***	***22,500***

Table 6.3: Details of Substation Subproject (06-D-141-07) ($K)

	Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	-	-	-
Contingency	-	-	-
Total Design	**-**	**-**	**-**
Construction			
Site Preparation	-	-	3,000
Equipment	-	-	49,700
Construction	43,650	43,800	-
Contingency	-	-	7,300
Total Construction	**43,650**	**43,800**	**60,000**
Total Estimated Cost (TEC)	**43,650**	**43,800**	**60,000**
Contingency, TEC	-	-	*7,300*
Other Project Costs (OPC)			
OPC except D&D			
Conceptual Planning	-	-	-
Conceptual Design	-	-	-
Start-up	-	-	-
Contingency	-	-	-
Total OPC	**-**	**-**	**-**
Contingency, OPC	-	-	-
Total Project Cost	**43,650**	**43,800**	**60,000**
Total Contingency (TEC+OPC)	**-**	**-**	***7,300***

Table 6.4: Details of Mechanical Electrical Building Subproject (06-D-141-06) ($K)

	Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	-	-	-
Contingency	-	-	-
Total Design	**-**	**-**	**-**
Construction			
Site Preparation	-	-	-
Equipment	86,180	86,180	86,040
Construction	220,936	220,936	159,760
Contingency	-	-	38,200
Total Construction	**307,116**	**307,116**	**284,000**
Total Estimated Cost (TEC)	**307,116**	**307,116**	**284,000**
Contingency, TEC	-	-	*38,200*
Other Project Costs (OPC)			
OPC except D&D			
Conceptual Planning	-	-	-
Conceptual Design	-	-	-
Start-up	1,020	1,020	-
Contingency	-	-	-
Total OPC	**1,020**	**1,020**	**-**
Contingency, OPC	-	-	-
Total Project Cost	**308,136**	**308,136**	**284,000**
Total Contingency (TEC+OPC)	**-**	**-**	***38,200***
TPC from CD-4 Documentation	**309,000**		

Table 6.5: Details of Process Support Facilities Subproject (06-D-141-08) ($K)

	Current Total Estimate[1]	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	-	-	-
Contingency	-	-	-
Total Design	**-**	**-**	**-**
Construction			
Site Preparation	-	-	-
Equipment	25,438	25,438	19,530
Construction	129,562	131,576	75,970
Contingency	-	8,986	22,500
Total Construction	**155,000**	**166,000**	**118,000**
Total Estimated Cost (TEC)	**155,000**	**166,000**	**118,000**
Contingency, TEC	*-*	*8,986*	*22,500*
Other Project Costs (OPC)			
OPC except D&D			
Conceptual Planning	-	-	-
Conceptual Design	-	-	-
Start-up	23,000	22,546	18,000
Contingency	-	5,454	4,000
Total OPC	**23,000**	**28,000**	**22,000**
Contingency, OPC	*-*	*5,454*	*4,000*
Total Project Cost	**178,000[2]**	**194,000**	**140,000**
Total Contingency (TEC+OPC)	***-***	***14,440***	***26,500***

[1] Current Total Estimate contains final project closeout costs.

[2] $16M of unspent contingency from PSF is held on the top line UPF project to support MPB and SAB completion, in the event its required. Value is not reflected in subprojects' tables.

Table 6.6: Details of Salvage and Accountability Building Subproject (06-D-141-09) ($K)

	Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	-	-	-
Contingency	-	-	-
Total Design	**-**	**-**	**-**
Construction			
Site Preparation	-	-	-
Equipment	312,527	312,527	380,160
Construction	1,618,917	1,618,917	599,840
Contingency	86,486	86,486	125,000
Total Construction	**2,017,930**	**2,017,930**	**1,105,000**
Total Estimated Cost (TEC)	**2,017,930**	**2,017,930**	**1,105,000**
Contingency, TEC	*86,486*	*86,486*	*125,000*
Other Project Costs (OPC)			
OPC except D&D			
Conceptual Planning	-	-	-
Conceptual Design	-	-	-
Start-up	136,030	136,030	60,000
Contingency	96,040	96,040	15,000
Total OPC	**232,070**	**232,070**	**75,000**
Contingency, OPC	96,040	96,040	15,000
Total Project Cost	**2,250,000**	**2,250,000**	**1,180,000**
Total Contingency (TEC+OPC)	***182,526***	***182,526***	***140,000***

Table 6.7: Details of Main Process Building Subproject (06-D-141-04)

	Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	1,838,000	1,838,000	1,838,000
Contingency	-	-	-
Total Design	**1,838,000**	**1,838,000**	**1,838,000**
Construction			
Site Preparation	112,500	112,500	112,500
Equipment	752,496	752,496	834,750
Construction	3,335,525	3,340,525	1,554,893
Contingency	134,828	134,828	111,000
Total Construction	**4,335,349**	**4,340,349**	**2,613,143**
Total Estimated Cost (TEC)	**6,173,349**	**6,178,349**	**4,451,143**
Contingency, TEC	*134,828*	*134,828*	*111,000*
Other Project Costs (OPC)			
OPC except D&D			
Conceptual Planning	30,000	30,000	30,000
Conceptual Design	64,643	64,643	64,643
Start-up	908,652	908,652	146,000
Contingency	273,356	268,356	40,000
Total OPC	**1,276,651**	**1,271,651**	**280,643**
Contingency, OPC	*273,356*[1]	*268,356*	*40,000*
Total Project Cost	**7,450,000**	**7,450,000**	**4,731,786**
Total Contingency (TEC+OPC)	***408,184***	***403,184***	***151,000***

[1] Contingency increase is a result of loading and balancing the approved re-baseline. No change to TPC.

5. Schedule of Appropriations Requests1

Request Year	Type	Prior Years	FY 2025	FY 2026	WFTC	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Outyears	Total
FY 2022	TEC	N/A	TBD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	TBD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	5,939,411	TBD	560,589	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6,500,000
FY 2023	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	6,500,000	-	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6,500,000
FY 2024	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	7,340,517	550,000	400,000	N/A	225,000	57,613	N/A	N/A	N/A	N/A	8,573,130
FY 2025	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	7,337,261	800,000	596,021	N/A	354,885	251,000	N/A	N/A	N/A	N/A	9,339,167
FY 2026	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	7,387,111	800,000	730,000	N/A	N/A	N/A	N/A	N/A	N/A	1,432,889	10,350,000
FY 2027	TEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	7,387,111	800,000	730,000	250,000	290,000	486,000	290,000	117,000	-	-	10,350,000

[1] Entries for FY 2021 and prior are omitted because no DOE/NNSA requested no funding for UPF in those years for FY 2025 or beyond.

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy	1/31/2032
Expected Useful Life	50 years
Expected Future Start of D&D of this capital asset (fiscal quarter)	1/31/2082

Related Funding Requirements
(Budget Authority in Billions of Dollars, FY 2025 constant-year dollars)

	Annual Costs		Life Cycle Costs	
	Previous Total Estimate	Current Total Estimate	Previous Total Estimate	Current Total Estimate
Operations and Maintenance	0.466	0.466	32.915	32.915

7. D&D Information

The new area being constructed in this project is replacing existing facilities.

New Area being constructed at Y-12 National Security Complex	568,524 square feet
Area of D&D in this project at Y-12 National Security Complex	11,000 square feet[1]
Area at Y-12 National Security Complex to be transferred, sold, and/or D&D outside the project, including area previously "banked"	1,202,000 square feet
Area of D&D of this project at other sites	-
Area at other sites to be transferred, sold, and/or D&D outside the project, including area previously "banked"	-
Total Area Eliminated	N/A

8. Acquisition Approach

The NNSA Federal Project Director and the Integrated Project Team are responsible for the execution of the project. The Y-12 M&O contractor is the designated design authority. Designated officials within the Office of Defense Programs are responsible for defining program requirements and identifying project scope changes. The Office of Infrastructure is responsible for providing support for alternative studies and serves as the lead NNSA office for design and construction of the project.

The UPF Project construction scope is being performed under firm fixed price contracts or subcontracts along with cost-plus contracts as determined to be the best value for the government. The Department is administering Architect-Engineer and construction contracts utilizing the M&O contract and stand-alone contract vehicles. The United States Army Corps of Engineers and TVA have had acquisition and project management responsibility for appropriate scopes of work as determined by the Department.

[1] Building 9107

26-D-511, MESA Photolithography Capability (MPC)
Sandia National Laboratories, Albuquerque, New Mexico
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary

The Fiscal Year (FY) 2027 Request for the Microsystem Engineering, Science, and Applications (MESA) Photolithography Capability (MPC) project is $51,000,000 of Total Estimated Cost (TEC) and supports the initiation of preliminary design and early procurement of long lead photolithography tools.

This project is a new start in FY 2027. The MPC project is planning to receive CD-0 approval by April 2026 and CD-1/3A approval by September 2026. The Project Management Executive (PME) authority is planned to be delegated to the Principal Assistant Deputy Administrator for Production Modernization and Materials Management. A business case analysis (BCA) was completed by Sandia National Laboratories in FY 2024, and a conceptual design was completed in May 2025 which included an initial cost range of $332M (P20) - $350M (P80). A Total Project Cost (TPC) of $420M and CD-4 date of 1Q FY 2034 is being proposed following external independent review comments that noted concerns with estimate optimism.

The Non-Nuclear Capability Modernization program provides funding for Other Project Costs (OPCs) associated with the MPC project. The MPC project will be a build-to-budget project. Cost management and cost reduction options will be evaluated through value engineering during preliminary design. All options will be evaluated to ensure meet the threshold operating requirements A Federal Project Director has not been assigned to this project.

Significant Changes

An independent design review on the conceptual design was completed in September 2025 to inform the CD-0/1/3A package. The results confirmed that the project is ready to move into the preliminary design and long lead procurement phases. The project is pursuing approval to use NNSA Supplemental Directive 413.3-7, *Project Management for Nonnuclear, Non-Complex Capital Asset Acquisition*. The project was authorized in FY 2026 NDAA but did not receive an appropriation in FY 2026, so the CD-1/3A approval is being delayed to sync up with the requested FY 2027 funding. This delay has resulted in the proposed top of the CD-1 cost range increasing to $420M due to the escalation of costs and estimate optimism issues identified by the external independent review.

Critical Milestone History

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	Final Design Complete	CD-2	CD-3	CD-4
FY 2026	1Q FY 2026	03/20/2025	1Q FY 2026[1]	4Q FY 2027	2Q FY 2028	2Q FY 2028	1Q FY 2032
FY 2027	1Q FY 2027	05/23/2025[2]	1Q FY 2027	4Q FY 2028	2Q FY 2029	2Q FY 2029	1Q FY 2034

[1] An error was made with the year for proposed CD-1 in the FY 2026 CPDS and was corrected.
[2] An error was made with the completion date, an update was made to the conceptual design in May 2025.

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable).
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete(d)
CD-3 – Approve Start of Construction
D&D Complete –Completion of D&D work
CD-4 – Approve Start of Operations or Project Complete

Fiscal Year	CD-3A
FY 2026	1Q FY 2027
FY 2027	1Q FY 2027

CD-3A – Approve Long-Lead Procurement (laboratory and facility equipment)

Project Cost History ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC Total	OPC Total,	TPC
FY 2026	40,000	340,900	380,900	19,100	400,000
FY 2027	36,500	363,500	400,000	20,000	420,000

2. Project Scope and Justification

Scope
The MPC project is a design and construction project that consists of approximately 30,000 square feet of construction, including 6,700 square feet of modern clean room space for four modern photolithography tools and associated equipment in support of the MESA complex.

The CD-3A, *Approve Long-Lead Procurement*, scope is for procurement of laboratory and facility equipment. This specialized equipment has long procurement durations of approximately 30 months.

Justification
Microelectronics, commonly referred to as integrated circuits or semiconductors, form the basis of nearly all electronic products, including components of nuclear weapons. The long-term viability of the U.S. nuclear deterrent depends on a trustworthy supply of unique microelectronics. U.S. nuclear weapons require a supply of unique warhead strategically radiation hardened (WSRH) microelectronics that must function properly when exposed to high levels of radiation. Strategic radiation-hardened microelectronics are essential components of a nuclear weapon's arming, fuzing, and firing system, which provides the signals that initiate the nuclear explosive chain.

The MESA Complex at Sandia National Laboratories (SNL) is the approved source of WSRH microelectronics for the Nation's nuclear deterrent. These microelectronics consist of application-specific integrated circuits (ASICs), Heterojunction Bipolar Transistors (HBTs) Electrical Environment Sensing Devices (EESDs), and more. MESA has produced over 300,000 parts across 43 products.

Many of the facilities and infrastructure, tools and equipment responsible for producing these parts have exceeded end of life (EOL) and are in poor condition, which could lead to production and development shortcomings in the near future. The MESA complex is extremely limited in available clean room space for expansion. Existing tools are reaching EOL, and new modern tools require more physical space and utilities than are currently available. Expansion of clean room space is needed to allow for the installation of additional equipment to mitigate single points of failure.

Of the existing MESA facilities, the Silicon Fabrication Facility (SiFab) is in the most challenging condition. Built in 1988, it was originally designed for research and development work, then modified for microelectronics production. Of all the process tools, the two photolithography machines are considered the most critical and highest risk as all the silicon fabrication microelectronics pass through them, as each component passes 28 to 44 times through the photolithography tool for each production run. These two tools, which had a combined mean downtime in calendar year (CY) 2023 of 27.8% and in CY 2024 of 65.7%,[1] and are no longer supported by the original manufacturer. Without photolithography, MESA cannot produce WSRH components, and weapon modernization programs would come to a halt. The existing tools cannot be replaced with new ones as the more modern photolithography machines are much larger and heavier than the SiFab can support, thus, the need for a new clean room addition. Once the MPC photolithography tools are up and running, the existing photolithography tools in the SiFab will be removed, creating critical clean room white space for other high-risk tools.

Key Performance Parameters (KPPs)

KPPs will be developed along with the Preliminary Project Execution Plan that considers the requirement for redundant, modern photolithography capability.

3. Financial Schedule ($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2026	0	0	0
FY 2027	25,000	25,000	20,000
FY 2028	11,500	11,500	16,500
Total Design	**36,500**	**36,500**	**36,500**
Construction			
FY 2026	0	0	0
FY 2027	26,000	26,000	15,000
FY 2028	40,520	452,020	25,000
FY 2029	53,060	53,060	70,000
FY 2030	111,980	111,980	115,000
FY 2031	72,840	72,840	75,000
Outyears	59,100	59,100	63,500

[1] Downtime in CY 2024 spiked due to a planned outage of one photolithography machine. This outage enabled the performance of an 18-month-long project to replace an obsolescent tool that supports that machine.

	Budget Authority (Appropriations)	Obligations	Costs
Total Construction	**363,500**	**362,500**	**363,500**
TEC			
FY 2026	0	0	0
FY 2027	51,000	51,000	35,000
FY 2028	52,020	52,020	41,500
FY 2029	53,060	53,060	70,000
FY 2030	111,980	111,980	115,000
FY 2031	72,840	72,840	75,000
Outyears	59,100	59,100	63,500
Total TEC	**400,000**	**400,000**	**400,000**
Other Project Costs (OPC)			
Prior Years	1,510	1,510	1,410
FY 2026	0	0	100
FY 2027	0	0	0
FY 2028	0	0	0
FY 2029	1,500	1,500	1,350
FY 2030	5,090	5,090	2,850
FY 2031	6,500	6,500	3,750
Outyears	5,400	5,400	10,540
Total, OPC	**20,000**	**20,000**	**20,000**

	Budget Authority (Appropriations)	Obligations	Costs
Total Project Costs (TPC)			
Prior Years	1,510	1,510	1,410
FY 2026	0	0	100
FY 2027	51,000	51,000	35,000
FY 2028	52,020	52,020	41,500
FY 2029	54,560	54,560	71,350
FY 2030	117,070	117,070	117,850
FY 2031	79,340	79,340	78,750
Outyears	64,500	64,500	74,040
Total TPC	**420,000**	**420,000**	**420,000**

4. Details of Project Cost Estimate ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	36,500	TBD	N/A
	Federal Design Review Support	TBD	TBD	N/A
	Contingency	TBD	TBD	N/A
Total Design		**36,500**	**40,000**	**N/A**
Construction				
	Site Work	TBD	TBD	N/A
	Equipment	TBD	TBD	N/A
	Construction	TBD	TBD	N/A
	Federal Support	TBD	TBD	N/A
	Contingency	TBD	TBD	N/A
Total Construction		**363,500**	**340,900**	**N/A**
Total Estimated Cost (TEC)		**400,000**	**380,900**	**N/A**
Contingency, TEC		*TBD*	*TBD*	*N/A*
Other Project Costs (OPC)				
OPC except D&D				N/A
	Business Case Analysis	400	400	N/A
	Conceptual Design	910	910	N/A
	CD-1 Documents/Fed Support	200	200	N/A
	Start-up	TBD	TBD	N/A
	Equipment Move	TBD	TBD	N/A

Contingency	TBD	TBD	N/A
Total OPC	**20,000**	**19,100**	**N/A**
Contingency, OPC	*TBD*	*TBD*	*N/A*
Total Project Cost	**420,000**	**400,000**	**N/A**
Total Contingency (TEC+OPC)	***TBD***	***TBD***	***N/A***

5. Schedule of Appropriations Requests ($K)

Request Year	Type	Prior Years	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	Out Years	Total
FY 2026	TEC	0	40,000	N/A	N/A	N/A	N/A	N/A	340,900	380,900
	OPC	1,510	0	N/A	N/A	N/A	N/A	N/A	17,590	19,100
	TPC	1,510	40,000	N/A	N/A	N/A	N/A	N/A	358,490	400,000
FY 2027	TEC	0	0	51,000	52,020	53,060	111,980	72,840	59,100	400,000
	OPC	1,510	0	0	0	1,500	5,090	6,500	5,400	20,000
	TPC	1,510	0	51,000	52,020	54,560	117,070	79,340	64,500	420,000

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	1Q FY 2034
Expected Useful Life (number of years)	50
Expected Future Start of D&D of this capital asset (fiscal quarter)	1Q FY 2084

Operations and Maintenance costs will be updated in future versions of this document, once the project has reached greater project definition and design.

7. D&D Information

The new area being constructed in this project is replacing a portion of an existing facility (MESA SiFab), but the existing facility will still be in use and will not be demolished as part of this project.

	Square Feet
New area being constructed by this project	30,000[1]
Area of D&D in this project at SNL	1,773
Area at SNL to be transferred, sold, and/or D&D outside the project, including area previously "banked"	28,227[a]
Area of D&D in this project at other sites	0

[1] An error was made in the FY 2026 CPDS. The value was updated to include the total facility, not just the new clean room space.

8. Acquisition Approach

The MPC project is planned to be managed by the SNL Management and Operating (M&O) contractor. Design and construction are expected to be performed by subcontractors specializing in this type of work under firm-fixed-price contracts. The most likely scenario is to bring the main construction subcontractor on during the design process to provide constructability support.

22-D-513 Power Sources Capability (PSC) Facility
Sandia National Laboratories, Albuquerque, New Mexico
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary: The Fiscal Year (FY) 2027 Request for the Power Sources Capability (PSC) project is $140,000,000. Funding will be applied to Total Estimated Cost (TEC) scope and support the continued construction of the facility.

This Construction Project Data Sheet (CPDS) is an update of the FY 2026 CPDS and does not include a new start for the budget year. The most recent DOE O 413.3B approved Critical Decision (CD) is CD-2/3, *Approve Performance Baseline* and *Start of Construction,* which was approved on August 1, 2025, with a Total Project Cost (TPC) of $400,000,000 and a CD-4 date of July 31, 2030.

A Federal Project Director has been assigned to this project and approved this CPDS. Non-Nuclear Capability Modernization provides funding for Other Project Costs (OPC). All costs associated with the conduct of independent reviews are funded by this project.

Significant Changes:
CD-2/3 was approved on August 1, 2025. Facility construction was initiated following construction subcontractor notice to proceed on August 11, 2025.

Critical Milestone History

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2022	07/10/2019	4QFY2021	1QFY2022	4QFY2023	1QFY2023	4QFY2023	4QFY2026
FY 2024	07/10/2019	07/14/2021	12/29/2022	3QFY2025	3QFY2025	3QFY2025	3QFY2030
FY 2025	07/10/2019	07/14/2021	12/29/2022	3QFY2025	3QFY2025	3QFY2025	3QFY2030
FY 2026	07/10/2019	07/14/2021	12/29/2022	4QFY2025	01/24/2025	4QFY2025	3QFY2030
FY 2027	07/10/2019	07/14/2021	12/29/2022	08/01/2025	01/24/2025	08/01/2025	4QFY2030

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Estimated date the conceptual design will be completed
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete(d)
CD-3 – Approve Start of Construction
D&D Complete – N/A
CD-4 – Approve Start of Operations or Project Closeout

Fiscal Year	CD-3A	CD-3B	CD-3C
FY 2024	2QFY2024	2QFY2024	N/A
FY 2025	2QFY2025	4QFY2024	N/A
FY 2026	11/26/2024	10/21/2024	05/23/2025
FY 2027	11/26/2024	10/21/2024	05/23/2025

CD-3A –Approve Long-Lead Procurement
CD-3B – Approve Site Preparation
CD-3C – Construction Preparation Services

Project Cost History ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2022	27,000	261,000	288,000	32,000	N/A	32,000	320,000
FY 2024	22,379	353,574	375,953	24,047	N/A	24,047	400,000
FY 2025	22,379	348,047	370,426	29,574	N/A	29,574	400,000
FY 2026	22,244	349,610	371,854	28,146	N/A	28,146	400,000
FY 2027	23,951	345,935	369,886	30,114	N/A	30,114	400,000

2. Project Scope and Justification

Scope
The PSC facility will be a new, Leadership in Energy and Environmental Design (LEED) Certified, modern building with co-located offices and operations. The PSC facility will consist of approximately 136,000 gross square feet of offices, laboratories, and support areas.

The new PSC facility will include the following high-level capabilities:
- A 50-year operating life.
- Co-located office, general use, and specialized laboratory space in one facility.
- Operational and physical security controls for all space types.
- Laboratory area infrastructure to support local exhaust ventilation, grounding and static dissipative controls, and specific engineering controls for operations.
- Controls and requirements for the varying chemicals throughout the facility, which include water reactive materials, compressed gasses (inert, oxygen, inert/5% hydrogen, etc.)
- Expanded utilities and site infrastructure to enable a future building addition, if necessary.

CD-3A, *Approve Long-Lead Procurement*, was approved in November 2024 for procurement of electrical equipment ($3.62 million). This equipment has long procurement durations, approximately 20 to 30 months, and consists of eleven (11) medium voltage transformers and two (2) switchgear. CD-3B, *Approve Site Preparation*, was approved in October 2024 ($20 million) to perform early site work prior to vertical construction, and consists of grading, clearing, and grubbing, installation of drainage and erosion control for the construction area, and installation of utilities. CD-3C, *Construction Preparation Services*, was approved in May 2025 ($18 million) for pre-construction submittals and long-lead equipment and materials purchases.

Justification

All modernization programs and future planned nuclear weapon systems require power source capabilities, and the NNSA has concluded there is an unacceptable risk to these capabilities due to aging and inadequate facilities and an unreliable supplier base. The full-lifecycle power sources mission for the Nuclear Security Enterprise (NSE) is carried out by Sandia National Laboratories (SNL) and this capability primarily resides in Building 894, an over 75-year-old shipping and receiving facility not designed to handle the environments necessary for the mission. The building's maintenance issues began impeding operations at an increasing rate by 2016, thus putting production capacities at significant risk. Building 894 was rated as "Poor" (Building Condition Index Score of 52) by facility and system assessments conducted in 2020. As of FY 2024, the facility had about $30,000,000 in deferred maintenance, which is expected to grow in the next few years and further increases the risk to the power sources mission.

Successful completion of the PSC facility will:

- Enable the NNSA to meet power source requirements through 2080.
- Reduce risks to the programs associated with SNL Building 894, including environmental safety and health risks.
- Reduce the risk of mission dependence on an unstable vendor base.
- Ensure the availability of capabilities to complete RDT&E activities in addition to production.
- Ensure the flexibility and agility necessary to meet future mission needs.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*. Funds requested under this data sheet may be used to provide independent assessments for planning and execution of this project, and contracted support services to the federal project team for oversight and support.

Key Performance Parameters (KPPs)

The PSC CD-2/3 approved KPPs are:

KPP 1: Design and construct a facility that meets the full product lifecycle requirements for power sources for current and future nuclear weapons systems.

KPP 2: Procure, install, test, and turn over to operations programmatic equipment that will provide the capability to meet nuclear weapon demand for power systems.

KPP achievement will be demonstrated through the Project Completion Criteria and supporting evidence as documented in the approved Project Execution Plan.

3. Financial Schedule ($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	18,835	18,835	17,376
FY 2025	5,116	5,116	6,575
Total Design	23,951	23,951	23,951
Construction			
Prior Years	32,878	32,878	-
FY 2025	44,884	44,884	35,286
FY 2026	105,000	105,000	84,000
FY 2027	140,000	140,000	170,000
FY 2028	23,173	23,173	40,000
FY 2029	-	-	16,649
Total Construction	345,935	345,935	345,935
TEC			
Prior Years	51,713	51,713	17,376
FY 2025	50,000	50,000	41,861
FY 2026[1]	105,000	105,000	84,000
FY 2027	140,000	140,000	170,000
FY 2028	23,173	23,173	40,000
FY 2029	-	-	16,649
Total TEC	**369,886**	**369,886**	**369,886**
Other Project Costs (OPC)			
Prior Years	14,793	14,793	12,754
FY 2025	1,250	1,250	500
FY 2026	3,000	3,000	1,000
FY 2027	2,000	2,000	1,000
FY 2028	4,000	4,000	3,500
FY 2029	5,071	5,071	7,500
FY 2030	-	-	3,860
Total, OPC	**30,114**	**30,114**	**30,114**

[1] The FY 2026 Budget Authority and Obligations include $100,000K from Public Law 119–21 (Working Families and Tax Cut Act) and $5,000K from Public Law 119-74.

	Budget Authority (Appropriations)	Obligations	Costs
Total Project Costs (TPC)			
Prior Years	66,506	66,506	30,130
FY 2025	51,250	51,250	42,361
FY 2026	108,000	108,000	85,000
FY 2027	142,000	142,000	171,000
FY 2028	27,173	27,173	43,500
FY 2029	5,071	5,071	24,149
FY 2030	-	-	3,860
Total TPC	**400,000**	**400,000**	**400,000**

4. Details of Project Cost Estimate ($K)

	Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	22,286	17,170	22,286
Federal Design Review Support	1,665	1,665	1,665
Contingency	-	3,409	-
Total Design	**23,951**	**22,244**	**23,951**
Construction			
Site Work (CD-3B)	18,882	18,205	18,882
Equipment (CD-3A)	3,375	16,275	3,375
Construction	276,869	261,100	276,869
Federal Support	6,537	4,000	6,537
Contingency	40,272	50,030	40,272
Total Construction	**345,935**	**349,610**	**345,935**
Total Estimated Cost (TEC)	**369,886**	**371,854**	**369,886**
Contingency, TEC	*40,272*	*53,439*	*40,272*
Other Project Costs (OPC)			
OPC except D&D			
Analysis of Alternatives	821	821	821
Conceptual Design	9,616	9,616	9,616
CD-1 Documents	1,321	2,000	1,321
Transition to Operations	11,916	7,500	11,916
Equipment Moves	4,244	5,513	4,244
Federal Support	679	N/A	679
Contingency	1,517	2,696	1,517

Total OPC	**30,114**	**28,146**	**30,114**
Contingency, OPC	*1,517*	*2,696*	*1,517*
Total Project Cost	**400,000**	**400,000**	**400,000**
Total Contingency (TEC+OPC)	***41,789***	***56,135***	***41,789***

5. Schedule of Appropriations Requests ($K)

Request Year	Type	Prior Years	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Outyears	Total
FY 2022	TEC	13,827	TBD	TBD	TBD	N/A	N/A	N/A	N/A	274,173	288,000
	OPC	9,800	TBD	TBD	TBD	N/A	N/A	N/A	N/A	22,200	32,000
	TPC	23,627	TBD	TBD	TBD	N/A	N/A	N/A	N/A	296,373	320,000
FY 2024	TEC	51,713	71,083	73,902	79,824	45,136	N/A	N/A	N/A	54,295	375,953
	OPC	14,793	2,000	1,361	1,788	1,450	N/A	N/A	N/A	2,421	23,813
	TPC	66,506	73,083	75,263	81,612	46,586	N/A	N/A	N/A	56,716	399,766
FY 2025	TEC	51,713	50,000	115,000	130,000	23,713	-	N/A	N/A	N/A	370,426
	OPC	14,793	1,250	3,000	4,000	5,500	1,031	N/A	N/A	N/A	29,574
	TPC	66,506	51,250	118,000	134,000	29,213	1,031	N/A	N/A	N/A	400,000
FY 2026	TEC	51,713	50,000	115,000	N/A	N/A	N/A	N/A	N/A	155,141	371,854
	OPC	14,793	1,250	3,000	N/A	N/A	N/A	N/A	N/A	9,103	28,146
	TPC	66,506	51,250	118,000	N/A	N/A	N/A	N/A	N/A	164,244	400,000
FY 2027	TEC	51,713	50,000	105,000[1]	140,000	23,173	-	-	-	N/A	369,886
	OPC	14,793	1,250	3,000	2,000	4,000	5,071	-	-	N/A	30,114
	TPC	66,506	51,250	108,000	142,000	27,173	5,071	-	-	N/A	400,000

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	4Q FY 2030
Expected Useful Life (number of years)	50
Expected Future Start of D&D of this capital asset (fiscal quarter)	4Q FY 2080

[1] FY 2026 Enacted Appropriations includes $100,000K from Public Law 119–21 (Working Families and Tax Cut Act) and $5,000K from Public Law 119-74.

Related Funding Requirements ($M)

Funding Requirements	Annual Cost		Life Cycle Costs	
Estimate Totals	Previous Estimate	Current Estimate	Previous Estimate	Current Estimate[1]
Operations and Maintenance	12	12	600	600

7. D&D Information

The one-for-one offset requirement will be met by utilizing site-banked square footage. A plan for D&D of the existing facility will be developed at the end of construction of the new facility when characterization data is available.

	Square Feet
New area being constructed by this project at SNL	136,000 ft^2
Area of D&D in this project at SNL	NA
Area at SNL to be transferred, sold, and/or D&D outside the project including area previously "banked"	136,000 ft^2
Area of D&D in this project at other sites	NA
Area at other sites to be transferred, sold, and/or D&D outside the project including area previously "banked"	NA

8. Acquisition Approach

The preliminary and final design was led by the SNL Management and Operating (M&O) contractor utilizing a subcontracted Architectural and Engineering firm. The CD-3A, *Approve Long-Lead Procurement*, and CD-3B, *Approve Site Preparation* are being executed through the existing PSC subcontract with Hensel Phelps as Optional Scope 1. The CD-3C, Early Construction Services and the facility construction are being executed through the existing subcontract with Hensel Phelps as Optional Scope 2.

[1] Not escalated; Base Year 2022.

18-D-680 Material Staging Capability (MSC)
Pantex Plant, Amarillo, Texas
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary: The FY 2027 Request for the Material Staging Capability (MSC) project is $22,500,000 of Total Project Cost. This request is a single year request that will begin the execution of preliminary design, in support of establishing the Performance Baseline for the project. The most recent Department of Energy (DOE) Order (O) 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, approved Critical Decision (CD) is CD-0, *Approve Mission Need*, that was approved on November 24, 2015, with a Rough Order of Magnitude estimate of $179,000,000 to $714,000,000 and CD-4 date of 4th Quarter FY 2024. In April of 2021, the project was placed on hold after the completion of the original conceptual design and prior to achieving CD-1, due to significant cost growth for the previously selected alternative.

On November 6, 2024, the Under Secretary for Nuclear Security & Administrator, NNSA approved reactivating the project from its "on-hold" status and renamed the project from the Material Staging Facility to the Material Staging Capability (MSC) project. The Program Requirements Document (PRD), originally developed and approved in August 2018, has been updated to include a classified annex. This addition was necessary to capture new threat requirements, which could not be included within the unclassified portion of the PRD. In FY 2025, the project initiated efforts to update the conceptual design and execute a value engineering (VE) exercise that will optimize project cost, scope, and schedule by leveraging cross-agency partnerships and challenge over-prescriptive requirements that mandate specific design solutions above what is necessary to meet mission needs. Additionally, the update to the conceptual design will eliminate the storage requirements for Savannah River Site materials but may address new threat requirements referenced in the PRD classified annex. Inclusion of VE recommendations in FY 2026 and 2027 will inform the optimized cost range and outyear funding requests beyond FY 2027.

This is the initial submission of the Construction Project Data Sheet (CPDS) for the MSC project, but the project is not a new start for FY 2027. A business case analysis was conducted in August 2024 to examine phased options to ensure priority of execution of the most urgent weapon storage needs based on updated requirements. The revised conceptual design will include this phased approach. The cost range and CD-4 date of the MSC project are TBD until CD-1, *Approve Alternative Selection and Cost Range,* is approved, which is planned for FY 2027.

A CPDS was not submitted prior to FY 2027; however, funds were appropriated for this project in FY 2018 ($5,200K) and FY 2019 ($24,000K). The uncosted funds were reprogrammed when the project was placed on hold in FY 2021.

On May 9, 2025, the Secretary of Energy appointed a Federal Project Director to this project.

Significant Changes:
None

Critical Milestone History

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2027	11/24/2015	1Q FY 2027	2Q FY 2027	TBD	TBD	TBD	TBD

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable)
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete
CD-3 – Approve Start of Construction
CD-4 – Approve Start of Operations

Project Cost History[1]

Fiscal Quarter or Date (in Thousands of Dollars)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, Total	TPC
FY 2027	TBD	TBD	TBD	TBD	TBD	TBD

2. Project Scope and Justification

Scope

The updated conceptual design involves dividing the originally planned underground facility into three distinct buildings outside the Pantex Zone 12 perimeter intrusion detection and assessment system . This will allow the second and third underground buildings to be constructed in a phased approach. A new loading/unloading dock inside of Zone 12 will connect via a ramp structure to the underground facility.

Justification

The material staging mission requires secure, capacity-based infrastructure to enable nuclear weapons and nuclear component staging in a manner that ensures workload commitments for dismantlement, surveillance, stockpile refurbishment, and nuclear non-proliferation objectives are met. At present, Pantex stages Category I/II Special Nuclear Material (SNM) in the Zone 4W Material Access Area (MAA) and Zone 12S MAA. Staging of nuclear weapons and other nuclear explosive assemblies occurs only in the Zone 4W MAA. NNSA goals and objectives require sufficient capacity at Pantex for nuclear weapons and nuclear component staging, well into the future.

As part of its current mission, Pantex stages fully assembled nuclear weapons pending shipment to the military or received from the military for surveillance, life extension or modernization, or system dismantlement. Staging nuclear weapons will continue to be necessary to support on-going stockpile stewardship activities.

[1] Due to the recent restart of the project and ongoing conceptual design activities, updated costs have not been established.

Nuclear components, required for nuclear weapon assembly or obtained because of disassembly/ dismantlement, require staging at Pantex pending use during system assembly, surveillance, or designation as national security pits or surplus assets. NNSA must provide long-term staging of strategic reserve and national security pits and staging of the surplus pit population pending final disposition. Pits are also staged as necessary to support continued stockpile stewardship and nuclear nonproliferation activities as required by NNSA.

The current inventory of pits and fully assembled nuclear weapon systems exceeds existing staging capacity. Pantex has therefore converted some operational bays in Zone 12 South to staging space to maintain pace with production demands. Presently, the majority of inventory is staged in 70-year-old conventional munitions magazines in Zone 4 West, an area remote from the Weapons Operations spaces in Zone 12 South where weapons mission work and inventory surveillance take place. This separation of the inventory requires additional security measures during transportation to the Weapons Operations spaces and can sometimes impact delivery schedules as inclement weather delays are experienced. Operational efficiency and flexibility are significantly reduced by the need to transport materials between Zones 4 and 12 as well as by the conversion of operational spaces to staging areas.

As represented in this FY 2027 request, design, construction and Other Project Costs (OPC) will be executed through the line-item funding.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B and funds appropriated under this data sheet may be used for contracted support services to the Federal Project Director and to conduct reviews of design and construction.

Preliminary Key Performance Parameters (KPPs)

Preliminary KPPs will be developed as part of the CD-1 approval process. The preliminary Threshold KPPs will represent the minimum acceptable performance that the project must achieve. Achieving Threshold KPPs will be a prerequisite for approval of CD-4, *Project Completion*. The preliminary Objective KPPs will represent the desired project performance.

3. Financial Schedule ($K)

The financial tables reflect the upper end of the conceptual design cost range.

	Budget Authority	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2026	0	0	0
FY 2027	22,500	22,500	11,000
FY 2028	TBD	TBD	11,500
Total Design	**TBD**	**TBD**	**TBD**
Construction			
FY 2026	0	0	0
FY 2027	0	0	0
FY 2028	TBD	TBD	TBD
FY 2029	TBD	TBD	TBD
FY 2030	TBD	TBD	TBD
FY 2031	TBD	TBD	TBD
FY 2032	TBD	TBD	TBD
Total Construction	**TBD**	**TBD**	**TBD**
TEC			
FY 2026	0	0	0
FY 2027	22,500	22,500	11,000
FY 2028	TBD	TBD	11,500
FY 2029	TBD	TBD	TBD
FY 2030	TBD	TBD	TBD
FY 2031	TBD	TBD	TBD
FY 2032	TBD	TBD	TBD
Total TEC	**TBD**	**TBD**	**TBD**

	Budget Authority (Appropriations)	Obligations	Costs
Other Project Costs (OPC)			
Prior Years	15,372	15,372	15,372
FY 2025	7,150	7,150	2,136
FY 2026	14,150	14,150	11,000
FY 2027	0	0	8,164
FY 2028	TBD	TBD	TBD
FY 2029	TBD	TBD	TBD
FY 2030	TBD	TBD	TBD
FY 2031	TBD	TBD	TBD
FY 2032	TBD	TBD	TBD
Total, OPC	**TBD**	**TBD**	**TBD**
Total Project Costs (TPC)			

	Budget Authority	Obligations	Costs
Prior Years	15,372	15,372	15,372
FY 2025	7,150	7,150	2,136
FY 2026	14,150	14,150	11,000
FY 2027	22,500	22,500	11,000
FY 2028	TBD	TBD	11,500
FY 2029	TBD	TBD	TBD
FY 2030	TBD	TBD	TBD
FY 2031	TBD	TBD	TBD
Out Years	TBD	TBD	TBD
Total TPC	**TBD**	**TBD**	**TBD**

4. Details of Project Cost Estimate ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	TBD	N/A	N/A
	Federal Design Review Support	TBD	N/A	N/A
	Contingency	TBD	N/A	N/A
Total Design		**TBD**	**N/A**	**N/A**
Construction				
	Site Work	TBD	N/A	N/A
	Equipment	TBD	N/A	N/A
	Construction	TBD	N/A	N/A
	Federal Support	TBD	N/A	N/A
	Contingency	TBD	N/A	N/A
Total Construction		**TBD**	**N/A**	**N/A**
Total Estimated Cost (TEC)		**TBD**	**N/A**	**N/A**
Contingency, TEC		*TBD*	*N/A*	*N/A*
Other Project Costs (OPC)				
OPC except D&D			N/A	N/A
	Analysis of Alternatives	1,334	N/A	N/A
	Conceptual Design/CD-1/Fed Support	35,338	N/A	N/A
	Start-up	TBD	N/A	N/A
	Equipment Move	TBD	N/A	N/A
	Contingency	TBD	N/A	N/A
Total OPC		**TBD**	**N/A**	**N/A**
Contingency, OPC		*TBD*	*N/A*	*N/A*
Total Project Cost		**TBD**	**N/A**	**N/A**
Total Contingency (TEC+OPC)		***TBD***	***N/A***	***N/A***

5. Schedule of Appropriations Requests ($K)

Request Year	Type	Prior Years	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Out Years	Total
FY 2027	TEC	0	0	22,500	TBD	TBD	TBD	TBD	TBD	TBD
	OPC	22,522	14,150	0	TBD	TBD	TBD	TBD	TBD	TBD
	TPC	22,522	14,150	22,500	TBD	TBD	TBD	TBD	TBD	TBD

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	TBD
Expected Useful Life (number of years)	50
Expected Future Start of D&D of this capital asset (fiscal quarter)	TBD

Operations and Maintenance costs will be updated in future versions of this document, once the project has reached greater project definition and design.

7. D&D Information

Deactivation and Decommissioning (D&D) of existing facilities will be captured in NNSA's infrastructure planning system and funded outside of the line-item project once MSC is operational.

8. Acquisition Approach

The design and construction acquisition approaches will be determined as part of the CD-1 approval process.

Stockpile Research, Technology, and Engineering

Overview

NNSA's Stockpile Research, Technology, and Engineering (SRT&E) portfolio conducts weapons design, certification, and assessment activities in support of the nuclear stockpile. SRT&E provides the foundation for science-based stockpile decisions; delivers advanced capabilities to support Department of War (DoW) requirements and counter emerging threats; and innovates across the nuclear security enterprise (NSE) to improve productivity, efficiency, and responsiveness. These activities ensure confidence in the nuclear stockpile of today and tomorrow.

A key activity supported by SRT&E includes the annual assessment and report to the President and Congress regarding the reliability of the United States' nuclear weapons stockpile. This assessment represents a significant effort leveraging the experimental facilities, weapons modeling codes and high-performance computational systems, and the NNSA's subject matter expertise to deliver a comprehensive, engineering-based determination on the safety, security, and military effectiveness of the nuclear deterrent.

SRT&E activities are also essential to a responsive enterprise, among them the development and maturation of new materials, physics and engineering models, novel technologies, and processes to modernize nuclear systems and the production complex. Rapid development is essential to provide timely delivery of advanced systems to the DoW to meet emerging requirements or urgent needs. Under NNSA's Rapid and Advanced Capabilities, SRT&E is pursuing design, prototyping, and accelerated testing to deliver integrated and proven system concepts to Stockpile Modernization for acquisition and fielding, as directed by the Nuclear Weapons Council.

In addition to its essential role in the nuclear deterrent, SRT&E capabilities advance NNSA's nonproliferation, counterterrorism, and counterproliferation missions. Partners in the DoW, the Intelligence Community, Homeland Security, and State Department also apply SRT&E enabled capabilities to their respective national security missions.

As part of the FY 2027 submission a structure change is proposed, specifically the Engineering & Integrated Assessments program is split into the programs of Engineering and Rapid & Advanced Capabilities (RAC). The Integrated Demonstrators subprogram within the Weapon Technology and Manufacturing Maturation program is moved into RAC. The emergence of the Rapid & Advanced Capabilities program is the result of a priority to exercise the nuclear weapon design-build-test cycle. Integral to that is maturing technologies and validating designs, as well as advancing prototype and test capabilities. Although the component subprograms were within SRT&E in FY 2026, this new program will ensure this scope is judiciously managed.

The SRT&E programs are:

1. Assessment Science (AS)
2. Engineering
3. Rapid & Advanced Capabilities (RAC)
4. Inertial Confinement Fusion (ICF)
5. Advanced Simulation and Computing (ASC)
6. Weapon Technology and Manufacturing Maturation (WTMM)

Stockpile Research, Technology, and Engineering
Funding by Budget Control ($K)[12]

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding	FY 2027 Request	FY 2027 Request vs. FY 2026 Enacted	
					$	%
Stockpile Research, Technology, and Engineering						
Assessment Science						
Assessment Science	862,609	955,791	-	1,243,267	+287,476	30.1%
Primary Assessment Technologies	*160,000*	*160,000*	-	*318,184*	+158,184	98.9%
Dynamic Materials Properties	*139,982*	*139,982*	-	*186,533*	+46,551	33.3%
Advanced Diagnostics	*31,500*	*35,989*	-	-	-35,989	-100.0%
Secondary Assessment Technologies	*56,581*	*92,162*	-	*88,130*	-4,032	-4.4%
Enhanced Capabilities for Subcritical Experiments	*292,373*	*292,373*	-	*354,314*	+61,941	21.2%
Hydrodynamic & Subcritical Experiments Execution Support	*182,173*	*235,285*	-	*296,106*	+60,821	25.8%
27-D-511 Defense Materials Science Sector (DMSS) Project, ANL	-	-	-	-	-	0.0%
26-D-512 LANSCE Modernization Project (LAMP), LANL	-	20,000	-	15,200	-4,800	-24.0%
24-D-513 Z-pinch Experimental Underground System (ZEUS) Test Bed Facilities Improvement (ZTBFI), NNSS	-	-	-	91,700	+91,700	0%
17-D-640 U1a Complex Enhancements Project, NNSS	73,083	-	53,000	154,142	+154,142	0.0%
Total, Assessment Science	**935,692**	**975,791**	**53,000**	**1,504,309**	**+528,518**	**+54.2%**
Engineering						
Engineering & Integrated Assessments	425,765	319,777	-	230,043	-89,734	-28.1%
Archiving & Support	-	*22,739*	-	*40,791*	+18,052	+79.4%
Delivery Environments	-	*38,820*	-	*59,163*	+20,343	+52.4%
Weapons Survivability	-	*60,444*	-	*61,284*	+840	+1.4%
Studies and Assessments	-	-		-	-	0%
Aging & Lifetimes	-	*65,833*	-	*68,805*	+2,972	+4.5%
Stockpile Responsiveness	-	*70,000*	-	-	-70,000	-100.0%
Advanced Certification & Qualification	-	*61,941*	-	-	-61,941	-100.0%

[1] P.L. 119-21 (Working Families Tax Cut Act) provided $3.885 billion in funding to DOE/NNSA. From this funding, DOE/NNSA has allocated $368 million to SRT&E.
[2] Deltas reflect discretionary only.

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding	FY 2027 Request	FY 2027 Request vs. FY 2026 Enacted	
					$	%
26-D-513 Combined Radiation Environments for Survivability Testing, SNL	-	52,248	-	105,000	+52,752	+101.0%
Total, Engineering & Integrated Assessments	**425,765**	**372,025**	**-**	**335,043**	**-36,982**	**-9.9%**
Rapid & Advanced Capabilities						
Stockpile Responsiveness	-	-	*80,000*	*174,501*	+174,501	0%
Studies and Assessments	-	-	*80,000*	*153,315*	+153,315	0%
Advanced Certification & Qualification	-	-	-	*65,397*	+65,397	0%
Integrated Demonstrators Program	-	-	-	*105,996*	+105,996	0%
Total, Rapid & Advanced Capabilities	**-**	**-**	**160,000**	**499,209**	**+499,209**	**0%**
Inertial Confinement Fusion						
Inertial Confinement Fusion	699,830	803,000	-	829,736	+26,736	+3.3%
HED & Ignition Science for Stockpile Applications	*112,926*	*117,500*	-	*116,973*	-527	0%
ICF Diagnostics and Instrumentation	*73,341*	*76,000*	-	*74,599*	-1,401	0%
Facility Operations	*513,563*	*609,500*	-	*626,585*	+17,085	+2.8%
High Yield Driver Development	-	-	-	*11,579*	+11,579	0%
26-D-514 NIF Enhanced Fusion Yield Capability, LLNL	-	26,000	-	84,000	+58,000	+223.1%
Total, Inertial Confinement Fusion	**699,830**	**829,000**	**-**	**913,736**	**+84,736**	**+10.2%**
Advanced Simulation and Computing						
Integrated Codes	*178,133*	*181,876*	-	*184,796*	+2,920	+1.6%
Physics & Engineering Models	*107,219*	*109,473*	-	*110,778*	+1,305	+1.2%
Verification & Validation	*72,984*	*74,519*	-	*75,121*	+602	+0.8%
Computational Systems & Software Environment	*264,296*	*258,649*	*9,000*	*263,708*	+5,059	+2.0%
Facility Ops & User Support	*207,368*	*221,478*	-	*222,362*	+884	+0.4%
Capabilities for Nuclear Intelligence	*20,000*	*20,000*	-	*23,000*	+3,000	+15.0%
Artificial Intelligence for Nuclear Security	-	-	*106,000*	*30,000*	+30,000	0%
Total, Advanced Simulation and Computing	**850,000**	**865,995**	**115,000**	**909,765**	**+43,770**	**+5.1%**
Weapon Technology and Manufacturing Maturation						
Surety Technology	*35,891*	*32,331*	-	*63,397*	+31,066	+96.1%
Weapon Technology Development	*121,137*	*73,545*	-	*141,725*	+68,180	+92.7%
Advanced Manufacturing Development	*116,161*	*105,998*	*40,000*	*154,524*	+48,526	+45.8%

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding	FY 2027 Request	FY 2027 Request vs. FY 2026 Enacted	
					$	%
Integrated Demonstrators Program	*13,300*	*13,300*	-	-	-13,300	-100.00%
Microelectronics and Digital Development	-	*42,105*	-	*45,767*	+3,662	+8.70%
Total, Weapon Technology and Manufacturing Maturation	**286,489**	**267,279**	**40,000**	**405,413**	**+138,134**	**+51.7%**
Total, Stockpile Research, Technology, and Engineering	**3,197,776**	**3,310,090**	**368,000**	**4,567,475**	**+1,257,385**	**+38.0%**

Stockpile Research, Technology, and Engineering
Outyear Funding ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
Stockpile Research, Technology, and Engineering				
Assessment Science				
Assessment Science	1,086,555	1,055,691	1,054,604	1,038,722
Primary Assessment Technologies	*304,512*	*300,602*	*306,614*	*312,747*
Dynamic Materials Properties	*169,883*	*173,281*	*176,746*	*180,281*
Advanced Diagnostics	-	-	-	-
Secondary Assessment Technologies	*98,863*	*100,840*	*102,857*	*104,914*
Enhanced Capabilities for Subcritical Experiments	*169,846*	*130,648*	*111,061*	*36,282*
Hydrodynamic and Subcritical Experiments Execution Support	*343,451*	*350,320*	*357,326*	*404,498*
27-D-511 Defense Materials Science Sector (DMSS) Project, ANL	36,842	36,978	39,369	45,138
26-D-512 LANSCE Modernization Project (LAMP), LANL	88,000	119,760	122,156	104,599
Total, Assessment Science	**1,211,397**	**1,212,429**	**1,216,129**	**1,188,459**
Engineering				
Engineering	232,372	237,020	241,760	246,595
Archiving and Support	*41,607*	*42,439*	*43,288*	*44,153*
Delivery Environments	*60,346*	*61,553*	*62,784*	*64,040*
Weapons Survivability	*60,238*	*61,443*	*62,672*	*63,925*
Aging and Lifetimes	*70,181*	*71,585*	*73,016*	*74,477*
26-D-513 Combined Radiation Environments for Survivability Testing, SNL	176,000	210,572	247,866	302,177
Total, Engineering	**408,372**	**447,592**	**489,626**	**548,772**
Rapid and Advanced Capabilities				
Stockpile Responsiveness	*141,845*	*144,682*	*147,576*	*150,527*
Studies and Assessments	*142,448*	*145,097*	*137,799*	*140,555*
Advanced Certification and Qualification	*76,705*	*83,239*	*84,904*	*86,602*
Integrated Demonstrators Program	*101,061*	*103,082*	*105,143*	*107,246*
Total, Rapid & Advanced Capabilities	**462,059**	**476,100**	**475,422**	**484,930**
Inertial Confinement Fusion				
Inertial Confinement Fusion	813,832	821,635	848,924	865,902
HED & Ignition Science for Stockpile Applications	*118,363*	*120,075*	*123,053*	*125,514*
ICF Diagnostics and Instrumentation	*74,533*	*73,256*	*73,214*	*74,678*
Facility Operations	*611,675*	*618,858*	*643,022*	*655,883*
High Yield Driver Development	*9,261*	*9,446*	*9,635*	*9,827*
26-D-514 NIF Enhanced Fusion Yield Capability, LLNL	148,480	115,000	52,000	55,000
Total, Inertial Confinement Fusion	**962,312**	**936,635**	**900,924**	**920,902**
Advanced Simulation and Computing				
Integrated Codes	*188,492*	*192,262*	*196,107*	*200,029*

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
Physics & Engineering Models	*112,994*	*115,253*	*117,558*	*119,910*
Verification & Validation	*75,580*	*75,290*	*75,961*	*77,480*
Computational Systems & Software Environment	*265,439*	*270,748*	*276,163*	*281,686*
Facility Ops & User Support	*224,387*	*229,122*	*232,139*	*236,782*
Capabilities for Nuclear Intelligence	*25,460*	*26,871*	*29,409*	*31,997*
Artificial Intelligence for Nuclear Security	*80,742*	*80,000*	*81,600*	*83,231*
Total, Advanced Simulation and Computing	**973,094**	**989,546**	**1,008,937**	**1,031,115**
Weapon Technology and Manufacturing Maturation				
Surety Technology	*64,515*	*65,655*	*59,318*	*60,505*
Weapon Technology Development	*144,160*	*146,643*	*129,176*	*131,759*
Advanced Manufacturing Development	*157,014*	*159,555*	*147,146*	*150,089*
Microelectronics and Digital Development	*49,182*	*45,11 8*	*41,500*	*42,330*
Total, Weapon Technology and Manufacturing Maturation	**414,871**	**416,971**	**377,140**	**384,683**
Total, Stockpile Research, Technology, and Engineering	**4,432,105**	**4,479,273**	**4,468,178**	**4,558,861**

Rapid and Advanced Capabilities
Funding - Comparable ($K)

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
					$	%
Stockpile Research, Technology, and Engineering						
Rapid & Advanced Capabilities						
Stockpile Responsiveness	*69,000*	*70,000*	*80,000*	*153,315*	*+83,315*	*+119.0%*
Studies and Assessments	*69,882*	*-*	*80,000*	*174,501*	*+174,501*	*0%*
Advanced Certification & Qualification	*59,000*	*61,941*	*-*	*65,397*	*+3,456*	*+5.6%*
Integrated Demonstrators Program	*13,300*	*13,300*	*-*	*105,996*	*+92,696*	*+697.0%*
Total, Rapid & Advanced Capabilities	211,182	145,241	160,000	499,209	353,968	+243.7%

Rapid and Advanced Capabilities
Funding - Non-Comparable ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Stockpile Research, Technology, and Engineering					
Engineering	*197,882*	*-*	*-*	*-*	*+0.0%*
Studies and Assessments	*-*	*-*	*-*	*-*	*+0.0%*
Stockpile Responsiveness	*-*	*70,000*	*-*	*-70,000*	*-100.0%*
Advanced Certification & Qualification	*-*	*61,941*	*-*	*-61,941*	*-100.0%*
Weapon Technology and Manufacturing Maturation	*13,300*	*-*	*-*	*-*	*+0.0%*
Integrated Demonstrators Program	*-*	*13,300*	*-*	*-13,300*	*-100.0%*
Total, Non-Comparable	*211,182*	*145,241*	*-*	*-145,241*	*-100.0%*
Rapid & Advanced Capabilities					
Studies and Assessments	*-*	*-*	*153,315*	*+153,315*	*+0.0%*
Stockpile Responsiveness	*-*	*-*	*174,501*	*+174,501*	*+0.0%*
Advanced Certification & Qualification	*-*	*-*	*65,397*	*+65,397*	*+0.0%*
Integrated Demonstrators Program	*-*	*-*	*105,996*	*+105,996*	*+0.0%*
Total, Rapid & Advanced Capabilities	-	-	499,209	499,209	+0.0%

Stockpile Research, Technology, and Engineering
Assessment Science

Overview

The Assessment Science (AS) program provides the knowledge and expertise needed to maintain confidence in the nuclear stockpile. The experimental and testing assets developed and maintained in the AS program support the entire Nuclear Security Enterprise (NSE). The AS program provides: (1) the scientific foundation required to conduct annual assessments of weapon performance and to support the qualification and certification of Life Extension Programs (LEPs), the modernization programs, and future systems being considered now to address emerging threats; (2) the scientific insight to inform our understanding on the impacts of surveillance findings to ensure the nuclear stockpile remains safe, secure, and effective; and (3) the core technical expertise required to be responsive to technical developments and geopolitical drivers. AS also facilitates the assessment of current weapon and weapon component lifetimes, the development and qualification of modern materials and manufacturing processes, the exploration of concepts for component reuse, and the development of modern safety concepts for sustainment.

AS performs experiments to obtain the materials and nuclear data required to develop underlying physics models and through integrated scale testing validate the physics of nuclear weapons performance. AS experiments include hydrodynamic and subcritical experiments (SCEs) to obtain data on the dynamic behavior of plutonium and surrogate materials in integral geometries. The AS program experimentation and data analyses also facilitate safety, security, and evaluations of sustainment concepts without the need for nuclear explosive testing. These activities develop, exercise, and maintain the expertise and competence of the nuclear weapon design, engineering, and assessment community.

AS is responsible for research, development, platform deployment, and experimental execution to address and support key stockpile decisions. For example:

- Supporting the congressionally mandated *Research Program Plan for Plutonium/Pit Aging*.
- Establishing the Enhanced Capabilities for Subcritical Experiments (ECSE).
- Developing and characterizing detonation and safety properties of new high explosives (HE) formulations by partnering across SRT&E and modernization programs.
- Initial development and physics qualification of alternate materials options for secondaries of future systems.
- Executing hydrodynamic and SCEs at Dual Axis Radiographic Hydrodynamic Test (DARHT), Contained Firing Facility (CFF), PULSE, and the proton radiography (pRad) capability at LANSCE.
- Conducting high-energy-density (HED) experiments to address weapons physics questions and anticipate needs of the Stockpile Management and Production Modernization portfolios using National Ignition Facility (NIF), Z Pulsed Power Facility (Z), and Omega Laser Facility (Omega).
- Supporting hostile environment platform development and experiments at Z and NIF.

The AS program has strong programmatic coupling within SRT&E, Production Modernization, and Stockpile Management programs.

The AS program is comprised of five subprograms.

Primary Assessment Technologies (PAT) provides capabilities for the annual assessment of stockpile primaries, improvement of the nuclear explosive test modeling suite in the common model framework, certification of future modernization programs, improvements in primary safety and security, and resolution of Significant Finding Investigations (SFIs). A major effort within PAT is conducting SCEs. SCEs are the most direct linkage between the focused physics experiments conducted within NNSA and the integral nuclear

performance of the underground test history providing confidence in NNSA's simulation capabilities. SCEs are simultaneously being developed for execution in the existing Cygnus testbed and future ECSE ZEUS and Scorpius testbeds.

Dynamic Materials Properties (DMP) develops and maintains the experimental capabilities needed to inform modern, physics-based models that describe and predict the behavior of weapon materials in extreme pressure, temperature, and strain rates to understand fundamental material properties. DMP provides experimental data and assessment of Special Nuclear Material (SNM), metals, conventional high explosives (CHE), insensitive high explosives (IHE), polymers, and foams under dynamic conditions required for annual assessment and certification of the stockpile as well as for future options.

Secondary Assessment Technologies (SAT) provides capabilities essential for the annual assessment and modernization of stockpile secondaries through validating weapons physics models using experimental platforms, improving models, expanding the nuclear explosive test modeling suite in the common model framework, and supporting the evaluation of new manufacturing processes, replacement materials, and aged materials in the stockpile. Key elements of SAT include radiation transport, complex hydrodynamics and thermonuclear burn, material properties, and weapons outputs and effects. For stockpile systems, core SAT R&D facilitates: (1) the re-acceptance of canned sub-assemblies (CSAs) and other NEP components for future sustainment options and (2) the development of the science basis for physics performance assessments supporting qualification of remanufactured CSAs and other components and stockpile assessments.

Enhanced Capabilities for Subcritical Experiments (ECSE) establishes key test capabilities at the Nevada National Security Site (NNSS) and closes a capability gap to evaluate the response of plutonium to aging, modern manufacturing techniques, modern materials, and evolving design philosophies. It also will enable design certification of nuclear systems. It will deliver a solid-state linear induction accelerator, Advanced Sources and Detectors (ASD) and a reactivity diagnostic. In conjunction with Zeus Test Bed Facility Improvement (ZTBFI) and U1a Complex Enhancements Project (UCEP), this subprogram provides two new underground test beds for executing integrated weapon experiments with plutonium, directly supporting current and future weapon system requirements

Hydrodynamic and Subcritical Experiments Execution Support (HSEES) provides the services required to maintain a robust testing capability that supplies critical data on weapon performance, safety and surety due to design changes, material substitutions, or component changes associated with LEPs, Alterations (Alts), or Modifications (Mods) and for new weapon systems under development. Other activities include diagnostics research and development for improved data acquisition and analysis. These diagnostic technologies provide the basis for stockpile assessment using NNSA experimental facilities such as PULSE, DARHT, Flash X-Ray (FXR)/CFF, Z, and pRad.

Line-Item Construction

17-D-640 U1a Complex Enhancements Project (UCEP), NNSS provides the underground U1a Complex laboratory space for Advanced Sources and Detectors (Scorpius).

24-D-513 Z-Pinch Experimental Underground System Test Bed Facilities Improvement (ZTBFI), NNSS includes the design, construction, and commissioning of the ZEUS Test Bed in U1a to support dense plasma focus diagnostics for neutron diagnosed subcritical experiments.

26-D-512 Los Alamos Neutron Science Center (LANSCE) Modernization Project (LAMP), LANL will improve reliability and mission readiness to support the NSE by addressing the high-risk single-point failure associated with the aging front end for LANSCE. LANSCE provides complementary capabilities to subcritical

experiments (SCEs) and X-ray radiography to support the certification process. No other facilities in the NSE provide the cumulative capabilities collocated at LANSCE.

Highlights of the FY 2027 Budget Request

- Support the design, assembly, and analysis of four SCE campaigns to study plutonium aging and understand the impacts of design modifications and changes in materials for the future stockpile.
- Execute the decadal Plutonium/Pit Aging plan by studying properties of aged plutonium and replacement materials to increase confidence in stockpile performance and LEPs.
- Develop new molecules and measure detonation and safety properties of candidate IHE to provide better performing and more efficiently producible HE.
- Use X-ray light sources to develop new methodologies of examining high-interest materials (e.g., metals, HE, additively manufactured materials) under extreme conditions, leading to advanced models with reduced uncertainties.
- Continue design-supported physics qualification work to advance secondary materials R&D initiatives and new manufacturing approaches, enabling responsive design solutions for the future stockpile and mitigating risks for the modernization programs.
- Expand the weapon science validation basis using studies of relevant nuclear explosive test data, focusing on off-nominal and non-stockpile designs, supporting modernization decisions, assessments, and responsiveness to emerging threats to address future national security requirements.
- Continue delivery of ECSE capabilities in support of annual assessments and certifications plans for the W80-4, W87-1, W93, and future weapon systems.
- Support procurements, assembly, and testing of ASD components above ground needed prior to final installation into PULSE.
- Ensure the operational and diagnostic capabilities of the NNSA complex firing facilities are sufficient to execute hydrodynamic tests in support of specific weapon systems (LEP/ALT/MOD), nuclear weapon stockpile, global security, and experimental science.
- Procure, assemble, and field impulsively loaded steel vessels in support of integral weapon experiments/hydrodynamic tests.
- Provide operationally reliable facilities to obtain the key data that reduce uncertainty in modeling and simulation of nuclear weapons performance.

Explanations of Change

Assessment Science (+$277.476 million)

- Increase in PAT reflects execution of multiple SCE campaigns which were deferred from FY 2026 as well as supports two additional pRad experiments at LANSCE and assesses off-nominal performance scenarios, the development of a novel experimental platform, leveraging existing LDRD efforts, to investigate boost physics mechanisms. This platform would expand the dataset supporting predictive capabilities for primary performance.
- Increase in DMP reflects support of other project costs for DMSS and supports execution of high explosives work which was deferred from FY 2026 including new formulation and detonation science
- Increase in ECSE reflects Advanced Sources & Detectors work needed to continue procurement and assembly of Accelerator cells and modules originally scheduled for FY 2026
- Increase in HSEES reflects deferred DARHT and Site 300 sustainment activities
- The increase supports Other Project Costs (OPCs) for technology maturation efforts for LAMP curtailed from FY 2026 and the Defense Materials Science Sector (DMSS) Project

- Realigns Advanced Diagnostics pulsed power driver development scope from Assessment Science Advanced Diagnostics to Inertial Confinement Fusion High Yield Driver Development and all other Advanced Diagnostics scope into HSEES

17-D-640 U1a Complex Enhancements Project (UCEP) (+$154.142 million)

- Increase reflects completion of construction activities and the beginning of startup, testing, and commissioning. The total funding request has been reduced by $20M due to the savings in changing the fire protection strategy. Increase supports the funding profile of the project and CD-4 date of 11/2029.

24-D-513 Z-Pinch Experimental Underground System Test Bed Facilities Improvement (ZTBFI) (+$91.7 million)

- Increase reflects continued construction activities and closeout activities; because the project received no TEC funding in FY 2026, the project is delayed by 9-12 months, as Subproject 020 will not be able to start until FY 2027 funding is available. Subproject 020 will pursue CD-2/3 on current schedule and then pause for funding.

26-D-512 Los Alamos Neutron Science Center (LANSCE) Modernization Project (LAMP) (-$4.800 million)

- Decrease reflects the prioritization of Other Project Costs in PAT to support tech maturation and decrease impact to LANSCE operations.

Stockpile Research, Technology, and Engineering
Engineering

Overview

The Engineering program is responsible for ensuring system survivability in present and future stockpile-to-target sequences (STS) through four key mission areas: (1) strengthening the science, technology and engineering base; (2) providing tools for qualifying weapon components and certifying weapons; (3) supporting annual stockpile assessments through improved weapons surveillance technologies and warhead component aging assessments; and (4) digitizing and curating legacy NNSA scientific datasets to inform current and future activities.

Engineering is comprised of four subprograms. Funding for the Advanced Certification and Qualification, Studies and Assessments and Stockpile Responsiveness subprograms are now requested in the Rapid and Advanced Capabilities program.

Archiving and Support preserves and maintains historic knowledge, records, and data related to U.S. nuclear weapons testing and Stockpile Stewardship, and executes requirements set forth in 10 U.S.C. 6117(c) Dual validation teams in support of assessments. Archiving and Support enables NNSA's mission using world-class science, technology, and engineering while adapting to a specialized workforce through advanced knowledge and records management technologies. This digitization and curation of legacy NNSA scientific datasets informs current and future activities.

Delivery Environments ensures delivery systems and platforms survive current and future STSs in Normal and Abnormal environments. Select environmental examples include reentry environments, atmospheric gliding, evolving thermal and pressure differentials for prolonged periods of time, shock phenomena, and combined environments. Delivery Environments accomplishes these goals by predicting, identifying, and evaluating delivery platform system and sub-system performance and responses to such environmental phenomena. The program develops representative prototypes and conducts modeling and simulation of responses to new environmental demands and requirements, advanced diagnostics, and strategic and informed experiments. Delivery Environments furthers its objectives by collaborating with various interagency and interoffice partners to ensure alignment.

Weapons Survivability provides the tools and technologies necessary for ensuring U.S. nuclear weapons survivability in hostile and fratricide environments. Since weapons entering the stockpile are expected to be fielded for decades, Weapons Survivability includes projections for the evolution of defensive technologies and threats. Weapons Survivability scope includes: (1) developing scientific and engineering models for understanding radiation effects; (2) improving laboratory radiation sources and diagnostics to support code validation and hardware qualification experiments; (3) generating experimental data to validate scientific and engineering models; (4) understanding radiation-hardened design strategies; and (5) evaluating candidate and evolving stockpile technologies for radiation hardness capabilities in a generalized, weapon-relevant configuration.

Aging and Lifetimes detects and predicts the onset of harmful material incompatibility and aging phenomena in nuclear weapon materials, components, and subsystems before they degrade the nuclear deterrent. It also ensures new materials introduced into the stockpile or likely to be introduced, whether through life extension programs or entirely new designs, will not cause aging problems in the future. These activities require a deep understanding of the material, chemical, metallurgical, physical, and engineering behaviors that control the performance, aging, and degradation of various components in the weapon systems. Aging and Lifetimes conducts aging studies, which provide fundamental materials for aging knowledge and inform decisions on when to replace weapons components and materials, whether materials can be reused, or if new materials could

cause aging issues; computational modeling, which predicts the aging rates, mechanisms, and impacts for weapon components and materials and provides component and materials lifetime estimates, and diagnostic tool development which develops and provides diagnostic tools for improving the quantity and quality of surveillance data for the enduring and future stockpiles.

Line-Item Construction

- **26-D-513 Combined Radiation Environments for Survivability Testing (CREST)** will provide an advanced radiation environmental test capability to fill a mission gap for research and development, qualification, and certification data in combined survivability/threat environments. The age, condition, and security posture of the facilities housing the current capability limits the reliability, availability, and sample size of the Annular Core Research Reactor for operations supporting the NSE. CREST will replace the aging legacy facilities and enhance the capabilities available to assess higher fidelity combined hostile nuclear environments and enable use of full-size samples.

Highlights of the FY 2027 Budget Request

- Accelerate the digitization process of all media types (e.g., paper, films, microfilm, microfiche, aperture cards, and other media) through implementation of Artificial Intelligence/Machine Learning (AI/ML) tools to ingest, index, catalog, and create metadata on weapons-related documents in a centralized, searchable database to increase accessibility of preserved information.
- Mature existing integrated computational toolsets for predicting weapon system flight characteristics and ensure warhead performance in emerging and future delivery environments. Verification and validation efforts build confidence in the predictive capability of the toolset. Develop capabilities necessary to quantify multi-disciplinary failure margins for weapon systems and components in normal, abnormal, and combined normal-hostile environments. These projects will support experimental capability development for combined physics testing as well as diagnostic development and environment characterization. Collaborate with ASC to develop agile predictive capability required to design and qualify weapon systems to combined thermal and mechanical conditions.
- Execute research and development and qualification capability development shots on high energy density (NIF and Z) and radiation environment (e.g., Saturn, Hermes, ACRR) machines and facilities. Gather data in these experiments for modeling and simulation code validation and to inform current and future weapons systems.
- Provide experimental tools and simulation capabilities for systems to qualify the behavior of electronics in radiation and combined environments.
- Transition non-destructive diagnostics and modernized capabilities to Core Surveillance (Stockpile Operations).
- Enhance high explosive qualification and surveillance by transitioning a new test Shell Acceleration Initiation Train to Programs of Record, replacing an outdated capability.
- Support material compatibility and aging assessments required to mature the W93 and other modernization program's component technologies.
- Continue developing digital twin pilots and assess their viability to predict lifetimes of individual weapon components and systems.

Explanations of Change

Engineering (-$36.982 million)

- Decrease is due to budget restructure with Advanced Certification and Qualification, Studies and Assessments and Stockpile Responsiveness subprograms are now requested in the Rapid and Advanced Capabilities program
- Using a comparable budget structure, the FY 2027 request for Engineering is a $42.207 million increase compared to FY 2026 enacted.

- Increase accelerates development of reduced order models, models that are faster running and less computationally intensive, to support faster trade studies and design iterations for Rapid Capability needs
- Tailored diagnostics to support Rapid Capability data acquisition needs, including ground-based, rapidly deployable data harvesting sensors and arrays.
- Ground testing activities, specifically focusing on environments validation via ground-test surrogate design and development, to include stressing flight dynamics, supporting the Rapid Capability projects.
- Accelerate the digitization process of all media types (e.g., paper, films, microfilm, microfiche, aperture cards, and other media) through implementation of Artificial Intelligence/Machine Learning (AI/ML) tools to ingest, index, catalog, and create metadata on weapons-related documents in a centralized, searchable database to increase accessibility of preserved information.

26-D-513 Combined Radiation Environments for Survivability Testing (CREST) (+$52.752 million)
- Increase supports awarding preliminary design contracts for Nuclear Facility, Accelerator and Office Light Laboratory.

Stockpile Research, Technology, and Engineering
Rapid & Advanced Capabilities

Overview

Rapid & Advanced Capabilities (RAC) strengthens the nation's responsive nuclear deterrent by assessing, designing, prototyping, and demonstrating advanced systems, as well as accelerating the delivery of new nuclear capabilities to meet national security needs. The RAC program supports four key mission areas:

1. Rapidly designing, prototyping, and testing options for potential acquisition as part of NNSA's Nuclear Deterrence Rapid Capabilities Team (ND RCT).
2. Developing and assessing advanced integrated warhead designs from early concept through major validation activities—including flight tests, hydrodynamic tests, and system demonstrations.
3. Executing Pre-Phase 1 activities and risk-reduction efforts in partnership with the Department of War (DoW).
4. Leading Phase 1 Concept Assessments as directed by the Nuclear Weapons Council (NWC).

ND RCT is a cross-program, cross-enterprise collaboration among NNSA and its laboratories, plants, and production sites. Its mission is to rapidly develop advanced system prototypes and ensure readiness for accelerated acquisition and fielding, when directed.

Rapid & Advanced Capabilities is comprised of four subprograms:

Stockpile Responsiveness (SRP) provides efforts that sustain, enhance, and exercise capabilities required to conceptualize, design, develop, engineer, certify, produce, and deploy nuclear weapons. Capabilities are exercised through and accelerated design-build-test cycle of weapon proof of concepts. However, these efforts do not include the actual production or deployment of a stockpile weapon system, nor do they engage in the acquisition of nuclear weapons for the U.S. stockpile. SRP is the pathfinder subprogram that most directly supports the ND RCT efforts in FY 2027. The SRP subprogram was funded out of Engineering and Integrated Assessments Program before being moved to RAC in the FY2027 budget restructure.

Studies and Assessments (SA) funds pre-Phase X / 6.X activities to inform NWC decision-makers of the strategic impacts from the pursuit of various Nuclear Security Enterprise and weapon capabilities in coordination with DoW partners. Coordination of Phase 1 (Concept Assessment) efforts with DoW partners and risk-reduction activities are funded through investments within RAC. The SA subprogram was funded out of Engineering and Integrated Assessments Program before being moved to RAC in the FY2027 budget restructure.

Advanced Certification & Qualification (ACQ) funds tools and methods to ensure that there is a certification path for stockpile systems and new components without underground explosive nuclear testing. This is done by integrating computing, science, technology, and engineering advancements to facilitate certification of future life extensions and other warhead needs. ACQ provides the advanced capabilities to support qualification and certifiability projects for the ND RCT. The ACQ subprogram was funded out of Engineering and Integrated Assessments Program before being moved to RAC in the FY2027 budget restructure.

Integrated Demonstrators (ID) provides integrated flight testing in relevant environments with approximate system context for the purposes of evaluation and risk reduction of future programs. ID leverages flight demonstration opportunities to test, analyze, and evaluate the architectures, components, and processes directly taking the components produced by other programs and puts them into realistic scenarios for assessment and technology maturation. ID is being moved from Weapons Technology and Manufacturing Maturation to RAC

in FY 2027 and will provide flight test, ground test, and integration expertise for both ND RCT and to support traditional demonstrator efforts with DoW partners.

Highlights of the FY 2027 Budget Request

- Exercise the ability to rapidly prove new system concepts as part of NNSA's Nuclear Deterrence Rapid Capability Team. In FY 2027, mature two new designs for advanced ground testing and to be integrated into a developmental flight test.
- Transition the Responsive Demonstration Experiment (ReDX) project that developed low-cost high-tempo flight-testing capabilities in partnership with industry from Stockpile Responsiveness to Integrated Demonstrators. Continue to develop new warhead system concepts and use these platforms to enable rapid prototyping of exploratory payloads.
- Complete the multi-year Phase 1 (Concept Assessment) of the WXX program per NWC strategic direction.
- Begin the Future Strategic Sea-Based Warhead (FSSW) Pre-Phase Study.
- Execute hydrodynamic test series to support future certification of rapid capabilities concepts.
- Complete a certification exercise to assess the readiness of proposed modular architectures to improve the flexibility and maintainability of stockpile systems and reduce lifecycle costs.
- Conduct performance testing of HE formulations to inform future qualification of new HE options
- Develop Advanced Materials qualification methodology to enable component material replacement options with a qualification path to reduce production time constraints.
- Complete Experimental Flight Test #2 (EFT-2) requirements (FY 2027 launch), by delivering the RV to the system integrator for flight and conducting post-flight test analysis. EFT-2 will support flight instrumentation efforts with environmental sensors to better characterize future flight conditions, as well as simulation capability-focused data acquisition efforts to gather data to help validate flight codes.

Explanations of Change

Rapid & Advanced Capabilities (+$499.209 million)

- Using a comparable budget structure, the FY 2027 request for RAC is a $353.968 million increase compared to FY 2026 enacted. That delta does not include $160 million mandatory resources applied to subprograms now included in RAC.
- Increase reflects the flight test needs for Nuclear Weapons Council (NWC)-directed Phase 1, Concept Assessment, for the WXX Project and a variety of Hard and Deeply Buried Target / Prompt (HDBT) defeat efforts by the Studies and Assessments program.
- Increase provides ground test capabilities, flight test integration, supporting rapid capabilities executing at least two concurrent rapid development projects, full large scale development flights with DoW and industry partners, and manages the responsive commercial flight-testing capabilities for challenge problems and experimental payloads.
- Increase provides all flight and ground testing needs for the execution of concurrent rapid deterrent capability developments under the auspices of Nuclear Deterrent Rapid Capabilities Team.
- Increase supports needed qualification and certifiability testing to support ND RCT projects, primarily hydrodynamic testing.

Stockpile Research, Technology, and Engineering
Inertial Confinement Fusion (ICF)

Overview

The ICF program provides high energy density (HED) science capabilities and expertise that support research and testing across the range of NNSA's stockpile and national security missions. ICF meets the immediate and emerging HED science needs to support today's deterrent while advancing R&D capabilities required to meet future deterrent needs. Since most of the energy in a nuclear weapon detonation is generated by matter in the HED regime, understanding the behavior of matter and energy in this regime is critical to predicting the performance of both nuclear weapon primaries and secondaries, as well as the response of weapon components to extreme hostile radiation environments.

The ICF program leverages its experimental design expertise and computational modeling tools, diagnostic technology, target engineering and fabrication infrastructure, and national HED facilities to ensure high fidelity experimental capabilities and data are available to support stockpile modernization and national security objectives. Its capabilities are used across the NNSA to assess and certify the existing stockpile, inform design decisions for current life extension programs, investigate hostile nuclear environments, address weapons relevant HED science challenges, and support research by DoW and key international partners.

The ICF program is comprised of four subprograms:

HED and Ignition Science for Stockpile Applications develops and matures HED experimental platforms and computational tools, enabling partners across the nuclear weapons programs to investigate weapons physics phenomena and material behaviors for near-term weapon science and survivability applications and designs. The execution of complex physics experiments will push the boundaries of understanding within HED science to support pursuit of high yield capabilities for next-generation stockpile science.

ICF Diagnostics and Instrumentation establishes new diagnostic capabilities and experimental support systems through the R&D of specialized technologies necessary to execute experiments studying matter under extreme HED conditions relevant to nuclear weapons performance.

Facility Operations provides the support and services required to ensure the safe and efficient operation of the national HED facilities, including conducting experimental operations, performing preventative and backlogged maintenance, supplying load and target consumables, and providing research and engineering to sustain facility capabilities. These facilities, the NIF at LLNL, Z at SNL, and Omega at the University of Rochester's Laboratory for Laser Energetics (LLE), represent a complementary set of capabilities designed to meet the diverse needs of weapons physics, the pursuit of higher yields, and the exploration of fundamental HED science.

High Yield Driver Development advances engineering solutions for laser and pulsed power technologies necessary to generate material conditions, radiation environments, and plasma conditions that will fulfill future stockpile needs in the coming decades. ICF plans to continue leveraging public private partnerships (e.g., cooperative research and development agreements) to accelerate high yield driver technology maturation for the benefit of NNSA's nuclear deterrence mission.

Line-Item Construction

- **26-D-514 NIF Enhanced Fusion Yield Capability, LLNL** will improve NIF laser energy (2.2 to 2.6 MJ) to enable access to conditions important for certification and assessment of the future stockpile that are currently out of reach. The project will increase expected fusion yield by a factor of 5-10x over current capabilities.

Highlights of the FY 2027 Budget Request

- Develop and mature experimental assessment platforms that support near-term applications of ignition to answer critical stockpile questions, and in the long-term, develop fusion yield platforms to inform how to achieve higher energy yields reliably and repeatedly for stockpile applications.
- Develop and execute focused experiments at NIF, with consideration for future experiments using EYC, to mitigate identified next generation high energy density (NGHED) design uncertainties. This will include executing experiments at NIF and Z to understand high-yield driver requirements for the future.
- Build and deliver the highest-priority transformational diagnostics identified in the National Diagnostics Plan for HED Science to enhance the accuracy of data used in stockpile research and predictive modeling of relevant physical phenomena.
- Provide operationally reliable facilities to obtain the key data that reduce uncertainty in modeling and simulation of nuclear weapons performance.

Explanations of Change

Inertial Confinement Fusion (+$26.736 million)

- Supports increased target production at General Atomics to meet the FY 2027 shot schedules at NIF, Z, and Omega. Requested targets to investigate specific stockpile science capabilities have grown in complexity, making them more costly. Addresses sustainment requirements to extend NNSA facility lifetime with completion of activities at NIF by FY 2030 and at Z by 2031.
- Expands target fabrication research and development for continuous improvement in experimental design and performance at NIF, Z, and Omega.
- Transitions pulsed power technology maturation for next generation HED capabilities from Assessment Science Advanced Diagnostics to Inertial Confinement Fusion High Yield Driver Development.

26-D-514 NIF Enhanced Fusion Yield Capability, LLNL (+$58.000 million)

- Increase supports CD-3A and CD-2/3 work required to advance the EYC project. Provides second year of NIF EYC line-item funding, specifically to continue crucial long-lead procurement of components that are at final design.

Stockpile Research, Technology, and Engineering
Advanced Simulation and Computing

Overview

The Advanced Simulation and Computing (ASC) program provides high-end simulation and computing capabilities (e.g., modeling codes, platforms, and supporting infrastructure) to meet the requirements of the SSP. Modeling the complexity of nuclear weapons systems is essential to maintaining confidence in the performance of the nation's stockpile. The ASC program creates, maintains, and optimizes the weapon codes that provide integrated assessment capability, supporting annual assessment and future sustainment program qualification, and certification of the stockpile. ASC's capabilities also inform decision-making related to the sustainment of the nuclear stockpile. The program coordinates with other NNSA program offices and government agencies, including the Intelligence Community, to support nonproliferation, emergency response, nuclear forensics, and attribution activities.

ASC computing capabilities act as integrators for many of the capabilities in SRT&E and are the foundational tools that support multiple defense programs. The integrated design codes (IDCs) are mathematical and computational descriptions of nuclear weapons systems and their functions. Combined with weapon-specific data and fundamental data measured by the experimental programs, the IDCs support design studies, maintenance analyses, the Annual Assessment Reports, sustainment programs, SFIs, and weapons dismantlement activities.

The IDCs routinely benefit from improvements to NNSA's understanding of physics through experimental programs. The IDCs also make use of improved algorithms that utilize new computational hardware, which enable responses to issues such as material aging, emerging threats, and support for manufacturing and production. ASC capabilities that support the stockpile stewardship mission were built on the computing technologies commercially available over the past two decades. As industry evolves beyond and away from NNSA's scientific computing needs to provide increased computing power for general consumer markets, ASC must maintain currency with the computing industry to ensure continued performance of the IDCs on the next-generation computer platforms.

Other initiatives across the nuclear security enterprise include quantum computing (QC) and the Production Simulation Initiative (PSI). In QC, ASC seeks to develop new methods and expertise in algorithm development and hardware evaluations to develop promising QC technologies suitable for nuclear weapon applications. Through PSI, the ASC subprogram aims to drive efficiencies within the manufacturing process, encompassing efforts such as the Simulation First initiative at KCNSC which aims to incorporate physics-based simulation into production processes and operations to optimize solutions.

Due to synergistic connection and technical dependencies, ASC is tightly coordinated with the other SRT&E programs to meet its commitments to the stockpile stewardship, management, and modernization missions.

The Advanced Simulation and Computing program is comprised of seven subprograms:

Integrated Codes produces integrated design codes (IDCs) that enable detailed nuclear weapons assessments. These full-system, multi-scale physics and engineering codes are used for stockpile assessments to support concept studies, certification, maintenance analyses, LEPs, Alts, SFIs, and weapons dismantlement activities.

Physics and Engineering Models provides the models and databases used in simulations supporting the U.S. nuclear stockpile. These models and databases describe a wide variety of physical and engineering processes occurring in a nuclear weapon's lifecycle. The capability to accurately simulate these processes is required for annual assessment; design, qualification, and certification of warheads undergoing sustainment programs;

resolution (and in some cases generation) of SFIs; and the development of future stockpile technologies. The PEM subprogram is closely linked to the Assessment Science program within SRT&E, which provides the experimental data that informs development of new models used in simulation codes.

Verification and Validation provides confidence in integrated simulation capabilities by collecting evidence that the numerical methods and simulation models are being solved precisely ("verification"), and that the simulation results from mathematical and computational models implemented into the codes reflect real-world observations ("validation"). The V&V subprogram funds the critical skills needed to apply systematic measurement, documentation, and demonstration of the ability of the models and codes to predict physical behavior.

Computational Systems and Software Environment supports a portfolio of integrated, balanced, and scalable computational capabilities to provide NNSA's IDCs with a stable computing environment. The CSSE subprogram fields powerful Commodity Technology (CT), Advanced Technology (AT), and Advanced Architecture Prototype (AAP) systems as well as supporting software infrastructure that is deployed on these platforms, including system software, input/output (I/O) services, storage and networking, post-processing (visualization and data analysis tools), and next-generation computing technologies. CSSE also examines and develops possible future technologies beyond exascale, such as quantum, neuromorphic, artificial intelligence, and reconfigurable computing components.

Facility Operations and User Support provides the facilities and services required to support nuclear weapons simulation workloads. Facility Operations includes the physical space, power, and other utility infrastructure used for supercomputing hardware; Local Area/Wide Area Networking for local and remote access; and system administration, cybersecurity, and operations services for ongoing support. User Support includes computer center hotline and help-desk services, account management, web-based system documentation, system status information tools, user training, trouble-ticketing systems, common computing environment, and application analyst support.

Capabilities for Nuclear Intelligence advances and adapts SRT&E capabilities developed for the weapons program to serve the needs of the intelligence community in assessing foreign nuclear weapon activities. CNI focuses on activities related to non-stockpile weapons training, high explosive knowledge development, weapon modeling advancements and computational platforms, weaponization studies, and experimental capabilities and assessments.

Artificial Intelligence for Nuclear Security develops artificial intelligence and machine learning capabilities for deployment into stockpile stewardship mission areas. The portfolio will focus on: (1) the development of secure and trusted AI infrastructure to protect national security information; (2) the deployment of AI to accelerate design, manufacturing, and certification; (3) supporting AI-assisted materials discovery for stockpile use cases; and (4) the deployment of dedicated AI compute capability for use by NNSA program offices at the required security classification levels.

Highlights of the FY 2027 Budget Request

- Provides validated weapons code capabilities to the Nuclear Security Enterprise to support annual assessments, SFI investigations, LEP qualification and certification, and related nuclear security assessments.
- Continues effective high performance computing operations of ATS-3/Crossroads, ATS-4/El Capitan, and CTS systems while deploying and testing the ATS-5/Mission supercomputer.
- Evaluates data-flow architecture software and hardware using the AAPS-2/Vanguard-II architecture prototype system at SNL.

- Continues to establish a digital data infrastructure to allow the Nuclear Security Enterprise's design and production agencies (DAs and PAs) to adequately communicate, exchange information, and collaborate on research, development and deployment of projects and capabilities to support DP mission priorities.
- Advances state-of-the-art simulation capability to support critical missions, such as delivery environments.
- Develops and deploys production-relevant material and phenomenological models to optimize production processes and to inform new approaches for critical materials such as high explosives.
- Provides the computational and simulation environments needed to support AI tools across the enterprise, including complex design and scientific workflows, analysis of data to support certification of vital components (e.g., pit CT scans)
- Completes CNI Practicum 9, a design study that challenges early- to mid-career U.S. nuclear designers and engineers to develop an understanding and appreciation for non-stockpile-like nuclear design space.
- Evaluates AI models to enforce national security data protection and to understand the impact of AI in non-US stockpile nuclear security missions.

Explanations of Change

Advanced Simulation and Computing (+$43.77 million)

- The delta does not reflect $115 million of mandatory funding to support AI efforts.
- Increase continues support for the second year of high priority AI for Nuclear Security (AI4NS) pilot projects, allowing capabilities to be extended and hardened. Several capabilities will be transitioned into early production use.

Stockpile Research, Technology, and Engineering
Weapon Technology and Manufacturing Maturation

Overview

The Weapon Technology and Manufacturing Maturation program develops agile, affordable, assured, and responsive technologies and capabilities for nuclear stockpile sustainment and modernization.

The core areas of work include:

- **Impactful Technologies:** Developing and modernizing stockpile technologies, architectures, and processes so that realized risks have technical solutions that mitigate the cost, schedule, or performance impact to the programs of record. Techniques are agile, assured, and responsive to change, shortening design, qualification, certification, and manufacturing cycles and timelines to improve future affordability and meet future military requirements.
- **Meeting novel weapon requirements:** Developing and testing novel technologies to ensure that DOE/NNSA is capable of fielding weapon systems that meet emerging requirements from the Department of War.
- **Robust and responsive production capabilities:** Developing and modernizing the production techniques and technologies utilized for weapons manufacturing and testing in order to enable more throughput, reduce health and environmental impacts, and enable lower operating costs.
- **Partnership with Stakeholders to Meet Stockpile and Customer Requirements:** Identifying, sustaining, enhancing, integrating, and continually exercising all capabilities, tools, and technologies across the science, engineering, design, certification, and manufacturing cycle, working together with the Department of War, national security laboratories, nuclear weapon production facilities, and other partners.
- **Skilled Technical Workforce and Enhanced Capabilities:** Maintaining a qualified technical workforce and enhanced capabilities by transferring knowledge, skills, and direct experience with respect to all stockpile technologies and processes.

Primary responsibilities of this program include:

- Developing innovative technologies that both minimize the probability of unauthorized use and maximize reliability for authorized use of nuclear weapons.
- Leading technology and system demonstration efforts, with various mission partners, to speed development and improve acceptance of advanced technologies and processes into the stockpile and the Nuclear Security Enterprise.
- Improving agility, effectiveness, safety, and efficiency in the design and manufacture of war reserve components using advanced technologies and manufacturing processes.
- Improving, developing and leveraging novel manufacturing technologies to reduce impact of realized risks to the cost schedule and performance of weapon programs.
- Evaluating and developing materials to enable novel designs, address supply chain concerns and improve weapon performance.
- Collaborating with intelligence agencies and ensure that development capabilities and expertise are available and pacing global concerns to enable evaluation.
- Exploring and leveraging emerging digital capabilities to advance the capabilities of weapon design and manufacturing.

The Weapon Technology and Manufacturing Maturation program is comprised of four subprograms:

Surety Technologies (ST) is committed to minimizing the likelihood of unauthorized use of U.S. nuclear weapons while maximizing the reliability of authorized use, all while upholding the highest safety standards. The ST Program creates, develops, and advances cutting-edge safety, security, and use control technologies to

minimize the risk of accidental nuclear explosions, and in the unlikely event of a security breach and unauthorized access, reduce the risk of nuclear yield to the lowest practical level.

Weapon Technology Development (WTD) develops state-of-the-art weapon components, architectures, and processes responsible for the functionality of the weapons system ensuring the reliable performance, safety, and handling of current and future stockpile systems. Demonstrations and testing of components and architectures in environments relevant to military requirements are also covered under this subprogram.

Advanced Manufacturing Development (AMD) rapidly develops and deploys advanced materials to address supply chain impacts, and to enable replacement of critical materials for use in weapons applications. It is also responsible for developing and evaluating manufacturing methodologies and processes that reduce the cost and footprint of weapons production that will enable new production spaces to be better optimized and have great throughput.

Microelectronics & Digital Development (MDD) seeks to design, fabricate, and produce microelectronic processes, architectures, components, and technologies, as well as production/manufacturing data software and engineering practices for integration into the weapons stockpile. MDD's goal in microelectronics is to provide warhead strategic radiation-hardened (WSRH) microelectronics solutions to address technological gaps while optimizing size, weight, and power (SWaP), maintaining a pulse on state-of-the-art (SOTA) in partnership with industry through commercial off the shelf (COTS) products. In the digital space, MDD aims to reduce lifecycle costs and tailor manufacturing/component production for rapid prototyping for readiness into the stockpile.

Highlights of the FY 2027 Budget Request

- Coordinate development of a universal container prototype, as well as a suite of technologies to improve the various current containers used by the enterprise for weapon shipment and storage.
- Mature quantum computer resistant coded control and weapon architecture for future insertion opportunities to meet Commercial National Security Algorithm (CNSA) Suite 2.0 that requires quantum-resilient algorithms and coded control on all weapon systems by 2033 to counter adversarial quantum computing capabilities.
- Develop and mature the Megasonics Information Based Safety technology to provide a faster and cheaper technological alternative to Stronglink-based safety architectures.
- Synthesize a binder replacement for PBX 9502 due to supply chain issues with perfluoroalkyl substances (PFAS) materials.
- Develop in-situ process monitoring to mature "born qualified" component manufacturing capabilities with additive manufacturing processes i.e., a successful print yields a QA-approved part.
- Strengthen predictive simulation and data analytics capabilities for manufacturing processes, substantially augmenting the enterprise's capabilities to rapidly mature novel manufacturing processes and produce acceptable stockpile components.
- Advance development of On Machine Inspection using automated optical inspection to improve throughput for Direct Ink Write components
- Mature and initiate transition processes for metal spinning production for rapid prototyping and metal part fabrication.
- Increase producibility rating on next-gen strategic rad-hard complementary metal oxide semiconductor (CMOS8) products development and yield through process improvements. Maturation of three-axis microelectromechanical systems (MEMS)-based accelerometer customized for harsh environmental loading through testing and application-specific integrated circuit (ASIC) design.

Explanation of Change
Weapon Technology and Manufacturing Maturation (+140.6 million).

- Increase reflects an additional investment to mitigate the impacts of material and supply chain shortages, accelerate the development of critical technologies to enable novel stockpile to target sequences, critical materials that are sunsetting, subject to legal or adversarial actions, critical gaps in production science to accomplish the current strategic deterrence plan and integration of technologies into prototyping spaces. Specifically, but not limited to:
  - Novel integrated circuits for power conversion and data processing/computing.
  - Critical components such as neutron generators and gas transfer systems.
  - Replacements for legacy materials inside of the nuclear explosives package.
  - Other component gaps to enable a rapid response to emergent requirements.

- Increase would also enable additional investments in new technology options to meet the needs of the stockpile through design, analysis, test, and demonstration.
  - For secondary modernization, WTMM is focused on novel production processes, production process improvements, and material developments to expand the available materials for secondary design options, increase throughput and mature options to reduce strategic materials risks. WTMM is also investing in enhancing the R&D prototyping capabilities at LANL, LLNL and Y-12 for demonstration of new design concepts and incorporation of new secondary materials and production techniques, such as installation of advanced manufacturing for prototype tooling and high explosive testing at LANL.
  - Additional capability enhancements will include the completion of the final design for classified machining expansion at the Nevada Hardware Support Facility, which will increase enterprise production capacity in coordination with KCNSC and SNL.

Stockpile Research, Technology, and Engineering
Capital Equipment Summary ($K)

	Total	Prior Years	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Capital Equipment (> $500K)					
Total Non-MIE Capital Equipment (TEC <$10M)	N/A	N/A	83,774	85,449	87,158
Advanced Sources and Detector, LANL	2,411,161	1,092,302	276,956	274,656	344,917
ATS-5 System, LANL	250,000	2,000	20,000	108,000	88,500
Crossroads (ATS-3) System, LANL	115,000	109,000	6,000	-	
AT System – ATS-6, LLNL	250,000	-	-	2,000	8,000
Commodity Technology System (CTS) 2, LLNL (previously CTS-2) [1]	90,000	50,000	20,000	20,000	
Commodity Technology System (CTS) 3, LLNL[1]	80,000	-	-	-	20,000
Commodity Technology System-NextGeneration (CTS-NG)[1]	125,000	-	-	-	-
El Capitan (ATS-4), LLNL	620,433	569,147	51,286	-	
Final Optic Damage Inspection System Replacement, LLNL	18,350	-	-	-	5,220
High Yield X-ray Imager, LLNL	10,000	6,000	4,000	-	-
Target and Beam Alignment System Replacement (formerly Target Alignment Sensor Upgrade), LLNL	29,290	-	-	-	9,790
Tuolumne (formerly Unclassified El Capitan-like System (ATS-4)), LLNL[1,2]	17,000	7,000	3,000	3,000	3,000
Unclassified ATS-6 System, LLNL	10,000	-	-	-	-
Secure AI compute capabilities for NNSA, PNNL	70,000	-	-	-	70,000
ZEUS Detector Wall, NNSS	15,865	13,035	2,830	-	-
Commodity Technology System (CTS) 2, SNL[1]	20,000	-	10,000	10,000	-
Commodity Technology System (CTS) 3, SNL[1]	40,000	-	-	-	10,000
Total, Capital Equipment	**N/A**	**N/A**	**477,846**	**503,105**	**646,585**

[1] Represents a blanket contract under which multiple useful HPC systems (asset) are purchased annually, some of which are financed using lease-to-own (LTO) agreements funded on a year-by-year basis as funding is made available through the annual appropriations process.
[2] DNN R&D and a LLNS overhead cost pool funds the remainder of costs for this MIE.

Stockpile Research, Technology, and Engineering
Outyear Capital Equipment Summary ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request	Outyears
Capital Equipment (> $500K)					
Total Non-MIE Capital Equipment (TEC <$10M)	88,902	90,680	92,493	94,343	N/A
Advanced Sources and Detector, LANL	162,095	121,877	102,076	36,282	-
ATS-5 System, LANL	14,000	10,500	7,000	-	-
AT System – ATS-6, LLNL	65,000	91,000	54,000	20,000	10,000
Commodity Technology System (CTS) 3, LLNL[1]	20,000	20,000	20,000	-	-
Commodity Technology System-NextGeneration (CTS-NG)[1]	-	-	-	25,000	100,000
Final Optic Damage Inspection System Replacement, LLNL	4,730	5,600	2,800	-	-
Target and Beam Alignment System Replacement (formerly Target Alignment Sensor Upgrade), LLNL	8,700	5,400	5,400	-	-
Tuolumne (formerly Unclassified El Capitan-like System (ATS-4)), LLNL[1,2]	1,000	-	-	-	-
Unclassified ATS-6 System, LLNL	-	-	10,000	-	-
Commodity Technology System (CTS) 3, SNL[1]	10,000	10,000	10,000	-	-
Total, Capital Equipment	**364,427**	**345,057**	**293,769**	**175,625**	**110,000**

[1] Represents a blanket contract under which multiple useful HPC systems (asset) are purchased annually, some of which are financed using lease-to-own (LTO) agreements funded on a year-by-year basis as funding is made available through the annual appropriations process.
[2] DNN R&D and a LLNS overhead cost pool funds the remainder of costs for this MIE.

26-D-512, Los Alamos Neutron Science Center Modernization Project
Los Alamos National Laboratory, New Mexico
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary

National Nuclear Security Administration (NNSA) requests $15,200,000 in Total Estimated Cost (TEC) in Fiscal Year (FY) 2027 for the Los Alamos Neutron Science Center (LANSCE) Modernization Project (LAMP). Additionally, within the FY 2027 Request for Primary Assessment Technologies, NNSA requests to fund $62,800,000 in Other Project Costs (OPCs) for a Total Project Cost (TPC) of $78,000,000 in FY 2027. These funds will support Preliminary Design, long-lead procurements, and technology maturation activities.

The cost range for the project at CD-0 was $456,000,000 to $1,007,000,000. The cost range for the project is based on the estimates provided by the Office of Programming, Analysis, and Evaluation and the Office of Cost Estimating and Program Evaluation (CEPE) independent cost estimate. The History, Financial Schedule, and Detailed Cost Estimates sections below are based on a Rough Order of Magnitude (ROM) point estimate of $1,000,000,000. Approval of CD-1, *Approve Alternate Selection and Cost Range*, is anticipated in 4Q FY 2026. Based on the conceptual design, the proposed CD-1 cost range is $687,000,000 to $1,007,000,000, and the high end of the projected CD-4 range, *Approve Start of Operations*, is the fourth quarter of FY 2036.

Significant Changes

The Conceptual Design was completed on November 21, 2025, and CD-1 Schedule and Cost Range draft information is complete. The Independent Project Review was conducted January 27, 2026 through January 29, 2026, in conjunction with the Los Alamos National Laboratory's Director's Review in advance of the anticipated 4Q FY 2026 CD-1 Approval.

NNSA reprogrammed $2,000,000 of funds from the line-item (TEC) to the Primary Assessment Technologies program (OPC) to maintain technology maturation efforts during FY 2026. The financial table has been updated to reflect these changes.

The CD-2/3 milestone has been rescheduled to 1Q FY 2031. This will allow for balancing technology maturation, securing long-lead procurements, and completing final design activities, coupled with refined CD-1 resource-loaded scheduling. This will strategically align OPC and TEC funding profiles with the anticipated lead times for both technology maturation and construction procurements, while also reducing impacts to facility downtime. In addition, TEC funds were shifted between Design and Construction to align long lead procurement request based on the conceptual design completion.

A Federal Project Director (FPD) IV has been assigned to the project.

Critical Milestone History

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2026	11/25/2024	2Q FY 2026	4Q FY 2026	2Q FY 2028	2Q FY 2028	2Q FY 2028	1Q FY 2034
FY 2027	11/25/2024	11/21/2025	4Q FY 2026	1Q FY 2031	4Q FY 2029	1Q FY 2031	1Q FY 2034

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Estimated date the conceptual design will be completed
CD-1 - Approve Design Scope and Project Cost and Schedule Ranges
CD-2 – Approve Performance Baseline
Final Design Complete - Estimated date the project design will be completed
CD-3A - Approve Long Lead Procurements
CD-3 - Approve Start of Construction
D&D Complete - Completion of D&D work (see Section 9)
CD-4 - Approve Start of Operations or Project Closeout
Separate documentation will be submitted for combined CD-2/3 for each subproject

Fiscal Year	CD-3A
FY 2026	4Q FY 2026
FY 2027	4Q FY 2026

Project Cost History ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2026	170,000	669,670	839,670	160,330	0	160,330	1,000,000
FY 2027	115,000	724,670	839,670	160,330	0	160,330	1,000,000

2. Project Scope and Justification

Scope

The LAMP project will modernize the front-end portion of the LANSCE accelerator. LAMP will provide a reliable and modern dual species ion (Hydrogen H^+ and H^-) proton beamline source by replacing the obsolete front end of the accelerator with a modern configuration. The current front end of the accelerator consists of two Cockcroft-Walton (CW) injector systems, a low-energy beam transport system, and a drift tube linear accelerator (DTL). The modern configuration will consist of two isotopic injectors, a Low Energy Beam Transport (LEBT), a modern radiofrequency quadrupole (RFQ), a Medium Energy Beam Transport (MEBT), and a more modern DTL. The DTL will be newer, easier to repair, and match the new beam current and energy of the new injection system. Ancillary equipment such as bean diagnostics, instrumentation and controls, and the vacuum system will also be replaced to support the new system.

The Technology Readiness Evaluation Report (LA-UR-25-23980) was used to identify components requiring technology maturation to support LAMP. In addition, CEPE performed a review and a summary of the technology readiness level (TRL) for the major components is shown in the table below. Although LAMP will utilize proven accelerator technologies, differences in accelerator operations at LANSCE such as the simultaneous acceleration of the dual beam and the pre-bunched beam for Weapons Nuclear Research (WNR) facility results in unique requirements for LANSCE. Most of the identified technology maturation required is verifying that existing technology can perform to facility specific requirements. To complete technology maturation activities, a prototype will be assembled in a nearby building, allowing for the testing of the integrated system up to up to the first DTL tank prior to taking LANSCE offline. This approach significantly minimizes facility downtime and enhances cost-effectiveness by enabling the potential reuse of prototype equipment. Furthermore, it substantially reduces the integration risks associated with deploying the new fully tested front end into the existing beamline infrastructure.

Many of the components required to support construction of the beamline have been identified as long lead procurements to mitigate schedule, contracting, and facility failure risks. As part of the CD-3A, procurements will be staggered between the FYs based on lead times, available funding and impact to project risk. This will support expediting the actual construction once CD-3 is achieved. Items such as the 6 DTLs are very long lead (~2 to 3 years), and the design definition can be completed in the early preliminary design process. Additionally, LAMP will incorporate many tried and true components also used at other accelerator facilities into the design. These components, such as power supplies, vacuum equipment, control equipment, magnets, and RF Circulators, all have significantly long lead times (18 - 24 months) and do not require additional design work to be completed.

Subsystem	**TRL[1]**
Ion Sources – H+ and H- (including HV systems)	8
Low-Energy Beam Transport (LEBT)	8
RF Power Systems	8
Beam Diagnostics	8
Instrumentation & Controls (I&C)	8
Vacuum	8
Drift-Tube Linac (DTL) Structure	8
Choppers (100-keV LEBT and 3-MeV MEBT)	4
Dual-Beam RFQ Structure	4
Dual-Beam MEBT	4

Justification

LANSCE is the only U.S. accelerator facility capable of performing diverse classes of experiments simultaneously for the weapons program at a single site, an attribute stemming from its particle beam performance parameters operating within the safety and security authorization basis infrastructure suitable for the NNSA weapon missions. The LANSCE accelerator currently supports key aspects of the enduring requirement for science-based stockpile stewardship such as (1) qualifying weapons components as part of

[1] TRL8: Actual system completed and qualified through test and demonstration. TRL4: Component and/or system validation in laboratory environment.

sustainment of the current stockpile, (2) supporting modern and aging components and manufacturing initiatives, (3 and 4) providing nuclear data used in simulation and modeling to support development of the future deterrent and research and development (R&D), and (5) performing radiochemistry relevant to nuclear weapons science to support threat mitigation. LANSCE currently fulfills these missions through the capabilities of isotope production, dynamic multi-frame proton radiography, neutron scattering, neutron radiography, and nuclear physics R&D currently enabled by the LANSCE accelerator. The risk of losing these capabilities could delay multiple weapons modernization programs, create increased workload and expenses trying to rectify the loss (reactive versus proactive mitigation), and possibly burden other facilities not capable of fully supporting the NNSA defense program mission.

NNSA weapon missions utilizing LANSCE data will be required into the 2050s and beyond. In recent years, the reliability of the facility has significantly deteriorated for a variety of reasons. Without modernizing the front-end of the accelerator, the LANSCE facility is at risk of not consistently delivering its mission due to frequent, unplanned interruptions, and unforeseen accelerator equipment failures.

3. Financial Schedule ($K)[1]

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2026	18,000[2]	18,000	2,000
FY 2027	12,160	12,160	24,000
FY 2028	45,000	45,000	44,000
FY 2029	39,840	39,840	45,000
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	0	0	0
Total Design	**115,000**	**115,000**	**115,000**
Construction			
FY 2026	0	0	0
FY 2027	3,040	3,040	3,040
FY 2028	43,000	43,000	22,500
FY 2029	79,920	79,920	61,894
FY 2030	122,156	122,156	146,290
FY 2031	104,599	104,599	115,599
Outyears	371,955	371,955	375,347
Total Construction	**724,670**	**724,670**	**724,670**
TEC			
FY 2025	0	0	0
FY 2026	18,000	18,000	2,000
FY 2027	15,200	15,200	27,040
FY 2028	88,000	88,000	66,500
FY 2029	119,760	119,760	106,894
FY 2030	122,156	122,156	146,290
FY 2031	104,599	104,599	115,599
Outyears	371,955	371,955	375,347
Total TEC	**839,670**	**839,670**	**839,670**
Other Project Costs (OPC)			
FY 2025	13,330	13,330	13,016

[1] The project has not yet been approved for CD-2 and therefore has not been baselined. Out year funding amounts may be revised in future budget requests as NNSA baselines the project in accordance with DOE Order 413.3B.

[2] A correction was made to the FY 2026 funding profile. Requested TEC funding was intended to be for TEC Design rather than TEC Construction.

	Budget Authority (Appropriations)	Obligations	Costs
FY 2026	26,555	26,555	25,869
FY 2027	62,800	62,800	62,800
FY 2028	15,000	15,000	15,000
FY 2029	10,000	10,000	10,000
FY 2030	9,000	9,000	7,500
FY 2031	11,000	11,000	8,000
Outyears	12,645	12,645	18,145
Total, OPC	**160,330**	**160,330**	**160,330**
Total Project Costs (TPC)			
FY 2025	13,330	13,330	13,016
FY 2026	44,555	44,555	27,869
FY 2027	78,000	78,000	89,840
FY 2028	103,000	103,000	81,500
FY 2029	129,760	129,760	116,894
FY 2030	131,156	131,156	153,790
FY 2031	115,599	115,599	123,599
Outyears	384,600	384,600	393,492
Total TPC	**1,000,000**	**1,000,000**	**1,000,000**

4. Details of Project Cost Estimate ($K)[1]

	Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	92,500	132,500	N/A
Federal Support	7,500	7,500	N/A
Contingency	15,000	30,000	N/A
Total Design	**115,000**	**170,000**	**N/A**
Construction			
Site Preparation	102,732	102,732	N/A
Long-Lead Procurement	120,000	80,000	N/A
Equipment	129,000	129,000	N/A
Construction	75,000	75,000	N/A
Federal Support	16,000	16,000	N/A
Contingency	281,938	266,938	N/A
Total Construction	**724,670**	**669,670**	**N/A**
Total Estimated Cost (TEC)	**839,670**	**839,670**	**N/A**
Contingency, TEC	*296,938*	296,938	*N/A*
Other Project Costs (OPC)			
OPC except D&D			
Analysis of Alternatives[2]	0	230	N/A
Conceptual Design	7,132	8,000	N/A
Technology Maturation	85,679	85,449	N/A
Federal Support	6,251	6,251	N/A
Start-up & TTO	25,200	25,200	N/A
Project Closeout	5,200	5,200	N/A
Contingency	30,868	30,000	N/A
Total OPC	**160,330**	**160,330**	**N/A**
Contingency, OPC	30,000	30,000	N/A
Total Project Cost	**1,000,000**	**1,000,000**	**N/A**
Total Contingency (TEC+OPC)	***326,938***	***326,938***	***N/A***

[1] CD-0 costs estimates are ROM estimates. Cost breakdowns provided are best estimates prior to completing the point estimates. Per the GAO Cost Estimating guidance, the "cone of uncertainty" is large in the early stages of a project. NNSA is depicting this uncertainty at the early stages of a project. The cost breakdown may be revised in future budget requests as NNSA baselines the project in accordance with DOE Order 413.3B.

[2] Cost reduced due to receipt of AoA exemption.

5. Schedule of Appropriations Requests ($K)[1]

Request Year	Type	Prior Years	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	Outyears	Total
FY 2026	OPC	0	13,330	37,000	0	0	0	0	0	110,000	160,330
	TEC	0	0	20,000	0	0	0	0	0	819,670	839,670
	TPC	0	13,330	57,000	0	0	0	0	0	929,670	1,000,000
FY 2027	OPC	0	13,330	26,555	62,800	15,000	10,000	9,000	11,000	12,645	160,330
	TEC	0	0	18,000	15,200	88,000	119,760	122,156	104,599	371,955	839,670
	TPC	0	13,330	44,555	78,000	103,000	129,760	131,156	115,599	372,155	1,000,000

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	4Q FY 2036
Expected Useful Life (number of years)	20
Expected Future Start of D&D of this capital asset (fiscal quarter)	4Q FY 2056

Related Funding Requirements
(Budget Authority in Base-Year 2024 Millions of Dollars)

Funding Requirements	Annual Costs		Life Cycle Costs	
Estimate Totals	Previous Estimate	Current Estimate	Previous Estimate	Current Estimate
Operations and Maintenance	18	29	360	581

7. Deactivation and Decommissioning (D&D) Information

D&D is not included in the scope of LAMP.

8. Acquisition Approach

The conceptual design was led by the LANL Management and Operating (M&O) contractor, which has formed a management and technical team structure to perform technology maturation, design, production, integration, and commissioning activities. It is expected that a large majority of the contracts will be firm fixed price subcontracts whenever practical. Specific accelerator technology elements of the project may require collaboration with other Department of Energy (DOE) laboratories and/or industries that have the requisite capabilities, expertise, and experience to cost-effectively design and build such elements. The Acquisition Strategy was included in the Preliminary Project Execution Plan and will be issued as part of the CD-1 approval.

[1] The project has not yet been approved for CD-2 and therefore has not been baselined. Out year funding amounts may be revised in future budget requests as NNSA baselines the project in accordance with DOE Order 413.3B.

24-D-513, Z-Pinch Experimental Underground System (ZEUS) Test Bed Facilities Improvement (ZTBFI)
Nevada National Security Site (NNSS), Mercury, Nevada
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary

The Fiscal Year (FY) 2027 Request for the Z-Pinch Experimental Underground System (ZEUS) Test Bed Facilities Improvement (ZTBFI) project is $91,700,000 of Total Project Cost (TPC) funding. The FY 2027 request will continue construction activities and closeout activities. The project is divided into two subprojects. The CD-1 approval for the overall project set the preliminary cost estimate range at $49,500,000 to $125,500,000 and the projected CD-4 date at 2Q FY 2026. Subproject 010 was re-baselined in July 2025 to accelerate scope associated with the change in the fire protection strategy explained below, increasing the TPC to $90,100,000 with an expected CD-4 date of January 2028. Subproject 020 is expected to achieve CD-1R/2/3 in 3Q FY 2026, with a projected TPC of $143,061,000 and a projected CD-4 of 3Q FY 2029. The current estimated TPC for the total project is $233,161,000 and the current estimated CD-4 is 3Q FY 2029.

A Federal Project Director has been assigned to the project.

Significant Changes:

- The ZTBFI project was directed to replace the Fire Extinguishing System (FES) in the project scope with an alternative Fire Protection strategy due to high technical risk and safety hazards associated with the National Fire Protection Association 700 compliant hybrid mist FES coupled with cost and schedule impacts. As a result, 1) Subproject 010 re-baselined in July 2025 to execute a portion of the activities to replace the Fire Extinguishing System including the mining of a secondary egress from the experiment area and a refuge station in the diagnostic room drift; and 2) Subproject 020 is being revised to remove the construction of the Fire Extinguishing System and complete the construction of the alternate Fire Protection strategy elements, which is expected to reduce the overall scope of Subproject 020.
- Project completion date has slipped due to no TEC funding being provided in FY 2026. This delays the project by 9-12 months, as Subproject 020 will not be able to start until projected FY 2027 funding is available. Subproject 020 will pursue CD-2/3 on current schedule and then pause for funding.
- The FYNSP does not fund the project to the current estimated TPC. Future budget submittals may update outyear funding levels, as necessary.
- Removed 1 Key Performance Parameter (KPP) from Subproject 020 (Provide an invert suitable for installation of the ZEUS NDSE System and Vessel Ops).
- The lifecycle costs were updated to include 2.48% per year escalation costs.

Critical Milestone History

24-D-513: Total Project

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2024	9/25/2014	9/13/2021	3QFY2023	3QFY2024	4QFY2023	3QFY2024	N/A	2QFY2026
FY 2026	9/25/2014	9/13/2021	4/03/2024	1QFY2026	4QFY2025	1QFY2026	N/A	1QFY2030
FY 2027	9/25/2014	9/13/2021	4/03/2024	3QFY2026	2QFY2026	3QFY2026	N/A	3QFY2029

24-D-513-010: NDSE Mining and Critical Procurements

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2026	9/25/2014	9/13/2021	4/03/2024	4/03/2024	5/23/2023	4/03/2024	N/A	2QFY2027
FY 2027	9/25/2014	9/13/2021	4/03/2024	4/03/2024	5/23/2023	4/03/2024	N/A	2QFY2028

24-D-513-020: NDSE Laboratory and Support Infrastructure

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2026	9/25/2014	9/13/2021	4/03/2024	1QFY2026	4QFY2025	1QFY2026	N/A	1QFY2030
FY 2027	9/25/2014	9/13/2021	4/03/2024	3QFY2026	2QFY2026	3QFY2026	N/A	3QFY2029

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable)
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete
CD-3 – Approve Start of Construction/Execution
D&D Complete – Completion of D&D work
CD-4 – Approve Start of Operations or Project Closeout

Project Cost History ($K)

24-D-513: Total Project

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2024	4,692	118,254	122,946	2,515	N/A	2,515	125,461
FY 2026	46,281	182,680	227,961	5,200	N/A	5,200	233,161
FY 2027	52,466	175,495	227,961	5,200	N/A	5,200	233,161

24-D-513-010: NDSE Mining and Critical Procurements

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2026	4,081	65,019	69,100	500	N/A	500	69,600
FY 2027	4,081	85,519	89,600	500	N/A	500	90,100

24-D-513-020: NDSE Laboratory and Support Infrastructure

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2026	42,200	116,661	158,861	4,700	N/A	4,700	163,561
FY 2027	48,385	89,976	138,361	4,700	N/A	4,700	143,061

2. Project Scope and Justification

Scope

The ZTBFI project includes the design, construction, and commissioning of the ZEUS Test Bed and systems to support dense plasma focus (DPF) diagnostics. This area will be used for Neutron Diagnosed Subcritical Experiments (NDSE). Also included are safety basis and implementation activities. The project underground scope includes an experimental room with two containment plugs, process control system, safety interlock system, diagnostic infrastructure, and ancillary systems (overhead handling systems, power, cooling, ventilation, and shielding).

24-D-513-010 includes providing new access drifts and inverts for the ZEUS DPF and Gamma Ray Detectors, secondary egress for the experiment area, a refuge station in the diagnostic drift, the Zero Point Operations Area (ZPOA) invert, and necessary critical procurements for infrastructure. While driven by the same mission in the ECSE subprogram, it is a subproject that can be designed and completed separately from the other subproject.

24-D-513-020 includes construction of new infrastructure for the NDSE ZPOA, construction of new utility infrastructure for power and chilled water, and support installation of neutron and other diagnostic equipment, including supporting equipment and rooms.

Justification

The enhancements to the Principal Underground Laboratory for Subcritical Experimentation (PULSE) Complex included in this line item will provide the drifts and the supporting structures, systems, and components necessary for NDSE measurements to diagnose the subcritical hydrodynamic integrated weapons experiments using plutonium.

NNSA plans long-term investments supporting plutonium science at the NNSS. NNSS is the only site in the United States for experiments combining high explosives and plutonium, a core capability for NNSA's Stockpile Stewardship Program. Funds appropriated under this data sheet may be used for contracted support services to the Federal Program Manager and the Federal Project Director to conduct independent assessments of the planning and execution of this project and to conduct technical reviews of design and construction documents.

The ECSE program requirements include x-radiography capability (provided via the ASD/UCEP projects), and Neutron Diagnosed Subcritical Experiment (NDSE) measurement capabilities, which will be provided through the dense plasma focus system installed in the ZEUS Testbed.

The project will be conducted in accordance with the project management requirements in DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*. As allowed by DOE O 413.3B, a tailoring strategy will be employed.

Key Performance Parameters (KPPs)

The KPPs represent the minimum acceptable performance that the project must achieve for approval of CD-4, *Project Completion*.

24-D-513-010: NDSE Mining and Critical Procurements

Performance Measures	Completion Criteria
Provide temporary ventilation and power sufficient to allow excavations in the new and extended drifts.	Documented in the U1a Complex – ZEUS Test Bed Drift Demolition and Mining Plan (02141-RPT-015).
Provide a drift layout suitable for invert construction and permanent utility installation in support of the ZEUS NDSE System and Vessel Ops.	Documented in the U1a Complex – ZEUS Test Bed Drift Demolition and Mining Plan (02141-RPT-015).
Provide an invert suitable for installation of the ZEUS NDSE System and Vessel Ops.	Documented in the Program Requirements Document and the Project Execution Plan.

24-D-513-020: NDSE Laboratory and Support Infrastructure

Performance Measures	Completion Criteria
Provide utilities and mechanical systems sufficient to support operation and maintenance of the NDSE systems.	Documented in the Program Requirements Document and the Project Execution Plan.
Provide a structure and mechanical systems that meets requirements for conducting SCEs.	Documented in the Program Requirements Document and the Project Execution Plan.
Provide infrastructure that supports installation of a centralized control of operation system of the ZEUS DPF.	Documented in the Program Requirements Document and the Project Execution Plan.
Provide infrastructure that supports acquisition of experiment diagnostic data.	Documented in the Program Requirements Document and the Project Execution Plan.

3. Financial Schedule[1]

24-D-513: Total Project ($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	52,466	52,466	32,872
FY 2025	0	0	14,770
FY 2026	0	0	4,824
Total Design	**52,466**	**52,466**	**52,466**
Construction			
Prior Years	71,480	71,480	25,889
FY 2025	0	0	16,090
FY 2026	0	0	25,980
FY 2027	91,700	91,700	76,913
FY 2028	0	0	18,308
FY 2029	0	0	0
Total Construction	**163,180**	**163,180**	**163,180**
TEC			
Prior Years	123,946	123,946	58,761
FY 2025	0	0	30,860
FY 2026	0	0	30,804
FY 2027	91,700	91,700	76,913
FY 2028	0	0	18,308
FY 2029	0	0	0
Total TEC	**215,646**	**215,646**	**215,646**
Other Project Costs (OPC)			
Prior Years	1,515	1,515	1,015
FY 2025	0	0	0
FY 2026	0	0	0
FY 2027	0	0	0
FY 2028	0	0	500
FY 2029	0	0	0
Total, OPC	**1,515**	**1,515**	**1,515**
Total Project Costs (TPC)			

[1] FY 2026 enacted appropriations provided less funding for the project than assumed as part of the funding profile supporting the planned Performance Baseline. As such, the FYNSP does not fund the project to the planned TPC.

	Budget Authority (Appropriations)	Obligations	Costs
Prior Years	125,461	125,461	59,776[1]
FY 2025	0	0	30,860
FY 2026	0	0	30,804
FY 2027	91,700	91,700	76,913
FY 2028	0	0	18,808
FY 2029	0	0	0
Total TPC	**217,161**	**217,161**	**217,161**

[1] The actual costs represented here may not match the costs in the financial system because the project transitioned from a minor construction project to a line-item project in FY 2024.

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	4,081	4,081	4,081
Total Design	**4,081**	**4,081**	**4,081**
Construction			
Prior Years	70,119	70,119	25,889
FY 2025	0	0	16,090
FY 2026	0	0	25,980
FY 2027	15,400	15,400	16,623
FY 2028	0	0	937
Total Construction	**85,519**	**85,519**	**85,519**
TEC			
Prior Years	74,200	74,200	29,970
FY 2025	0	0	16,090
FY 2026	0	0	25,980
FY 2027	15,400	15,400	16,623
FY 2028	0	0	937
Total TEC	**89,600**	**89,600**	**89,600**
Other Project Costs (OPC)			
Prior Years	500	500	0
FY 2025	0	0	0
FY 2026	0	0	0
FY 2027	0	0	0
FY 2028	0	0	500
Total, OPC	**500**	**500**	**500**
Total Project Costs (TPC)			
Prior Years	74,700	74,700	29,970
FY 2025	0	0	16,090
FY 2026	0	0	25,980
FY 2027	15,400	15,400	16,623
FY 2028	0	0	1,437
Total TPC	**90,100**	**90,100**	**90,100**

24-D-513-020: NDSE Laboratory and Support Infrastructure ($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	48,385	48,385	28,791
FY 2025	0	0	14,770
FY 2026	0	0	4,824
Total Design	**48,385**	**48,385**	**48,385**
Construction			
Prior Years	1,361	1,361	0
FY 2025	0	0	0
FY 2026	0	0	0
FY 2027	76,300	76,300	60,290
FY 2028	0	0	17,371
FY 2029	0	0	0
Total Construction	**77,661**	**77,661**	**77,661**
TEC			
Prior Years	49,746	49,746	28,791
FY 2025	0	0	14,770
FY 2026	0	0	4,824
FY 2027	76,300	76,300	60,290
FY 2028	0	0	17,371
FY 2029	0	0	0
Outyears			
Total TEC	**126,046**	**126,046**	**126,046**
Other Project Costs (OPC)			
Prior Years	1,015	1,015	1,015
FY 2025	0	0	0
FY 2026	0	0	0
FY 2027	0	0	0
FY 2028	0	0	0
FY 2029	0	0	0
Outyears			
Total, OPC	**1,015**	**1,015**	**1,015**
Total Project Costs (TPC)			
Prior Years	50,761	50.761	29,806
FY 2025	0	0	14,770
FY 2026	0	0	4,824
FY 2027	76,300	76,300	60,290
FY 2028	0	0	17,731
FY 2029	0	0	0
Total TPC	**127,061**	**127,061**	**127,061**

4. Details of Project Cost Estimate

24-D-513: Total Project ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	50,216	42,531	N/A
	Federal Design Review Support	1,250	1,250	N/A
	Contingency	1,000	2,500	N/A
Total Design		**52,466**	**46,281**	**N/A**
Construction				
	Site Work	0	0	N/A
	Equipment	0	0	N/A
	Construction	150,145	153,045	N/A
	Federal Support	7,250	5,250	N/A
	Contingency	18,100	23,385	N/A
Total Construction		**175,495**	**181,680**	**N/A**
Total Estimated Cost (TEC)		**227,961**	**227,961**	**N/A**
Contingency, TEC		*19,100*	*25,885*	*N/A*
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning	90	90	N/A
	Conceptual Design	925	925	N/A
	Other OPC Costs	1,200	1,200	N/A
	Start-up	2,985	2,985	N/A
	Equipment Move	0	0	N/A
	Contingency	0	0	N/A
Total OPC		**5,200**	**5,200**	**N/A**
Contingency, OPC		*0*	*0*	*N/A*
Total Project Cost		**233,161**	**233,161**	**N/A**
Total Contingency (TEC+OPC)		***19,100***	***25,885***	***N/A***

24-D-513-010: NDSE Mining and Critical Procurements ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design		3,831	3,831	3,831
	Federal Design Review Support		250	250	250
	Contingency		0	0	0
Total Design			**4,081**	**4,081**	**4,081**
Construction				
	Site Work		0	0	0
	Equipment		0	0	0
	Construction		78,769	56,924	34,153
	Federal Support		1,750	1,250	1,250
	Contingency		5,000	6,845	6,616
Total Construction			**85,519**	**65,019**	**42,019**
Total Estimated Cost (TEC)			**89,600**	**69,100**	**46,100**
Contingency, TEC			*5,000*	*6,845*	*6,616*
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning		0	0	0
	Conceptual Design		0	0	0
	Other OPC Costs		500	500	500
	Start-up		0	0	0
	Equipment Move		0	0	0
	Contingency		0	0	0
Total OPC			**500**	**500**	**500**
Contingency, OPC			*0*	*0*	*0*
Total Project Cost			**90,100**	**69,600**	**46,600**
Total Contingency (TEC+OPC)			***5,000***	***6,845***	***6,616***

24-D-513-020: NDSE Laboratory and Support Infrastructure ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	46,385	38,700	N/A
	Federal Design Review Support	1,000	1,000	N/A
	Contingency	1,000	2,500	N/A
Total Design		**48,385**	**42,200**	**N/A**
Construction				
	Site Work	0	0	N/A
	Equipment	0	0	N/A
	Construction	71,376	96,121	N/A
	Federal Support	5,500	4,000	N/A
	Contingency	13,100	16,540	N/A
Total Construction		**89,976**	**116,661**	**N/A**
Total Estimated Cost (TEC)		**138,361**	**158,861**	**N/A**
Contingency, TEC		*14,100*	*19,040*	*N/A*
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Planning	90	90	N/A
	Conceptual Design	925	925	N/A
	Other OPC Costs	700	700	N/A
	Start-up	2,985	2,985	N/A
	Equipment Move	0	0	N/A
	Contingency	0	0	N/A
Total OPC		**4,700**	**4,700**	**N/A**
Contingency, OPC		*0*	*0*	*N/A*
Total Project Cost		**143,061**	**163,561**	**N/A**
Total Contingency (TEC+OPC)		***14,100***	***19,040***	***N/A***

5. Schedule of Appropriations Requests

Request Year	Type	Prior Years	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Outyears	Total
FY 2024	TEC	122,946	0	0	0	0	0	0	0	0	122,946
	OPC	2,515	0	0	0	0	0	0	0	0	2,515
	TPC	125,461	0	0	0	0	0	0	0	0	125,461
FY 2026	TEC	123,946	0	72,000	N/A	N/A	N/A	N/A	N/A	32,015	227,961
	OPC	1,515	0	0	N/A	N/A	N/A	N/A	N/A	3,685	5,200
	TPC	125,461	0	72,000	N/A	N/A	N/A	N/A	N/A	35,700	233,161
FY 2027	TEC	123,946	0	0	91,700	0	0	0	0	0	215,646
	OPC	1,515	0	0	0	0	0	0	0	0	1,515
	TPC	125,461	0	0	91,700	0	0	0	0	0	217,161

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy	4Q FY 2029
Expected Useful Life	30
Expected Future Start of D&D of this capital asset	1Q FY 2060

Related Funding Requirements ($M)

Funding Requirements	Annual Costs*		Life Cycle Costs	
Estimate Totals	Previous Total Estimate	Current Total Estimate	Previous Total Estimate	Current Total Estimate
Operations and Maintenance	6.3	6.3	189	276**

* Annual Costs based on FY2029 dollars

** Lifecycle cost updated to include 2.48% per year escalation (NAP 413.6, Appendix APB-24 (nuclear rates for NNSS)

7. D&D Information

Deactivation and Decommissioning (D&D) is not included in the scope of this project because the new area being constructed in this project is not replacing existing facilities.

8. Acquisition Approach

The project is being managed by the NNSS Management and Operating (M&O) contractor because of operations within the PULSE Complex, which is an underground facility with limited access. Design and construction of the underground modifications will be performed by the NNSS M&O contractor through the M&O cost-plus contract. The project is intending to subcontract out a significant part of the work in Subproject 020 (with the exception of some structural type work), primarily utility installation. The intent is to have the subcontractor provide the labor rather than relying on resource sharing of local labor with the other projects, which can cause delays due to availability. Elimination of the fire extinguishing system and the risks that come with design/installation of such a system will also reduce direct costs and risk profile amounts.

17-D-640 U1a Complex Enhancements Project (UCEP)
Nevada National Security Sites (NNSS), Mercury, Nevada
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary

The FY 2027 Request for the U1a Complex Enhancements Project (UCEP) is $154,142,000 for Total Estimated Cost (TEC) activities. The FY 2027 request will complete construction activities and begin startup, testing, and commissioning. The most recent Critical Decision (CD) for UCEP was the approval of Baseline Change Proposal (BCP) 01 for Subproject 17-D-640-020 on January 19, 2025, with a TPC of $830,000,000 and CD-4, *Approve Start of Operations or Project Completion*, of the first quarter of FY 2030.

The TPC for the overall project is $875,994,292 and the final cost for Subproject 17-D-640-010 was $45,994,292.

The following work was successfully completed by the project in FY 2025. The installation of the utilities (power cables, chilled water lines, and ventilation) was completed in the Borehole. The project completed the installation of 3,880 feet of chilled water piping and the placement of the four-foot-thick concrete floors in the accelerator hall and the test area. In addition, the project transitioned to a new fire protection strategy.

Other Projects Costs (OPC) are funded out of the Enhanced Capabilities for Subcritical Experiments subprogram under Stockpile Research, Technology, and Engineering.

A Federal Project Director has been assigned to this project.

Significant Changes:

The elimination of the Fire Extinguishing System and the implementation of the new fire protection strategy resulted in cost avoidance of $20,000,000. While the TPC has not been reduced, the total funding request has been reduced by this amount. As a result, the revised baseline is not going to be fully funded. The FY 2026 Budget Authority includes $53,000K from Public Law 119–21.

Critical Milestone History

17-D-640: Total Project

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2017	9/25/2014	8/13/2015	1QFY2017	1QFY2019	2QFY2019	3QFY2019	N/A	3QFY2022
FY 2018	9/25/2014	8/13/2015	3QFY2017	4QFY2019	2QFY2019	4QFY2019	N/A	2QFY2023
FY 2019	9/25/2014	8/13/2015	08/09/2017	4QFY2019	2QFY2019	4QFY2019	N/A	2QFY2023
FY 2020	9/25/2014	8/13/2015	08/09/2017	2QFY2020	4QFY2019	2QFY2020	N/A	4QFY2025
FY 2021	9/25/2014	8/13/2015	08/09/2017	1QFY2021	3QFY2020	1QFY2021	N/A	4QFY2025
FY 2022	9/25/2014	8/13/2015	08/09/2017	4QFY2021	2QFY2021	4QFY2021	N/A	1QFY2026
FY 2023	9/25/2014	8/13/2015	08/09/2017	3QFY2022	3/11/2022	3QFY2022	N/A	1QFY2027
FY 2024	9/25/2014	8/13/2015	08/09/2017	06/23/2022	3/11/2022	06/23/2022	N/A	1QFY2027
FY 2025	9/25/2014	8/13/2015	08/09/2017	06/23/2022	3/11/2022	06/23/2022	N/A	4QFY2028
FY 2026	9/25/2014	8/13/2015	08/09/2017	06/23/2022	3/11/2022	06/23/2022	N/A	1QFY2030
FY 2027	9/25/2014	8/13/2015	08/09/2017	06/23/2022	3/11/2022	06/23/2022	N/A	1QFY2030

17-D-640-010: Enhanced Capabilities for Subcritical Experiments (ECSE) Access and Life Safety Infrastructure

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2017	9/25/2014	8/13/2015	1QFY2017	3QFY2017	4QFY2017	4QFY2017	N/A	2QFY2019
FY 2018	9/25/2014	8/13/2015	3QFY2017	2QFY2018	1QFY2018	2QFY2018	N/A	3QFY2020
FY 2019	9/25/2014	8/13/2015	08/09/2017	2QFY2019	3QFY2018	2QFY2019	N/A	2QFY2021
FY 2020	9/25/2014	8/13/2015	08/09/2017	2QFY2019	7/11/2018	2QFY2019	N/A	4QFY2023
FY 2021	9/25/2014	8/13/2015	08/09/2017	03/27/2019	7/11/2018	03/27/2019	N/A	4QFY2023
FY 2022	9/25/2014	8/13/2015	08/09/2017	03/27/2019	7/11/2018	03/27/2019	N/A	3QFY2022
FY 2023	9/25/2014	8/13/2015	08/09/2017	03/27/2019	7/11/2018	03/27/2019	N/A	4QFY2023
FY 2024	9/25/2014	8/13/2015	08/09/2017	03/27/2019	7/11/2018	03/27/2019	N/A	06/30/2022

17-D-640-020: ECSE Laboratory and Support Infrastructure

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2017	9/25/2014	8/13/2015	1QFY2017	1QFY2019	2QFY2019	3QFY2019	N/A	3QFY2022
FY 2018	9/25/2014	8/13/2015	3QFY2017	4QFY2019	2QFY2019	4QFY2019	N/A	2QFY2023
FY 2019	9/25/2014	8/13/2015	08/09/2017	4QFY2019	2QFY2019	4QFY2019	N/A	2QFY2023
FY 2020	9/25/2014	8/13/2015	08/09/2017	2QFY2020	4QFY2019	2QFY2020	N/A	4QFY2025
FY 2021	9/25/2014	8/13/2015	08/09/2017	1QFY2021	3QFY2020	1QFY2021	N/A	4QFY2025
FY 2022	9/25/2014	8/13/2015	08/09/2017	4QFY2021	2QFY2021	4QFY2021	N/A	1QFY2026
FY 2023	9/25/2014	8/13/2015	08/09/2017	3QFY2022	3/11/2022	3QFY2022	N/A	1QFY2027
FY 2024	9/25/2014	8/13/2015	08/09/2017	06/23/2022	3/11/2022	06/23/2022	N/A	1QFY2027
FY 2025	9/25/2014	8/13/2015	08/09/2017	06/23/2022	3/11/2022	06/23/2022	N/A	4QFY2028
FY 2026	9/25/2014	8/13/2015	08/09/2017	06/23/2022	3/11/2022	06/23/2022	N/A	1QFY2030
FY 2027	9/25/2014	8/13/2015	08/09/2017	06/23/2022	3/11/2022	06/23/2022	N/A	1QFY2030

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable)
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete(d)
CD-3A – Approve Site Preparation
CD-3B – Approve Site Preparation
CD-3 – Approve Start of Construction/Execution
D&D Complete – Completion of D&D work
CD-4 – Approve Start of Operations or Project Closeout
Separate documentation will be submitted for combined CD-2/3 for each subproject

17-D-640-020: ECSE Laboratory and Support Infrastructure

Fiscal Quarter or Date

Fiscal Year	Performance Baseline Validation	CD-3A	CD-3B
FY 2021	1QFY2021	3QFY2020	N/A
FY 2022	4QFY2021	3QFY2021	N/A
FY 2023	6/23/2022	7/7/2021	8/30/2021

CD-3A – Site Preparation
CD-3B – Site Preparation

Project Cost History ($K)

17-D-640: Total Project

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2017	14,200	137,300	151,500	7,109	N/A	7,109	158,609
FY 2018	14,200	137,300	151,500	7,109	N/A	7,109	158,609
FY 2019	19,900	131,600	151,500	7,109	N/A	7,109	158,609
FY 2020	14,856	148,144	163,000	11,809	N/A	11,809	174,809
FY 2021	38,916	468,284	507,200	19,309	N/A	19,309	526,509
FY 2022	70,756	436,444	507,200	19,309	N/A	19,309	526,509
FY 2023	106,863	460,337	567,200	9,672	N/A	9,672	576,872
FY 2024	104,027	496,756	600,783	9,372	N/A	9,372	610,155
FY 2025	104,027	646,956	750,983	10,577	N/A	10,577	761,560
FY 2026	105,062	760,335	865,397	10,597	N/A	10,597	875,994
FY 2027	105,062	740,335	845,397	10,597	N/A	10,597	855,994

17-D-640-010: ECSE Access and Life Safety Infrastructure

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2017	2,700	23,940	26,640	981	N/A	981	27,621
FY 2018	2,700	23,940	26,640	981	N/A	981	27,621
FY 2019	8,400	38,240	46,640	981	N/A	981	47,621
FY 2020	3,356	44,784	48,140	1,981	N/A	1,981	50,121
FY 2021	3,356	44,784	48,140	1,981	N/A	1,981	50,121
FY 2022	3,356	46,074	49,430	1,398	N/A	1,398	50,828
FY 2023	3,356	45,374	48,730	1,391	N/A	1,391	50,121
FY 2024	3,356	45,374	48,730	1,391	N/A	1,391	50,121
FY 2025	3,356	41,352	44,708	1,286	N/A	1,286	45,994

17-D-640-020: ECSE Laboratory and Support Infrastructure

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2017	11,500	113,360	124,860	6,128	N/A	6,128	130,988
FY 2018	11,500	113,360	124,860	6,128	N/A	6,128	130,988
FY 2019	11,500	93,360	104,860	6,128	N/A	6,128	110,988
FY 2020	11,500	103,360	114,860	9,828	N/A	9,828	124,688
FY 2021	35,560	423,500	459,060	17,328	N/A	17,328	476,388
FY 2022	67,400	390,370	457,770	17,911	N/A	17,911	475,681
FY 2023	103,507	414,963	518,470	8,281	N/A	8,281	526,751
FY 2024	100,671	451,382	552,053	7,981	N/A	7,981	560,034
FY 2025	100,671	605,604	706,275	9,291	N/A	9,291	715,566
FY 2026	101,706	718,983	820,689	9,311	N/A	9,311	830,000
FY 2027	101,706	698,983	820,689	9,311	N/A	9,311	830,000

2. Project Scope and Justification

Scope

U1a Complex Enhancements Project (UCEP) will perform mining and provide the supporting structures, systems, and components necessary to deploy the large Major Items of Equipment (MIE) diagnostic systems and experiments. The existing Principal Underground Laboratory for Subcritical Experimentation (PULSE, formerly U1a Complex) orthogonal U1a.100 and U1a.104 drifts will be used to minimize the need for new mining.

17-D-640-010 included the design, mining, fabrication, construction, installation, and commissioning of the underground areas and systems in PULSE to provide accessibility, a refuge station, adequate ventilation, and construction power for the ensuing subproject 17-D-640-020. This subproject was required to support any significant construction activity in the eastern portion of PULSE.

17-D-640-020 includes the design, mining, fabrication, construction, installation, and commissioning of the Enhanced Capabilities for Subcritical Experiments (ECSE) Area and systems to provide MIE diagnostic/detector alcove drifts and mechanical equipment drifts. Also included are safety basis and readiness activities. The project underground scope includes an experimental room with containment plugs for experiment execution, process control system, safety interlock system, diagnostic clean rooms and diagnostic infrastructure, and ancillary systems (overhead handling systems, power, cooling, ventilation, process water and oil, instrument air, spill mitigation, and shielding). This subproject includes a CD-3A and CD-3B for site preparation. The CD-3A scope consisted of site preparation underground and the drilling of a borehole to run utilities and communications from the surface to the new experiment area and was completed. The CD-3B scope consisted of site preparation above ground for the lay down yard/construction trailers and relocation of existing facility infrastructure and was completed.

Justification

DOE Order 413.3B Critical Decision, *CD-0 Approve Mission Need,* was approved on September 25, 2014, for the "ECSE at the NNSS, PULSE." On November 4, 2015, the intersection of the U1a.100 and U1a.104 Drifts within the PULSE facility at the NNSS was determined to be the only viable location for ECSE. The

enhancements to PULSE included in this line item will provide the drifts and the supporting structures, systems, and components necessary for the deployment of the MIEs to diagnose the subcritical hydrodynamic integrated weapons experiments using plutonium.

NNSA plans long-term investments supporting plutonium science at the NNSS. NNSS is the only site in the United States for experiments combining high explosives and plutonium, a core capability for NNSA's Stockpile Stewardship Program.

Funds appropriated under this data sheet may be used for contracted support services to the Federal Program Manager and the Federal Project Director to conduct independent assessments of the planning and execution of this project required by DOE O 413.3B and to conduct technical reviews of design and construction documents. All costs associated with the conduct of independent reviews, including travel for Federal staff of the DOE Office of Project Management, is funded by this project.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*. As allowed by DOE O 413.3B, work will be phased to improve overall efficiency.

Key Performance Parameters (KPPs)

The KPPs represent the minimum acceptable performance that the project must achieve.

Performance Measure	Completion Criteria
17-D-640-010: Ventilation and power sufficient to allow concurrent excavation for two headings east of the U1a.01 Drift	Documented in UCEP Subproject 010 Ventilation Plan; UCEP Electrical Load Calculation; Temporary Power Plan
17-D-640-010: An invert suitable for transport of Advanced Sources and Detectors (ASD) accelerator equipment between the U1h shaft station and U1a.104 Drift	Documented in Building Code Requirements for Structural Concrete; Invert Plan; Invert Sections; Cast-In-Place Concrete Specification
17-D-640-010: Direct access from the U1a.01 Drift to the U1a.104 Drift for equipment and personnel	Documented in General Arrangement Plan
17-D-640-010: Multiple egress pathways from the U1a.100 Drift and U1a.104 Drift to the U1a.01 Drift	Documented in General Arrangement Plan
17-D-640-010: Operational Refuge Station east of the U1a.01 Drift to accommodate the number of individuals anticipated to normally work in that area	Documented in NNSS Underground Facility Safety and Health Program Description; U1a.102D Drift Refuge Shelter Equipment
17-D-640-020: An invert suitable for installation of the ASD accelerator in the U1a.104 Drift	Documented in the revised Program Requirements Document and the revised Project Execution Plan
17-D-640-020: Utilities and mechanical systems sufficient to support operation and maintenance of the ASD accelerator in the U1a.104 Drift	Documented in the revised Program Requirements Document and the revised Project Execution Plan

Performance Measure	Completion Criteria
17-D-640-020: A zero room structure and mechanical systems that meet requirements for conducting subcritical experiments in the U1a.100 Drift	Documented in the revised Program Requirements Document and the revised Project Execution Plan
17-D-640-020: Infrastructure that supports installation of a centralized control of operation system of the ASD accelerator and NDSE source	Documented in the revised Program Requirements Document and the revised Project Execution Plan
17-D-640-020: Infrastructure that supports acquisition of experiment diagnostic data	Documented in the revised Program Requirements Document and the revised Project Execution Plan

3. Financial Schedule

17-D-640: Total Project ($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior years	105,062	105,062	105,062
Total, Design	**105,062**	**105,062**	**105,062**
Construction			
Prior years	460,110[1]	460,110	310,336
FY 2025	73,083	73,083	137,158
FY 2026	53,000	53,000	113,602
FY 2027	154,142	154,142	135,239
FY 2028	0	0	25,000
FY 2029	0	0	15,000
FY 2030	0	0	4,000
Total, Construction	**740,335**	**740,335**	**740,335**
Total Estimated Costs			
Prior years	565,172	565,172	415,398
FY 2025	73,083	73,083	137,158
FY 2026	53,000[2]	53,000[3]	113,602

[1] FY2024 budget included an internal reprogramming of $1.272 million of unearned fee.
[2] The FY 2026 Budget Authority includes $53,000K from Public Law 119–21.
[3] The FY 2026 Obligations include $53,000K from Public Law 119–21.

	Budget Authority (Appropriations)	Obligations	Costs
FY 2027	154,142	154,142	135,239
FY 2028	0	0	25,000
FY 2029	0	0	15,000
FY 2030	0	0	4,000
Total, TEC	**845,397**	**845,397**	**845,397**
Other Project Costs (OPC)			
OPC, except D&D			
Prior years	6,114	6,114	6,114
FY 2025	0	0	0
FY 2026	3,878	3,878	500
FY 2027	605	605	1,000
FY 2028	0	0	2,000
FY 2029	0	0	943
FY 2030	0	0	40
Total OPC	**10,597**	**10,597**	**10,597**
Total Project Costs (TPC)			
Prior years	571,286	571,286	421,512
FY 2025	73,083	73,083	137,158
FY 2026	56,878	56,878	114,102
FY 2027	154,747	154,747	136,239
FY 2028	0	0	27,000
FY 2029	0	0	15,943
FY 2030	0	0	4,040
Grand Total	**855,994**	**855,994**	**855,994**

17-D-640-010: ECSE Access and Life Safety Infrastructure ($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior years	3,356	3,356	3,356
Total, Design	**3,356**	**3,356**	**3,356**
Construction			
Prior years	41,352	41,352	41,352
Total, Construction	**41,352**	**41,352**	**41,352**
Total Estimated Costs			
Prior years	44,708	44,708	44,708
Total, TEC	**44,708**	**44,708**	**44,708**
Other Project Costs (OPC)			
OPC, except D&D			
Prior years	1,286	1,286	1,286
Total OPC	**1,286**	**1,286**	**1,286**
Total Project Costs (TPC)			
Prior years	45,994	45,994	45,994
Grand Total	**45,994**	**45,994**	**45,994**

17-D-640-020: ECSE Laboratory and Support Infrastructure ($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior years	101,706	101,706	101,706
Total Design	**101,706**	**101,706**	**101,706**
Construction			
Prior years	418,758	418,758	268,984
FY 2025	73,083	73,083	137,158
FY 2026	53,000	53,000	113,602
FY 2027	154,142	154,142	135,239
FY 2028	0	0	25,000
FY 2029	0	0	15,000
FY 2030	0	0	4,000
Total Construction	**698,983**	**698,983**	**698,983**
TEC			
Prior years	520,464	520,464	370,690
FY 2025	73,083	73,083	137,158
FY 2026	53,000[1]	53,000[2]	113,602
FY 2027	154,142	154,142	135,239
FY 2028	0	0	25,000
FY 2029	0	0	15,000
FY 2030	0	0	4,000
Total TEC	**800,689**	**800,689**	**800,689**
Other Project Costs (OPC)			
Prior years	4,828	4,828	4,828
FY 2025	0	0	0
FY 2026	3,878	3,878	500
FY 2027	605	605	1,000
FY 2028	0	0	2,000
FY 2029	0	0	943
FY 2030	0	0	40
Total, OPC	**9,311**	**9,311**	**9,311**
Total Project Costs (TPC)			
Prior years	525,292	525,292	375,518
FY 2025	73,083	73,083	137,158
FY 2026	56,878	56,878	114,102
FY 2027	154,747	154,747	136,239

[1] The FY 2026 Budget Authority includes $53,000K from Public Law 119–21.
[2] The FY 2026 Obligations includes $53,000K from Public Law 119–21.

	Budget Authority (Appropriations)	Obligations	Costs
FY 2028	0	0	27,000
FY 2029	0	0	15,943
FY 2030	0	0	4,040
Total TPC	**810,000**	**810,000**	**810,000**

4. Details of Project Cost Estimate

17-D-640: Total Project ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	69,406	69,406	69,406
	Project Management	35,656	35,656	35,656
	Contingency	0	0	0
Total Design		**105,062**	**105,062**	**105,062**
Construction				
	Site Work	0	0	0
	Equipment	0	0	0
	Construction	605,084	625,084	625,084
	Construction Management	80,951	80,951	80,951
	Contingency	54,300	54,300	57,732
Total Construction		**740,335**	**760,335**	**763,767**
Total Estimated Cost (TEC)		**845,397**	**865,397**	**868,829**
Contingency, TEC		*54,300*	*54,300*	*57,732*
Other Project Costs (OPC)				
OPC except D&D				
	R&D	0	0	0
	Conceptual Planning	500	500	500
	Conceptual Design	1,009	1,009	1,009
	Other OPC Costs	9,088	9,088	9,088
	Contingency	0	0	695
Total OPC		**10,597**	**10,597**	**11,292**
Contingency, OPC		*0*	*0*	*695*
Total Project Cost		**855,994**	**875,994**	**880,121**

Total Contingency (TEC+OPC)	***54,300***	***54,300***	***58,427***

17-D-640-010: ECSE Access and Life Safety Infrastructure ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	2,852	2,852	2,852
	Project Management	504	504	504
	Contingency	0	0	0
Total Design		**3,356**	**3,356**	**3,356**
Construction				
	Site Work	0	0	0
	Equipment	0	0	0
	Construction	35,984	35,984	35,984
	Construction Management	5,368	5,368	5,368
	Contingency	0	0	3,432
Total Construction		**41,352**	**41,352**	**44,784**
Total Estimated Cost (TEC)		**44,708**	**44,708**	**48,140**
Contingency, TEC		*0*	*0*	*3,432*
Other Project Costs (OPC)				
OPC except D&D				
	R&D	0	0	0
	Conceptual Planning	200	200	200
	Conceptual Design	281	281	281
	Other OPC Costs	805	805	805
	Contingency	0	0	695
Total OPC		**1,286**	**1,286**	**1,981**
Contingency, OPC		*0*	*0*	*695*
Total Project Cost		**45,994**	**45,994**	**50,121**
Total Contingency (TEC+OPC)		***0***	***0***	***4,127***

17-D-640-020: ECSE Laboratory and Support Infrastructure ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	66,554	66,554	66,554
	Project Management	35,152	35,152	35,152
	Contingency	0	0	0
Total Design		**101,706**	**101,706**	**101,706**
Construction				
	Site Work	0	0	0
	Equipment	0	0	0
	Construction	569,100	589,100	589,100
	Construction Management	75,583	75,583	75,583
	Contingency	54,300	54,300	54,300
Total Construction		**698,983**	**718,983**	**718,983**
Total Estimated Cost (TEC)		**800,689**	**820,689**	**820,689**
Contingency, TEC		*54,300*	*54,300*	*54,300*
Other Project Costs (OPC)				
OPC except D&D				
	R&D	0	0	0
	Conceptual Planning	300	300	300
	Conceptual Design	728	728	728
	Other OPC Costs	8,283	8,283	8,283
	Contingency	0	0	0
Total OPC		**9,311**	**9,311**	**9,311**
Contingency, OPC		*0*	*0*	*0*
Total Project Cost		**810,000**	**830,000**	**830,000**
Total Contingency (TEC+OPC)		***54,300***	***54,300***	***54,300***

5. Schedule of Appropriations Requests

Request Year	Type	Prior Years	FY2025	FY2026	FY2027	Outyears	Total
FY 2017	TEC	151,500	0	0	0	0	151,500
	OPC	7,109	0	0	0	0	7,109
	TPC	158,609	0	0	0	0	158,609
FY 2018	TEC	151,500	0	0	0	0	151,500
	OPC	7,109	0	0	0	0	7,109
	TPC	158,609	0	0	0	0	158,609
FY 2019	TEC	151,500	0	0	0	0	151,500
	OPC	7,109	0	0	0	0	7,109
	TPC	158,609	0	0	0	0	158,609
FY 2020	TEC	163,000	0	0	0	0	163,000
	OPC	11,809	0	0	0	0	11,809
	TPC	174,809	0	0	0	0	174,809
FY 2021	TEC	507,200	0	0	0	0	507,200
	OPC	19,309	0	0	0	0	19,309
	TPC	526,509	0	0	0	0	526,509
FY 2022	TEC	507,200	0	0	0	0	507,200
	OPC	19,309	0	0	0	0	19,309
	TPC	526,509	0	0	0	0	526,509
FY 2023	TEC	567,200	0	0	0	0	567,200
	OPC	6,719	2,953	0	0	0	9,672
	TPC	573,919	2,953	0	0	0	576,872
FY 2024	TEC	563,900	33,083	0	0	0	596,983
	OPC	6,719	3,153	0	0	0	9,872
	TPC	570,619	36,236	0	0	0	606,855
FY 2025	TEC	563,900	73,083	64,000	50,000	0	750,983
	OPC	6,719	0	3,858	0	0	10,577
	TPC	570,619	73,083	67,858	50,000	0	761,560
FY 2026	TEC	565,172	73,083	150,000	N/A	77,142	865,397
	OPC	6,114	0	3,878	N/A	605	10,597
	TPC	571,286	73,083	153,878	N/A	77,747	875,994
FY 2027	TEC	565,172	73,083	53,000[1]	154,142	0	845,397
	OPC	6,114	0	3,878	605	0	10,597
	TPC	571,286	73,083	56,878	154,747	0	855,994

[1] The FY 2026 Appropriation Request includes $53,000K from Public Law 119–21.

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy	1Q FY2030
Expected Useful Life	30
Expected Future Start of D&D of this capital asset	1Q FY2060

Related Funding Requirements
(Budget Authority in Millions of Dollars)

	Annual Costs (Base year is 2025)		Life Cycle Costs TY	
	Previous Total Estimate	Current Total Estimate	Previous Total Estimate	Current Total Estimate
Operations and Maintenance	41	41	2,798	2,798

7. D&D Information

The new area being constructed in this project does not replace existing facilities.

8. Acquisition Approach

The project is being managed by the NNSS Management and Operating (M&O) contractor because of operations within the PULSE complex which is an underground facility with limited access. Design and construction of the underground modifications are being performed by the NNSS M&O contractor through CLIN 001 on the M&O cost reimbursable contract.

Advanced Sources and Detectors (ASD) Major Item of Equipment (MIE)
LANL Lead (SNL, LLNL, NNSS, NRL support)
Project Data Sheet

1. Summary, Significant Changes, and Schedule and Cost History

Summary: The Fiscal Year (FY) 2027 Request for the Advanced Sources and Detectors (ASD) Major Item of Equipment (MIE) Project is $344,917,000. The FY 2027 Request will complete testing of the Injector, two accelerator modules, and Solid-State Pulsed Power units at the Integrated Test Stand (ITS); continue assembly of Accelerator cells and modules; continue fabrication of the remaining Solid State Pulsed Power units; and begin installation of Solid State Pulsed Power units at the Principal Underground Laboratory for Subcritical Experiments (PULSE, formerly U1a Complex). The latest Critical Decision (CD) approved was CD-2/3, *Approve Performance Baseline and Start of Construction*, with a Total Project Cost (TPC) of $1,800,000,000 and a CD-4 date of May 2030. The cost of this project has increased to an estimated TPC of $2,411,161,000 and the CD-4 is estimated for the fourth quarter of FY 2033.

A Federal Project Director (FPD) has been assigned to this project.

Significant Changes:

The project cost has increased to an estimated TPC of $2,411,161,000 and the CD-4 has moved out to the fourth quarter of FY 2033. This is expected to be approved through a Baseline Change in the 3Q FY2026. The estimate has been revised to reflect the increased cost of radiographic system components primarily associated with the Solid State Pulsed Power which was underestimated; additional effort for component testing and installation due to missing activities associated with the integration of the accelerator subsystems and material availability; and a more robust risk posture which incorporated recommendations from the External Independent review.

Critical Milestone History

Fiscal Quarter or Date

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2020	9/25/2014	6/7/2018	2/6/2019	2QFY2022	4QFY2021	2QFY2022	4QFY2025
FY 2021	9/25/2014	6/7/2018	2/6/2019	2QFY2022	4QFY2021	2QFY2022	4QFY2025
FY 2022	9/25/2014	6/7/2018	2/6/2019	2QFY2022	4QFY2021	2QFY2022	4QFY2025
FY 2023	9/25/2014	6/7/2018	2/6/2019	4QFY2022	3QFY2022	4QFY2022	3QFY2027
FY 2024	9/25/2014	6/7/2018	2/6/2019	11/30/2022	8/9/2022	11/30/2022	3QFY2030
FY 2025	9/25/2014	6/7/2018	2/6/2019	11/30/2022	8/9/2022	11/30/2022	3QFY2030
FY 2026	9/25/2014	6/7/2018	2/6/2019	11/30/2022	8/9/2022	11/30/2022	2QFY2033
FY 2027	9/25/2014	6/7/2018	2/6/2019	11/30/2022	8/9/2022	11/30/2022	4QFY2033

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable)
CD-1 – Approve Alternative Selection and Cost Range
CD-3A – Approve Long Lead Procurements – Scintillator components

CD-3B – Approve Long Lead Procurements – Injector and Pulsed power components
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete(d)
CD-3 – Approve Start of Fabrication
CD-4 – Approve Start of Operations or Project Closeout

Fiscal Quarter or Date

Fiscal Year	Performance Baseline Validation	CD-3A	CD-3B
FY 2020	4QFY2021	3QFY2021	N/A
FY 2021	4QFY2021	3QFY2021	N/A
FY 2022	4QFY2021	3QFY2021	1QFY2022
FY 2023	11/25/2022	4/13/2021	1/3/2022

Project Cost History ($K)

Fiscal Year	Total Cost
FY 2020	791,600
FY 2021	1,061,355
FY 2022	939,655
FY 2023	1,284,161
FY 2024	1,800,000
FY 2025	1,841,538
FY 2026	2,228,363
FY 2027	2,411,161

2. Project Scope and Justification

Scope

The Enhanced Capabilities for Subcritical Experiments (ECSE) portfolio aims to construct a new underground laboratory in Nevada and to install large modern diagnostic systems necessary to evaluate plutonium implosion system experiments in support of the current and future stockpile. The ASD MIE Project is one of these diagnostic systems that involves installation of a linear induction accelerator into the PULSE. The ASD MIE Project will provide the capability to conduct weapons-scale, radiographically diagnosed subcritical experiments using special nuclear material (SNM). The radiographic data is required to refine the modern predictive physics models used to certify the present and future stockpile. Radiography (x-ray imaging of dense objects) is the principal tool for diagnosing dynamic weapons-scale experiments and is the key diagnostic for the National Hydrodynamic Test Program at both Los Alamos National Laboratory (LANL) and Lawrence Livermore National Laboratory (LLNL). Currently, the National Nuclear Security Adminstration (NNSA) relies on hydrodynamic tests at the Dual Axis Radiographic Hydrodynamic Test Facility (DARHT) at LANL and at LLNL's Contained Firing Facility using the Flash X-Ray machine. In these tests, surrogate materials replace SNM in the experimental assembly. The surrogate tests explore many significant aspects of primary implosion physics but cannot explore the unique behavior of plutonium. The ASD MIE Project, funded within

the ECSE subprogram, addresses this need and complements other diagnostics already supporting the subcritical, scaled experiments program.

The ASD Project is composed of an MIE (called Scorpius) for four-pulse, single-axis radiographic capability at weapons-relevant scales to be integrated with the U1a Complex Enhancements Project line item-funded infrastructure improvements, which will house the MIE. The ASD MIE Project is responsible for the technology maturation, design, fabrication and installation, and commissioning of Scorpius through CD-4. The CD-3A *Approve Long Lead Procurements – Scintillator* scope is for the procurement of the scintillator and imager with a total cost of $35 million and a scheduled completion of 4Q FY 2028. The CD-3B *Approve Long Lead Procurements – Injector and Pulsed power components* scope was for components/materials to support the fabrication of the Injector and setup of the Integrated Test Stand with a total cost of $141.6 million and was completed September 30, 2025.

Justification

The aggregate influences of aging, modern manufacturing techniques, modern materials, and evolving design philosophies are driving the stockpile toward the limits of the nuclear explosive testing database. In 2014, LANL and LLNL jointly identified a capability gap that challenges the ability to certify the stockpile in light of these changes, which involves the evaluation of plutonium response. In 2016, the JASON Defense Advisory Group identified the same gap in capability of the United States to carry out and diagnose such experiments. The ASD MIE Project, as part of ECSE, is designed to narrow this gap. Radiographic data from ECSE will help the validation of the W80-4 design and certification of the W87-1 Modification Program. ECSE delivery in the early 2030s supports these efforts. Funds appropriated under this data sheet may be used for contracted support services to the Federal Program Manager and the FPD to conduct independent assessments of the planning and execution of this project, per DOE O 413.3B, and to conduct technical reviews of design and construction documents. All costs associated with the conduct of independent reviews, to include travel for Department of Energy's Office of Project Management Federal staff, are funded by this MIE.

Key Performance Parameters (KPPs)

The KPPs represent the minimum acceptable performance that the project must achieve. Achievement of the KPPs will be a prerequisite for approval of CD-4, Project Completion. In summary, the MIE must be able to generate the x-ray energies and multi-pulse capability necessary to diagnose late-time dynamics in plutonium implosion experiments.

The KPPs established for CD-4 approval are:

- Four radiographic pulses
- Ability to vary the time between pulses (as measured center to center) in a ≥1500 ns window, at a pulse spacing ≤500 ns for 2 pulses
- Radiographic pulse lengths: between 20 and 80 ns with the ability to control the length (dose) of each pulse to within 5 ns
- Radiographic figure of merit: ≥1.2 line pairs per mm visible for 2 pulses with an overburden representing a nominal Object A density
- Radiographic figure of merit: ≥0.8 line pairs per mm visible for 2 pulses with an overburden representing a nominal Object C density

3. Financial Schedule ($K)

	Budget Authority	Obligations	Costs
Funding			
Prior Years	1,092,302	1,092,302	906,637
FY 2025	276,956	276,956	250,714
FY 2026	274,656	274,656	308,554
FY 2027	344,917	344,917	406,910
FY 2028	162,095	162,095	222,140
FY 2029	121,877	121,877	124,418
FY 2030	102,076	102,076	102,047
FY 2031	36,282	36,282	33,972
Outyears	0	0	55,769
Grand Total	**2,411,161**	**2,411,161**	**2,411,161**

4. Details of Project Cost Estimate

Work Breakdown Structure Estimated Cost ($K)

WBS #	WBS Title	Current Estimate	Previous Estimate	CD-2/3 Baseline
1.01	Project Management	328,200	285,609	225,000
1.02	Radiographic System	1,357,969	1,303,516	1,086,200
1.03	System Engineering and Requirements	62,200	45,443	19,000
1.04	ITS Facility Installation, Major Subsystem Installation, Integration, & Testing	68,328	87,428	42,000
1.05	U1a Final Major Subsystem Installation, Integration, & Testing	118,206	146,206	61,000
1.06	Final Commissioning at U1a	21,710	23,710	12,900
	Management Reserve/Contingency/Federal Support	454,548	336,451	353,900
	Total	**2,411,161**	**2,228,363**	**1,800,000**

5. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy	4Q FY 2033
Expected Useful Life	30 years
Expected Future Start of D&D of this capital asset	4Q FY 2063

6. Acquisition Approach

The four Management and Operations contractors at the Laboratories and sites (LANL, LLNL, Sandia National Laboratory (SNL), and Nevada National Security Sites (NNSS)) have formed a multi-site team to execute the ASD MIE Project. This management team structure enables the full engagement of LANL, LLNL, SNL and NNSS, benefiting NNSA to leverage unique capabilities of each laboratory. It also unifies the design to construction process, which is especially important, as the PULSE is an underground facility with limited access.

26-D-513, Combined Radiation Environments for Survivability Testing (CREST) Complex
Sandia National Laboratories, New Mexico
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary

The Fiscal Year (FY) 2027 Request for the Combined Radiation Environments for Survivability Testing (CREST) Complex is $105,000,000 of Total Project Cost (TPC). $100,000,000 of this budget authority is Total Estimated Cost (TEC) for preliminary design on the nuclear facility, accelerator and office and light laboratory, and preliminary and final design efforts on the reactor. $5,000,000 of this budget authority is Other Project Cost (OPC) funding for Safety Basis and Environmental, Safety, and Health activities, and continued preparation of preliminary and final design procurements.

The most recent DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, approval is Critical Decision (CD)-1, *Approve Alternate Selection and Cost Range*, which was approved on October 15, 2025 with a cost range of $1,970,000,000 to $3,870,000,000 and a CD-4, *Start of Operations or Project Completion*, schedule range of FY 2037 to FY 2041.

The approved alternate selection is a new facility with the capability to use Annular Core Research Reactor's (ACRR) existing fuel or new main core and Fuel-Ringed External Cavity (FREC) fuel, along with Gamma capabilities. The chosen site location is Technical Area 5 (TA-V) at Sandia National Laboratories (SNL), Albuquerque, New Mexico, for the newly constructed facility with the following traits:

- Pursue the reuse of existing fuel elements and new fuel elements for neutron radiography capability and combine neutron, mechanical shock and prompt gamma.
- Include the facility needed to house the accelerator but allow for the capability to add the accelerator later.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B and will be phased to improve overall execution efficiency. The conceptual design was completed slightly ahead of schedule and under budget, and was executed in multiple packages, as follows: (1) the Nuclear Facility and the Central Utility Building (CUB) and Central Alarm Station (CAS); (2) the Reactor; (3) the Accelerator; and (4) the Office/Light Laboratory (OLL). Those packages will form the basis for dividing the scope into subprojects following CD-1 approval.

Funds appropriated under this data sheet may be used for contracted support services to the Federal Program Manager and the Federal Project Director (FPD) to provide federal oversight support, to conduct independent assessments of the planning and execution of this project required by DOE O 413.3B, and to conduct technical reviews of design and construction documents.

The project is not a new start in FY 2027. The FPD was appointed in October 2025.

Significant Changes

While CD-1 was approved with a top end of the cost range of $3,870,000,000, the Office of Research, Development, Test, and Evaluation will fund the project at $2,800,000,000. This value is based on the project team's top end of the cost range at conceptual design. The difference in the approved range and the funded amount is due to risk management of "unknown unknown" risks that could cause the project to incur a higher

risk realization than what is reasonably included in the project's risk register. The project scope includes the novel concept of coupling several nuclear research reactors with an accelerator and there is the potential for technical issues to arise that the project team may not have considered during the conceptual design, which relates to an overall design maturity of only 30 percent. The design performance baseline will be established in alignment with the project's point estimate of $2,286,931,000; however, National Nuclear Security Administration (NNSA) will continue to identify opportunities for value engineering, such as following commercial construction practices to the maximum extent possible to reduce the cost of the OLL. The funding between the point estimate and top of the range may be allocated in the outyears. This will avoid reserving funds in the FYNSP above the reasonable amount that has been captured in the risk register because it will take away from other critical NNSA mission activities.

The project schedule for CD-1 approval revised the critical decision milestones due to higher fidelity of the design. The initial site preparation and long lead procurement milestone will coincide with the completion of the preliminary designs for the Nuclear Facility and OLL. As the preliminary design is executed, additional packages will be considered to ensure efficient execution of the project. The planned completion of final design and CD-2/3 approval were accelerated by one year. However, the risk informed construction timeline has increased, and CD-4 is planned three years later. The dates in the table below are based on the funded amount of $2,800,000,000 and not the top of the CD-1 range.

Critical Milestone History[1]

Overall Project (26-D-513)

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2026	8/22/2019	2/3/2025	10/15/2025	2Q FY 2031	4Q FY 2030	2Q FY 2031	4Q FY 2035
FY 2027	8/22/2019	2/3/2025	10/15/2025	1Q FY 2030	3Q FY 2029	1Q FY 2030	4Q FY 2038

Nuclear Facility and CUB/CAS Subproject (26-D-513-01)

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2027	8/22/2019	2/3/2025	10/15/2025	1Q FY 2030	3Q FY 2029	1Q FY 2030	4Q FY 2036

Reactor Subproject (26-D-513-02)

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2027	8/22/2019	2/3/2025	10/15/2025	4Q FY 2029	3Q FY 2029	4Q FY 2029	3Q FY 2035

[1] The CD-4 date in the overall project table is a risk informed date that includes time related to the cost uncertainty between the project point estimate ($2.3B) and the project top of the range ($2.8B).

Accelerator Subproject (26-D-513-03)

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2027	8/22/2019	2/3/2025	10/15/2025	1Q FY 2030	4Q FY 2029	1Q FY 2030	4Q FY 2035

Office/Light Laboratory (OLL) Subproject (26-D-513-04)

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2027	8/22/2019	2/3/2025	10/15/2025	1Q FY 2029	4Q FY 2028	1Q FY 2029	2Q FY 2030

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete - Actual date the conceptual design was completed
CD-1 - Approve Design Scope and Project Cost and Schedule Ranges
CD-2 - Approve Project Performance Baseline
Final Design Complete - Estimated date the project design will be completed
CD-3 - Approve Start of Construction
CD-4 - Approve Start of Operations or Project Closeout

Fiscal Year	CD-3A	CD-3B
FY 2026	1Q FY 2030	N/A
FY 2027	3Q FY 2027	1Q FY2028

CD-3A – Approve Long-Lead Procurement
CD-3B – Approve Site Preparation

Project Cost History ($K)

Overall Project (26-D-513)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Total	TPC
FY 2026	620,000	1,275,000	1,895,000	231,000	2,126,000
FY 2027	380,746	1,984,506	2,365,252	434,748	2,800,000

Nuclear Facility and CUB/CAS Subproject (26-D-513-01)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Total	TPC
FY 2027	192,171	1,474,683	1,666,854	326,391	1,993,245

Reactor Subproject (26-D-513-02)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Total	TPC
FY 2027	83,527	153,116	236,643	48,120	284,763

Accelerator Subproject (26-D-513-03)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Total	TPC
FY 2027	86,535	212,633	299,168	46,500	345,668

Office/Light Laboratory (OLL) Subproject (26-D-513-04)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Total	TPC
FY 2027	18,513	144,074	162,587	13,737	176,324

2. Project Scope and Justification

Scope

The scope of the project is being executed in multiple subprojects, as follows: (1) the Nuclear Facility and CUB/CAS; (2) the Reactor; (3) the Accelerator; (4) the Office/Light-Laboratory. The Modular Office Complex (MOC), if necessary, will be part of the Nuclear Facility and CUB/CAS subproject.

1. The Nuclear Facility and CUB/CAS (26-D-513-01): The CREST Nuclear Facility is a new permanent Hazard Category (HC)-2 facility to provide a combined neutron, gamma, and mechanical shock environment capability for research and development (R&D), design, and qualification. It consists of an approximately 80,000 constructible square foot, four-story building (two stories underground, two stories above ground) located within the TA-V Limited Area (LA) and further confined with the boundaries of a Perimeter Intrusion Detection and Assessment System (PIDAS) for heightened security posture. The facility will include six "hot cells" in the lowest level of the facility. These, and the equipment they contain, support the operation of the reactors/fuel assemblies, neutron radiography, accelerator operations, and handling of radioactive and explosive materials. The PIDAS will be designed with the CREST Nuclear Facility and CUB/CAS in collaboration with SNL-NM security personnel.

   The CREST Nuclear facility is supported by a utility and security building, the CUB/CAS, that is a non-nuclear, standalone, permanent building near the nuclear Facility within the TA-V LA, providing the Nuclear Facility with necessary utility and security support identified below:

   a. The utility services for the CREST Nuclear Facility (i.e., electrical, water, communications, alarms, security, operations monitoring, fire suppression loop, and emergency response) notably for the reactor systems, Reactor Movement System (RMS), accelerator and accelerator movement system, and ancillary systems.

   b. Central alarm station and security system head-end equipment supporting all the critical intrusion detection, assessment, and communications within the Protected Area and CREST Nuclear Facility when the Protected Area Boundary is active.

   The MOC provides temporary offices for the CREST Project, to collocate the CREST Project Team, NNSA, and General Contractor staff during preliminary and final design, construction, and start-up of the CREST Project. The MOC includes a permanent parking lot that will be used long-term for the OLL as the OLL is located within the TA-V LA where space and access are limited for personal vehicles.

2. The Reactor (26-D-513-02): The Reactor Systems include the reactor/fuel assemblies referred to as the Reactor-Actuated Neutron/Gamma Environment Radiation Systems (RANGERS), as well as all supporting ancillary systems to RANGERS. The CREST Reactor Systems will replace (and add to) the existing ACRR capabilities, and provides gamma, neutron, mechanical shock environments, and neutron radiography. The scope of CREST includes the reuse of the ACRR fuel, but a feasibility study is ongoing to evaluate the possibility of producing new fuel as part of the project. The RANGERS consists of the below four fuel assemblies:

    a. ACRR-II (Annular Core Research Reactor-II): the replacement to the ACRR, the ACRR-II is a research reactor that creates the desired neutron/gamma radiation environment for CREST. The ACRR-II will be suspended from and operated from the RMS, which allows the ACRR-II to be brought into a location which closely couples it to either of the two (2) subcritical assemblies, namely the Fuel-Ringed External Cavity for Large Experiments (FRECLE) and Reactor-Accelerator-Shock Cavity for Large Experiments (RASCLE). ACRR-II utilizes unique uranium dioxide beryllium oxide (UO2-BeO) fuel. ACRR-II also maintains the 9-in dry central irradiation cavity that ACRR currently has.

    b. FRECLE (Fuel-Ringed External Cavity for Large Experiments): a subcritical assembly designed with a large diameter (24 inches) dry irradiation tube allowing objects under test to be lowered from above the reactor pool to the active fuel region of the assembly core. The FRECLE, when closely coupled to the ACRR-II, utilizes the neutrons streaming from the ACRR-II. FRECLE uses Training, Research, Isotopes, General Atomics (TRIGA) uranium zirconium hydride (UZrH) fuel.

    c. RASCLE (Reactor-Accelerator-Shock Cavity for Large Experiments): a subcritical nuclear-fueled assembly with a large diameter (20 inches) dry irradiation tube allowing objects under test to be lowered from above the reactor pool to the active fuel region of the assembly core. RASCLE, when closely coupled to the ACRR-II, utilizes the neutrons streaming from the ACRR-II. The RASCLE will also have an interface between its irradiation cavity and a gamma-ray-producing high energy electron accelerator transmission line. RASCLE uses TRIGA UZrH fuel.

    d. MUNSTR (Multi-Use Neutron Science and Technology Reactor): a research reactor that provides a nominal 9-inch dry central irradiation cavity, in-core/ex-core irradiation locations, ex-core neutron thermalization chamber(s) with multiple neutron beam ports capable of delivering neutron beams to irradiation locations external to the reactor pool for neutron radiography or thermal neutron experimentation. MUNSTR uses TRIGA UZrH fuel.

3. The Accelerator (26-D-513-03): The Accelerator provides a high energy, high current electron beam suitable for prompt-gamma radiation effects testing. Housed on the lowest level of the CREST Nuclear Facility in the accelerator bay, at the same elevation as the RANGERS cores, the accelerator will sit upon an accelerator movement cart for positioning with up to (3) three RANGERS beam ports and maintenance bays. It should be noted that the AoA Approval stated that the Nuclear Facility shall be able to house the accelerator but allow for the capability to add the accelerator at a later date. The conceptual design accommodates the ability to add the accelerator at a future date, however, the current project execution plan is to include the accelerator as part of the current scope to be installed into the Nuclear Facility from its inception.

4. Office/Light Laboratory (26-D-513-04): The Office and Light Laboratory Building (OLL) is a non-nuclear, standalone, permanent, administrative building near the CREST Nuclear Facility within the TA-V LA. The OLL is designed to house TA-V staff and experimenters and provide simulation and laboratory environments to replicate operations within the CREST Nuclear Facility. The OLL simulator provides critical training capabilities, which are key to two requirements stated in the AoA: 1) minimizing downtime during transition to CREST, and 2) enabling increased operational throughput.

Justification

The Nuclear Modernization Program is dependent on reactor-based radiation environments for hostile environment survivability qualification. Every weapon system in the stockpile has been qualified at the legacy ACRR, and this qualification capability will be required for the foreseeable modernization future. Existing operations at the 63-year-old facility housing ACRR do not provide sufficient capacity to meet mission needs. Deficiencies in the existing capability risk failure of the capability, and these deficiencies pose significant risk to the missions and programs of Defense Programs. Maintenance downtime is increasing, and this extended downtime appears likely to continue, limiting operational capacity at the ACRR and other test facilities. The facility demand is expected to increase significantly as the NNSA Stockpile Modernization Programs proceed. In addition, legacy radiation environmental test capability (ACRR and other test facilities) can test for the effects of individual neutron, gamma, and blast radiation environments but cannot produce the combined environments that are needed to ensure we are responsive to future hostile threats. Qualification with modeling alone is insufficient. Due to the unique design of the ACRR reactor capability, other reactors within the government and universities do not provide sufficient capabilities, and other commercial capabilities are nonexistent. The advanced capability needs to be in place soonest to ensure the Nuclear Security Enterprise is able to meet expected hostile environment survivability testing requirements for future stockpile systems.

Preliminary Key Performance Parameters (KPPs)

The preliminary threshold KPPs, represent the minimum acceptable performance that the project must achieve. Achievement of the preliminary threshold KPPs will be a prerequisite for approval of CD-4, *Project Completion*. The preliminary Objective KPPs represent the desired project performance. The initial KPPs were developed as part of the Program Requirements Document and are not shown here due to their classification.

The KPPs were developed to ensure the retention of the current ACRR capability, including the capacity to meet annual operations demand and provide a surge capacity and limiting the time between the shutdown of existing operations and the start-up of new operations to not exceed 1-year. The KPPs are only preliminary and will be refined, including the development of project completion criteria, along with the Preliminary and Final Design on the path to CD-2/3.

3. Financial Schedule ($K)

Overall Project (26-D-513)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2026	47,748	47,748	40,804
FY 2027	92,000	92,000	96,697
FY 2028	108,934	108,934	108,991
FY 2029	57,968	57,968	56,304
FY 2030	0	0	3,854
FY 2031	0	0	0
Undistributed	74,096	74,096	74,096
Total Design	**380,746**	**380,746**	**380,746**
Construction			
FY 2027	8,000	8,000	7,337
FY 2028	62,566	62,566	56,108
FY 2029	134,436	134,436	106,374
FY 2030	220,995	220,995	158,696
FY 2031	278,951	278,951	266,319
Outyears	1,279,558	1,279,558	1,389,672
Total Construction	**1,984,506**	**1,984,506**	**1,984,506**
TEC			
FY 2026	47,748	47,748	40,804
FY 2027	100,000	100,000	104,034
FY 2028	171,500	171,500	165,099
FY 2029	192,404	192,404	162,678
FY 2030	220,995	220,995	162,550
FY 2031	278,951	278,951	266,319
Outyears	1,353,654	1,353,654	1,463,768
Total TEC	**2,365,252**	**2,365,252**	**2,365,252**
Other Project Costs (OPC)			
Prior Years	67,054	67,054	52,711
FY 2025	31,500	31,500	35,001
FY 2026	4,500	4,500	3,336
FY 2027	5,000	5,000	7,820
FY 2028	4,500	4,500	9,127
FY 2029	18,168	18,168	9,779
FY 2030	26,891	26,891	26,031

	Budget Authority (Appropriations)	Obligations	Costs
FY 2031	23,226	23,226	30,425
Outyears	253,909	253,909	260,518
Total, OPC	**434,748**	**434,748**	**434,748**
Total Project Costs (TPC)			
Prior Years	67,054	67,054	52,711
FY 2025	31,500	31,500	35,001
FY 2026	52,248	52,248	44,140
FY 2027	105,000	105,000	111,854
FY 2028	176,000	176,000	174,226
FY 2029	210,572	210,572	172,457
FY 2030	247,886	247,886	188,581
FY 2031	302,177	302,177	296,744
Outyears	1,607,563	1,607,563	1,724,286
Total TPC	**2,800,000**	**2,800,000**	**2,800,000**

Nuclear Facility and CUB/CAS Subproject (26-D-513-01)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2026	23,000	23,000	17,469
FY 2027	45,000	45,000	49,569
FY 2028	61,500	61,500	61,211
FY 2029	25,273	25,273	26,524
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	37,398	37,398	37,398
Total Design	**192,171**	**192,171**	**192,171**
Construction			
FY 2027	7,500	7,500	6,907
FY 2028	13,566	13,566	12,713
FY 2029	39,400	39,400	28,081
FY 2030	115,000	115,000	75,808
FY 2031	163,951	163,951	145,684
Outyears	1,135,266	1,135,266	1,205,490
Total Construction	**1,474,683**	**1,474,683**	**1,474,683**
TEC			

	Budget Authority (Appropriations)	Obligations	Costs
FY 2026	23,000	23,000	17,469
FY 2027	52,500	52,500	56,476
FY 2028	75,066	75,066	73,924
FY 2029	64,673	64,673	54,605
FY 2030	115,000	115,000	75,808
FY 2031	163,951	163,951	145,684
Outyears	1,172,664	1,172,664	1,242,888
Total TEC	**1,666,854**	**1,666,854**	**1,666,854**

Other Project Costs (OPC)			
Prior Years	25,000	25,000	21,633
FY 2025	15,000	15,000	14,364
FY 2026	2,500	2,500	1,512
FY 2027	1,500	1,500	4,365
FY 2028	3,500	3,500	4,482
FY 2029	8,000	8,000	3,754
FY 2030	18,000	18,000	19,376
FY 2031	22,000	22,000	23,136
Outyears	230,891	230,891	233,769
Total, OPC	**326,391**	**326,391**	**326,391**
Total Project Costs (TPC)			
Prior Years	25,000	25,000	21,633
FY 2025	15,000	15,000	14,364
FY 2026	25,500	25,500	18,980
FY 2027	54,000	54,000	60,840
FY 2028	78,566	78,566	78,406
FY 2029	72,673	72,673	58,358
FY 2030	133,000	133,000	95,185
FY 2031	185,951	185,951	168,819
Outyears	1,403,555	1,403,555	1,476,660
Total TPC	**1,993,245**	**1,993,245**	**1,993,245**

Reactor Subproject (26-D-513-02)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2026	21,248	21,248	20,836
FY 2027	26,000	26,000	25,865

	Budget Authority (Appropriations)	Obligations	Costs
FY 2028	16,524	16,524	16,726
FY 2029	3,500	3,500	3,845
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	16,255	16,255	16,255
Total Design	**83,527**	**83,527**	**83,527**
Construction			
FY 2027	0	0	0
FY 2028	4,000	4,000	3,817
FY 2029	23,000	23,000	14,656
FY 2030	75,000	75,000	50,146
FY 2031	15,000	15,000	23,438
Outyears	36,116	36,116	61,059
Total Construction	**153,116**	**153,116**	**153,116**
TEC			
FY 2026	21,248	21,248	20,836
FY 2027	26,000	26,000	25,865
FY 2028	20,524	20,524	20,543
FY 2029	26,500	26,500	18,501
FY 2030	75,000	75,000	50,146
FY 2031	15,000	15,000	23,438
Outyears	52,371	52,371	77,314
Total TEC	**236,643**	**236,643**	**236,643**

Other Project Costs (OPC)			
Prior Years	17,500	17,500	15,540
FY 2025	10,000	10,000	10,319
FY 2026	2,000	2,000	1,629
FY 2027	1,500	1,500	1,885
FY 2028	500	500	1,014
FY 2029	4,168	4,168	1,145
FY 2030	3,891	3,891	3,754
FY 2031	0	0	1,416
Outyears	8,561	8,561	11,418
Total, OPC	**48,120**	**48,120**	**48,120**
Total Project Costs (TPC)			
Prior Years	17,500	17,500	15,540
FY 2025	10,000	10,000	10,319
FY 2026	23,248	23,248	22,465
FY 2027	27,500	27,500	27,750
FY 2028	21,024	21,024	21,557

FY 2029	30,668	30,668	19,646
FY 2030	78,891	78,891	53,900
FY 2031	15,000	15,000	24,854
Outyears	60,932	60,932	88,732
Total TPC	**284,763**	**284,763**	**284,763**

Accelerator Subproject (26-D-513-03)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2026	3,500	3,500	2,499
FY 2027	14,000	14,000	14,852
FY 2028	23,000	23,000	22,555
FY 2029	29,195	29,195	25,935
FY 2030	0	0	3,854
FY 2031	0	0	0
Outyears	16,840	16,840	16,840
Total Design	**86,535**	**86,535**	**86,535**
Construction			
FY 2027	0	0	0
FY 2028	0	0	0
FY 2029	1,500	1,500	699
FY 2030	30,995	30,995	19,652
FY 2031	100,000	100,000	97,197
Outyears	80,138	80,138	95,085
Total Construction	**212,633**	**212,633**	**212,633**
TEC			
FY 2026	3,500	3,500	2,499
FY 2027	14,000	14,000	14,852
FY 2028	23,000	23,000	22,555
FY 2029	30,695	30,695	26,634
FY 2030	30,995	30,995	23,506
FY 2031	100,000	100,000	97,197
Outyears	96,978	96,978	111,925
Total TEC	**299,168**	**299,168**	**299,168**
Other Project Costs (OPC)			
Prior Years	20,000	20,000	13,713
FY 2025	5,000	5,000	9,106

		Budget Authority (Appropriations)	Obligations	Costs
	FY 2026	0	0	195
	FY 2027	1,000	1,000	1,082
	FY 2028	500	500	1,055
	FY 2029	1,990	1,990	968
	FY 2030	5,000	5,000	1,850
	FY 2031	1,226	1,226	5,873
	Outyears	11,784	11,784	12,658
Total, OPC		**46,500**	**46,500**	**46,500**
Total Project Costs (TPC)				
	Prior Years	20,000	20,000	13,713
	FY 2025	5,000	5,000	9,106
	FY 2026	3,500	3,500	2,694
	FY 2027	15,000	15,000	15,934
	FY 2028	23,500	23,500	23,610
	FY 2029	32,685	32,685	27,602
	FY 2030	35,995	35,995	25,356
	FY 2031	101,226	101,226	103,070
	Outyears	108,762	108,762	124,583
Total TPC		**345,668**	**345,668**	**345,668**

Office/Light Laboratory (OLL) Subproject (26-D-513-04)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2026	0	0	0
FY 2027	7,000	7,000	6,411
FY 2028	7,910	7,910	8,499
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	0	0	0
Outyears	3,603	3,603	3,603
Total Design	**18,513**	**18,513**	**18,513**
Construction			
FY 2027	500	500	430

	Budget Authority (Appropriations)	Obligations	Costs
FY 2028	45,000	45,000	39,578
FY 2029	70,536	70,536	62,938
FY 2030	0	0	13,090
FY 2031	0	0	0
Outyears	28,038	28,038	28,038
Total Construction	**144,074**	**144,074**	**144,074**
TEC			
FY 2026	0	0	0
FY 2027	7,500	7,500	6,841
FY 2028	52,910	52,910	48,077
FY 2029	70,536	70,536	62,938
FY 2030	0	0	13,090
FY 2031	0	0	0
Outyears	31,641	31,641	31,641
Total TEC	**162,587**	**162,587**	**162,587**
Other Project Costs (OPC)			
Prior Years	4,554	4,554	1,825
FY 2025	1,500	1,500	1,212
FY 2026	0	0	0
FY 2027	1,000	1,000	488
FY 2028	0	0	2,576
FY 2029	4,010	4,010	3,912
FY 2030	0	0	1,051
FY 2031	0	0	0
Outyears	2,673	2,673	2,673
Total, OPC	**13,737**	**13,737**	**13,737**
Total Project Costs (TPC)			
Prior Years	4,554	4,554	1,825
FY 2025	1,500	1,500	1,212
FY 2026	0	0	0
FY 2027	8,500	8,500	7,329
FY 2028	52,910	52,910	50,653
FY 2029	74,546	74,546	66,850
FY 2030	0	0	14,141
FY 2031	0	0	0
Outyears	34,314	34,314	34,314
Total TPC	**176,324**	**176,324**	**176,324**

4. Details of Project Cost Estimate ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	275,227	400,000	N/A
	Federal Support	4,329	5,000	N/A
	Contingency	31,423	215,000	N/A
	Undistributed Budget	69,768	N/A	N/A
Total Design		**380,746**	**620,000**	**N/A**
Construction				
	Site Preparation	33,633	30,000	N/A
	LLP Equipment	164,871	130,000	N/A
	Construction/Fab/Install	754,299	660,000	N/A
	MOC Construction	13,766	N/A	N/A
	Fuel	132,716	20,000	N/A
	Federal Support	22,565	15,000	N/A
	Contingency	499,016	430,000	N/A
	Undistributed Budget	363,639	N/A	N/A
Total Construction		**1,984,506**	**1,285,000**	**N/A**
Total Estimated Cost (TEC)		**2,365,252**	**1,905,000**	**N/A**
Contingency, TEC		*530,439*	*645,000*	*N/A*
Other Project Costs (OPC)				
	Conceptual Planning & Design	87,711	90,965	N/A
	ESHQ	112,918	20,000	N/A
	Transition To Ops	123,248	70,000	N/A
	Federal Support	4,943	4,000	N/A
	Contingency	26,264	36,035	N/A
	Undistributed Budget	79,663	N/A	N/A
Total OPC		**434,748**	**221,000**	**N/A**
Contingency, OPC		*26,264*	*36,035*	*N/A*
Total Project Cost		**2,800,000**	**2,126,000**	**N/A**
Total Contingency (TEC+OPC)		***556,703***	***681,035***	***N/A***

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	138,585	N/A	N/A
	Federal Support	2,185	N/A	N/A
	Contingency	16,187	N/A	N/A
	Undistributed Budget	35,213	N/A	N/A
Total Design		**192,171**	**N/A**	**N/A**
Construction				
	Site Preparation	33,633	N/A	N/A
	LLP Equipment	143,714	N/A	N/A
	Construction/Fab/Install	453,218	N/A	N/A
	MOC Construction	13,766	N/A	N/A
	Fuel	132,716	N/A	N/A
	Federal Support	16,768	N/A	N/A
	Contingency	410,648	N/A	N/A
	Undistributed Budget	270,219	N/A	N/A
Total Construction		**1,474,683**	**N/A**	**N/A**
Total Estimated Cost (TEC)		**1,666,853**	**N/A**	**N/A**
Contingency, TEC		*426,835*	*N/A*	*N/A*
Other Project Costs (OPC)				
	Conceptual Planning & Design	35,997	N/A	N/A
	ESHQ	81,557	N/A	N/A
	Transition To Ops	123,248	N/A	N/A
	Federal Support	3,711	N/A	N/A
	Contingency	22,070	N/A	N/A
	Undistributed Budget	59,808	N/A	N/A
Total OPC		**326,391**	**N/A**	**N/A**
Contingency, OPC		*22,070*	*N/A*	*N/A*
Total Project Cost		**1,993,245**	**N/A**	**N/A**
Total Contingency (TEC+OPC)		***448,905***	***N/A***	***N/A***

Reactor Subproject

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	62,663	N/A	N/A
	Federal Support	950	N/A	N/A
	Contingency	4,609	N/A	N/A
	Undistributed Budget	15,305	N/A	N/A
Total Design		**83,527**	**N/A**	**N/A**
Construction				
	Site Preparation	0	N/A	N/A
	LLP Equipment	9,083	N/A	N/A
	Construction/Fab/Install	88,853	N/A	N/A
	MOC Construction	0	N/A	N/A
	Fuel	0	N/A	N/A
	Federal Support	1,741	N/A	N/A
	Contingency	25,381	N/A	N/A
	Undistributed Budget	28,057	N/A	N/A
Total Construction		**153,116**	**N/A**	**N/A**
Total Estimated Cost (TEC)		**236,643**	**N/A**	**N/A**
Contingency, TEC		*29,990*	*N/A*	*N/A*
Other Project Costs (OPC)				
	Conceptual Planning & Design	25,859	N/A	N/A
	ESHQ	11,641	N/A	N/A
	Transition To Ops	0	N/A	N/A
	Federal Support	547	N/A	N/A
	Contingency	1,256	N/A	N/A
	Undistributed Budget	8,817	N/A	N/A
Total OPC		**48,120**	**N/A**	**N/A**
Contingency, OPC		*1,256*	*N/A*	*N/A*
Total Project Cost		**284,763**	**N/A**	**N/A**
Total Contingency (TEC+OPC)		***31,246***	***N/A***	***N/A***

Accelerator Subproject

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	60,275	N/A	N/A
	Federal Support	984	N/A	N/A
	Contingency	9,420	N/A	N/A
	Undistributed Budget	15,857	N/A	N/A
Total Design		**86,535**	**N/A**	**N/A**
Construction				
	Site Preparation	0	N/A	N/A
	LLP Equipment	11,956	N/A	N/A
	Construction/Fab/Install	106,738	N/A	N/A
	MOC Construction	0	N/A	N/A
	Fuel	0	N/A	N/A
	Federal Support	2,418	N/A	N/A
	Contingency	52,559	N/A	N/A
	Undistributed Budget	38,963	N/A	N/A
Total Construction		**212,633**	**N/A**	**N/A**
Total Estimated Cost (TEC)		**299,168**	**N/A**	**N/A**
Contingency, TEC		*61,978*	*N/A*	*N/A*
Other Project Costs (OPC)				
	Conceptual Planning & Design	22,819	N/A	N/A
	ESHQ	11,964	N/A	N/A
	Transition To Ops	0	N/A	N/A
	Federal Support	529	N/A	N/A
	Contingency	2,668	N/A	N/A
	Undistributed Budget	8,521	N/A	N/A
Total OPC		**46,500**	**N/A**	**N/A**
Contingency, OPC		*2,668*	*N/A*	*N/A*
Total Project Cost		**345,668**	**N/A**	**N/A**
Total Contingency (TEC+OPC)		***64,646***	***N/A***	***N/A***

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	13,704	N/A	N/A
	Federal Support	211	N/A	N/A
	Contingency	1,207	N/A	N/A
	Undistributed Budget	3,392	N/A	N/A
Total Design		**18,513**	**N/A**	**N/A**
Construction				
	Site Preparation	0	N/A	N/A
	LLP Equipment	117	N/A	N/A
	Construction/Fab/Install	105,490	N/A	N/A
	MOC Construction	0	N/A	N/A
	Fuel	0	N/A	N/A
	Federal Support	1,638	N/A	N/A
	Contingency	10,428	N/A	N/A
	Undistributed Budget	26,400	N/A	N/A
Total Construction		**144,074**	**N/A**	**N/A**
Total Estimated Cost (TEC)		**162,588**	**N/A**	**N/A**
Contingency, TEC		*11,635*	*N/A*	*N/A*
Other Project Costs (OPC)				
	Conceptual Planning & Design	3,037	N/A	N/A
	ESHQ	7,756	N/A	N/A
	Transition To Ops	0	N/A	N/A
	Federal Support	156	N/A	N/A
	Contingency	270	N/A	N/A
	Undistributed Budget	2,517	N/A	N/A
Total OPC		**13,737**	**N/A**	**N/A**
Contingency, OPC		*270*	*N/A*	*N/A*
Total Project Cost		**176,324**	**N/A**	**N/A**
Total Contingency (TEC+OPC)		***11,905***	***N/A***	***N/A***

5. Schedule of Appropriations Requests

Request Year	Type	Prior Years	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031	Outyears	Total
FY 2026	TEC	0	0	48,748	N/A	N/A	N/A	N/A	N/A	1,856,252	1,905,000
	OPC	69,054	31,500	3,500	N/A	N/A	N/A	N/A	N/A	116,946	221,000
	TPC	69,054	31,500	52,248	N/A	N/A	N/A	N/A	N/A	1,973,198	2,126,000
FY 2027	TEC	0	0	47,748	100,000	171,500	192,404	220,995	278,951	1,353,654	2,365,252
	OPC	67,054	31,500	4,500	5,000	4,500	18,168	26,891	23,226	253,909	434,748
	TPC	67,054	31,500	52,248	105,000	176,000	210,572	247,886	302,177	1,607,563	2,800,000

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	4Q FY 2038
Expected Useful Life (number of years)	50
Expected Future Start of D&D of this capital asset (fiscal quarter)	4Q FY 2088

Related Funding Requirements
(Budget Authority in "Then Year" Millions of Dollars)

Funding Requirements	Annual Costs		Life Cycle Costs	
Estimate Totals	Previous Estimate	Current Estimate	Previous Estimate	Current Estimate
Operations and Maintenance[1]	60	60	13,800-$16,900	13,800-$16,900

7. D&D Information

D&D costs are not included in the TPC.

	Square Feet
New area being constructed by this project	150,000
Area of D&D in this project at SNL	NA
Area at SNL to be transferred, sold, and/or D&D outside the project, including area previously "banked"	150,000
Area of D&D in this project at other sites	NA

[1] The current estimates are from the AOA and may be updated based on the CD-1 approval.

8. Acquisition Approach

The CREST Acquisition Strategy is to execute through the Management and Operating (M&O) contractor at SNL, acting as a Prime Contractor and includes efficient methods of execution. One method is to use a separate contract line item number (CLIN) included in the M&O contract, which will separate the capital asset design and construction work from the regular operations of the laboratory. This separate CLIN allows DOE/NNSA to establish a separate profit/fee to incentivize early completion and under budget execution of the work. Another method is to use umbrella agreements that the M&O has access to that will allow for efficient procurement of the design, and potentially construction, subcontracts. These agreements include pre-established terms and conditions under which task orders can efficiently be placed, as well as contracting vehicles with multiple A/E firms capable of delivering the design of the Nuclear Facility and CUB/CAS and the OLL. Additionally, the execution of the OLL scope will be tailored using NNSA Supplemental Directive 413.3-7, *Project Management for Non-Nuclear, Non-Complex Capital Asset Acquisition*.

The use of Early Contractor Involvement (ECI) and/or Construction Manager at Risk (CMAR) during the design phase will be explored, which is intended to improve the constructability of the design and reduce design document ambiguity. During preliminary and final design, a competitively selected subcontractor may become part of the Integrated Project Team and perform design reviews with a particular focus on constructability. Through continuous engagement during design evolution, the ECI/CMAR subcontractor develops an execution plan for construction and develops and continues to update its construction cost estimate. When the design is sufficiently advanced, the ECI/CMAR may provide a Fixed Firm Price offer for construction.

26-D-514, National Ignition Facility Enhanced Fusion Yield Capability (NIF EYC) Project
Lawrence Livermore National Laboratory, California
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary

The Fiscal Year (FY) 2027 Request for the National Ignition Facility (NIF) Enhanced Fusion Yield Capability (EYC) Project is $84,000,000 of Total Project Cost (TPC) funds. The most recent Department of Energy (DOE) Order (O) 413.3B, *Program & Project Management For The Acquisition Of Capital Assets*, Critical Decision (CD) is CD-0, *Approve Mission Need*, which was approved on September 30, 2024, with a cost range of $470,000,000 to $1,000,000,000 and a CD-4 range of Quarter (Q)1 FY 2031 – Q4 FY 2035. CD-1, *Approve Alternate Selection and Cost Range,* was approved on March 27, 2026. Funding within the project's line-item is requested at the TPC level. The requested Total Estimated Cost (TEC) funds will support design and initiation of long lead procurement. The funding profile for the project supports a $700,000,000 TPC instead of the top end of the CD-0 range.

This project began Other Project Cost (OPC) activities in FY 2025 with funding provided by the Inertial Confinement Fusion program, but in FY 2026, the OPC funding became part of the line-item request. Due to the non-nuclear and non-complex nature of this project, the project will seek to tailor DOE O 413.3B where able, in accordance with the National Nuclear Security Administration (NNSA) SD-413.3-7, *Project Management For Non-Nuclear, Non-Complex Capital Asset Acquisition*, which may significantly decrease the duration between CDs compared to projects executed under DOE O 413.3B. The Critical Milestone History table conservatively estimates CD timelines based on the level of effort required for each CD, but the project expects to achieve milestones faster than usual.

On December 12, 2025, a Federal Project Director (FPD) was designated for the project.

Significant Changes

The Conceptual Design was completed in July 2025, an Independent Cost Review (ICR) was completed in August 2025, and an Independent Project Review (IPR) was completed in September 2025. The design estimate was reduced by $7,500,000 and this was shifted to allow for more long lead procurement.

Critical Milestone History

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	CD-4
FY 2026	9/30/2024	Q4 FY 2025	Q1 FY 2026	Q2 FY 2028	Q1 FY 2028	Q2 FY 2028	Q2 FY 2033
FY 2027	9/30/2024	7/21/2025	3/27/2026	Q2 FY 2028	Q1 FY 2028	Q2 FY 2028	Q2 FY 2033

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range
Conceptual Design Complete - Actual date the conceptual design was completed
CD-1 - Approve Design Scope and Project Cost and Schedule Ranges
CD-2 - Approve Project Performance Baseline
Final Design Complete - Estimated date the project design will be completed
CD-3 - Approve Start of Construction
CD-4 - Approve Start of Operations or Project Closeout

Fiscal Year	CD-3A
FY 2026	Q2 FY 2026
FY 2027	Q4 FY 2026

CD-3A – Approve Long Lead Procurement

Project Cost History ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Total	TPC
FY 2026	30,000	635,000	665,000	35,000	700,00
FY 2027	22,500	642,500	665,000	35,000	700,00

2. Project Scope and Justification

Scope

The EYC mission seeks to benefit from the demonstrated NIF ignition platform by upgrading the NIF laser from a nominal laser energy of 2.2 megajoules (MJ) to 2.6 MJ.

The EYC Project would consist of three primary activities:

1. Laser glass: Insertion of surplus amplifier glass into existing amplifier glass bays in the laser chain. Each bundle (8 beams) currently passes through 15 amplifier slabs; the EYC project will add two additional slabs to each beamline.
2. Optics upgrade: To support the higher laser fluences, the optics components would need to be replaced with higher quality alternatives or undergo certain conditioning techniques to ensure their optimal performance under the increased laser fluence. Optical components that meet the project requirements can be procured from an existing vendor base to support this upgrade, but these are long-lead items that must be ordered in the early phase of the EYC project.
3. Facility modification: The NIF must be modified to safely support the fusion yields anticipated from experiments at higher laser energy. In practice this means upgrading the facility safety basis to 120MJ (the maximum credible yield calculated for an experiment when the EYC project is complete); this would be done through minor adjustments (replacing doors, sealing gaps, replacing some aluminum components with material less prone to activation) and increased administrative controls (additional stay-out areas and recharacterization of some areas to require radiation-cleared workers).

Justification

The EYC project at the NIF would upgrade the laser output from a nominal energy of 2.2 MJ to 2.6 MJ, enabling fusion yields of approximately 30-40 MJ. This enhancement is crucial for achieving high-energy-density (HED) conditions, which have not been accessible since the cessation of underground nuclear testing. NIF is the only facility in the world to achieve a fusion burn chain-reaction ignition in the laboratory, and the increased laser energy will significantly advance the NNSA's ability to generate the conditions necessary to address pressing stockpile questions.

Many of the largest uncertainties in nuclear weapon science exist within the HED regime, a state of matter previously only achievable through underground testing. The fusion ignition experiments at NIF serve as a

unique tool for reaching these conditions. The enhanced fusion yields produced by the EYC will enable the NNSA to reduce gaps and uncertainties surrounding complex HED phenomena critical to nuclear weapon design, certification, and assessment. Key areas of study at NIF include:

- Fusion Physics
- Survivability: Neutrons
- Survivability: X-Rays
- Boost Physics
- Nuclear Reactions of Unstable Nuclei: Fission and Radiochemistry
- Material Properties: Opacity & Radiation Transport
- Material Properties: Equation of State (EOS)
- Hydrodynamic Mixing

The upgrade will not only enhance the Science-Based Stockpile Stewardship Program by expanding the study of dynamic physical processes and material properties under conditions similar to those in nuclear weapons, but it will also provide experimental data that improves physics modeling and design processes.

The EYC project aligns with the NNSA's strategic goals of maintaining a safe, secure, and effective nuclear deterrent, addressing the risks associated with future high-yield facilities, and supporting the modernization of nuclear security infrastructure. This initiative will also contribute to workforce development by providing advanced experimental capabilities and training opportunities for future stockpile scientists.

Details regarding the specific applications of NIF to these areas are outlined in the classified NIF EYC Mission Need Statement.

Preliminary Key Performance Parameters (KPPs)

The preliminary Key Performance Parameters for the EYC project are derived from the mission needs considering the current configuration of existing facilities, assessments of current facility conditions and effectiveness, and current and future Lawrence Livermore National Laboratory (LLNL) missions. The following table lists the program requirements for the EYC project.

#	Key Performance Parameter Description	Threshold Value
1	The solution must provide sufficient laser energy and power to enable increased fusion yields in support of activities for the current and future stockpile, fusion physics and scaling to high-yield, threat mitigation, and other nuclear weapons-related research and development.	2.6 MJ & 450 Terawatts (TW)
2	The solution must provide optics readiness to support operations at increased laser energy.	The facility will implement the necessary optical mitigation methods, new optical components, and new optical capabilities to support recurring 2.6 MJ & 450 TW laser shots.

3	The solution must provide the necessary personnel radiation protection measures to support increased fusion yields.	Enable single shot operations up to 60 MJ of neutron yield.

3. Financial Schedule ($K)[1]

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2026	22,500	22,500	5,000
FY 2027	-	-	17,500
Total Design	**22,500**	**22,500**	**22,500**
Construction			
FY 2026	2,000	2,000	1,000
FY 2027	84,000	84,000	70,000
FY 2028	148,480	148,480	155,000
FY 2029	115,000	115,000	120,000
FY 2030	52,000	52,000	50,000
FY 2031	41,000	41,000	42,500
Outyears	200,020	200,020	204,000
Total Construction	**642,500**	**642,500**	**642,500**
TEC			
FY 2026	24,500	24,500	6,000
FY 2027	84,000	84,000	87,500
FY 2028	148,480	148,480	155,000
FY 2029	115,000	115,000	120,000
FY 2030	52,000	52,000	50,000
FY 2031	41,000	41,000	42,500
Outyears	200,020	200,020	204,000
Total TEC	**665,000**	**665,000**	**665,000**
Other Project Costs (OPC)			
Prior Years	500	500	500
FY 2025	500	500	500
FY 2026	1,500	1,500	1,500
FY 2027	-	-	-
FY 2028	-	-	-
FY 2029	-	-	-

[1] The project has not yet been approved for CD-2 and therefore has not been baselined. Outyear funding amounts may be revised in future budget requests as NNSA baselines the project in accordance with DOE Order 413.3B.

	Budget Authority (Appropriations)	Obligations	Costs
FY 2030	-	-	-
FY 2031	14,000	14,000	12,000
Outyears	18,500	18,500	20,500
Total, OPC	**35,000**	**35,000**	**35,000**
Total Project Costs (TPC)			
Prior Years	500	500	500
FY 2025	500	500	500
FY 2026	26,000	26,000	7,500
FY 2027	84,000	84,000	87,500
FY 2028	148,480	148,480	155,000
FY 2029	115,000	115,000	120,000
FY 2030	52,000	52,000	50,000
FY 2031	55,000	55,000	54,500
Outyears	218,520	218,520	224,500
Total TPC	**700,000**	**700,000**	**700,000**

4. Details of Project Cost Estimate ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	10,000	22,000	N/A
	Federal Support	2,500	2,500	N/A
	Contingency	10,000	5,500	N/A
Total Design		**22,500**	**30,000**	**N/A**
Construction				
	Site Preparation	15,000	15,000	N/A
	Long Lead Procurement	107,500	100,000	N/A
	Equipment	375,000	375,000	N/A
	Construction	26,000	26,000	N/A
	Federal Support	16,100	16,100	N/A
	Contingency	102,900	102,900	N/A
Total Construction		**642,500**	**635,000**	**N/A**
Total Estimated Cost (TEC)		**665,000**	**665,000**	**N/A**
Contingency, TEC		*112,900*	*108,400*	*N/A*
Other Project Costs (OPC)				
OPC except D&D				
	Business Case Analysis	500	500	N/A
	Conceptual Design	1,000	1,000	N/A
	CD-1 Preparation	1,000	500	N/A
	Federal Support	3,500	4,000	N/A
	Start-up & TTO	20,000	20,000	N/A
	Project Closeout	2,000	2,000	N/A
	Contingency	7,000	7,000	N/A
Total OPC		**35,000**	**35,000**	**N/A**
Contingency, OPC		*7,000*	*7,000*	*N/A*
Total Project Cost		**700,000**	**700,000**	**N/A**
Total Contingency (TEC+OPC)		***119,900***	***115,400***	***N/A***

5. Schedule of Appropriations Requests ($K)

Request Year	Type	Prior Years	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Outyears	Total
FY 2026	TEC	-	-	24,500	N/A	N/A	N/A	N/A	N/A	640,500	665,000
	OPC	500	500	1,500	N/A	N/A	N/A	N/A	N/A	32,500	35,000
	TPC	500	500	26,000	N/A	N/A	N/A	N/A	N/A	673,000	700,000
FY 2027	TEC	-	-	24,500	84,000	148,480	115,000	52,000	41,000	200,020	665,000
	OPC	500	500	1,500	-	-	-	-	14,000	18,500	35,000
	TPC	500	500	26,000	84,000	148,480	115,000	52,000	55,000	218,520	700,000

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	Q2 FY 2033
Expected Useful Life (number of years)	20
Expected Future Start of D&D of this capital asset (fiscal quarter)	Q2 FY 2053

The increased laser energy at NIF does not allow for a higher number of shots executed per year, meaning overall operational costs are expected to remain unchanged from current NIF operations costs.

7. D&D Information

Deactivation and Decommissioning (D&D) is not included in the scope of the EYC project.

8. Acquisition Approach

The conceptual design was led by the LLNL Management and Operating contractor who will form a management and technical team structure to perform design, production, integration, and commissioning activities. The Acquisition Strategy is being finalized for the acquisition of the design and construction of the facility as part of the CD-1 approval package. NNSA is budgeting to $700,000,000 rather than the top end of the CD-1 range and will work to minimize use of Management Reserve and Contingency to meet this amount through diligent cost and schedule management and leveraging tailored and efficient management solutions where able.

Infrastructure and Operations

Overview
The Infrastructure and Operations program maintains, operates, and modernizes the National Nuclear Security Administration (NNSA) infrastructure in a safe, secure, and cost-effective manner to support all NNSA programs. Infrastructure and Operations efforts provide a comprehensive approach to modernizing NNSA infrastructure while maximizing return on investment, enabling program results, and reducing enterprise risk. The program also plans, prioritizes, and constructs mission-enabling facilities and infrastructure.

Operations of Facilities
The Operations of Facilities program provides the funding required to operate NNSA facilities in a safe and secure manner. Operations of Facilities is fundamental to achieving NNSA's plutonium, uranium, tritium, lithium, high explosives, and other mission objectives. This program includes essential support such as water and electrical utilities; safety systems; and lease agreements.

Safety and Environmental Operations
The Safety and Environmental Operations program provides funding to support the Department's Nuclear Criticality Safety Program (NCSP) subprogram, Nuclear Safety Research and Development (NSR&D) subprogram, Packaging subprogram, Nuclear Materials Integration (NMI) subprogram, and Environmental Operations (EO) subprogram.

Maintenance and Repair of Facilities
The Maintenance and Repair of Facilities program (Maintenance) provides direct-funded maintenance activities across the NNSA enterprise for the recurring day-to-day work required to sustain and preserve NNSA facilities in a condition suitable for their designated purpose. These efforts include predictive, preventive, and corrective maintenance activities to maintain facilities, property, assets, systems, roads, and vital safety systems.

Recapitalization
The Recapitalization program is key to modernizing NNSA's infrastructure. Recapitalization funds projects to modernize numerous obsolete support and safety systems across the enterprise; revitalize facilities that are beyond the end of their design life; and improve the reliability, efficiency, and capability of core infrastructure to meet mission requirements. The Recapitalization program modernizes NNSA infrastructure by prioritizing investments including the acquisition of new facilities or discrete projects to improve the condition and extend the life of structures, capabilities, and systems. Recapitalization investments help achieve operational efficiencies and reduce safety, security, and program risk. Recapitalization also funds deactivation and disposal of excess infrastructure, including stabilization and risk reduction activities at high-risk excess facilities, resulting in surveillance and maintenance cost avoidance and reduced risk to workers, the public, environment, and programs.

Line-Item Construction
Infrastructure and Operations line-item construction projects are critical to revitalizing mission-enabling infrastructure. These projects will replace obsolete, unreliable facilities and infrastructure to reduce safety and program risk while improving responsiveness, capacity, and capabilities. NNSA uses a prioritization methodology for mission enabling line-item construction that evaluates investments on closing mission gaps, reducing infrastructure risk and safety risk, and reducing deferred maintenance.

Infrastructure Modernization Initiative (IMI)
NNSA utilizes BUILDER, a system developed by the U.S. Army Corps of Engineers and recognized by the National Academy of Sciences as a best-in-class practice for infrastructure management. The BUILDER

system uses comprehensive inventory, lifecycle, cost, and assessment data and risk-informed standards and policies to recommend repairs and replacements at the most opportune time, thus improving NNSA's ability to pinpoint and prioritize investments. Using BUILDER-based calculations provides an accurate and transparent understanding of NNSA's infrastructure. NNSA's calculated Replacement Plant Value (RPV) for FY 2025 is $192.1 billion, of which $4.8 billion is excess facilities.

As a result of our data-driven and risk-informed infrastructure tools, NNSA has transitioned from a financially driven (e.g., DM) to a risk-driven plan for improving infrastructure. While many of our projects will inherently reduce DM, DM reduction is not the primary metric driving project selection. The increase in DM, RPV, and DM/RPV from FY 2024 to FY 2025 is in part the result of the Savannah River Site (SRS) transition from the DOE Office of Environmental Management (EM) to NNSA ownership. The overall physical condition of NNSA's infrastructure did not decline. (Table 1)

Table 1
NNSA Deferred Maintenance (DM) as a Percentage of Replacement Plant Value (RPV) of Active Facilities

Metric	FY 2024	FY 2025
DM	$9.0B	$12.6B
RPV	$142.8B	$187.3B
DM/RPV Ratio	6.30%	6.71%

In response to Government Accountability Office (GAO) recommendations, the following information is provided to improve transparency in the budget. Table 2 below lists total DM for Active and Excess facilities at NNSA sites, including a breakdown of that DM at different stages of facilities' design lives.

Table 2
NNSA Deferred Maintenance (DM) and Replacement Plant Value (RPV) as of FY 2025 ($K)

Facility Group	DM	% of Total DM	RPV	DM/RPV
All Active Facilities	**$12,567,060**	**99.28%**	**$ 187,291,777**	**6.71%**
Active Facilities 40+ Years Old	$ 9,194,802	72.64%	$ 108,472,255	8.48%
Active Facilities 30-39 Years Old	$ 2,250,498	17.78%	$ 32,052,414	7.02%
Active Facilities 0-29 Years Old	$ 1,121,760	8.86%	$ 46,767,108	2.40%
All Excess Facilities	**$ 91,160**	**0.72%**	**$ 4,823,717**	**1.89%**
All Facilities	**$12,658,220**	**100.00%**	**$ 192,115,494**	**6.59%**

Excess facilities are associated with approximately $91M or 0.72 percent of total DM. Approximately 90 percent of NNSA's DM is associated with facilities that are approaching or surpassed their 40-year design life. As part of a prudent investment strategy, NNSA will intentionally not perform some of the maintenance and repair on facilities with near-term replacement strategies or those that are or soon will become excess. NNSA is prioritizing its investments based on reducing mission risk, and it will take time and sustained investment in new construction to replace aged facilities and reverse operational risks from this legacy infrastructure.

NNSA annually screens excess facilities to identify the highest risks to mission, workers, the public, and the environment to support risk-informed decision making. Table 3 lists the highest-risk facilities.

Table 3
NNSA's Highest-Risk Excess Facilities

Site	Owner	Facility	Year Built	Excess Year
Y-12	NNSA	Alpha 5, Building 9201-05[1]	1944	2009
Y-12	NNSA	Beta 4, Building 9204-04 [1]	1945	2014
Y-12	SC	Beta 1, Fusion Energy-Eng Tech, Building 9204-01 [1]	1944	2015
Y-12	NNSA	Production, Building 9206 [1]	1944	2014
Y-12	NE	Beta 3, Isotope Separations, Building 9204-03[2]	1945	2013
LLNL	NNSA	Legacy Slab from Bldg 412[1,3]	1952	2022
LLNL	EM	Livermore Pool-Type Reactor, Building 280[1,3]	1956	2007
LLNL	NNSA	Rotating Target Neutron Source Facility, Building 292[1]	1979	2017
LLNL	NNSA	Explosives & High Pressure Testing Facility 343[1]	1960	2015
LANL	NNSA	Ion Beam Facility, Building TA-3-0016[1,3]	1953	1999

[1] Requires DOE Environmental Management (EM) to disposition.
[2] Beta 3, Isotope Separations, Building 9204-03 cannot be disposed (designated historical).
[3] Facilities for which disposition is currently funded and are in the process of being demolished.

Infrastructure and Operations
($K)[1]

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding	FY 2027 Request	FY 2027 Request vs FY2026 Enacted	
					$	%
Infrastructure and Operations						
Operating						
Operations of Facilities	1,378,725	1,615,605		1,752,310	136,705	8.5%
Safety and Environmental Operations						
Nuclear Criticality Safety Program	31,141	34,789		34,779	(10)	0.0%
Nuclear Safety Research and Development	3,159	3,153		3,090	(63)	-2.0%
Packaging	23,259	32,690		33,518	828	2.5%
Environmental Operations	72,450	98,872		117,809	18,937	19.2%
Nuclear Materials Integration	24,961	24,856		28,706	3,850	15.5%
Total, Safety and Environmental Operations	154,970	194,360	-	217,902	23,542	12.1%
Maintenance and Repair of Facilities	919,600	830,500	400,000	1,384,323	553,823	66.7%
Recapitalization	741,671	707,628	140,000	1,203,127	495,499	70.0%
Total, Operating	3,194,966	3,348,093	540,000	4,557,662	1,209,569	36.1%
Mission Enabling Construction						
27-D-512 Plutonium Engineering Support Building, LANL	-	-		88,700	88,700	0.0%
25-D-511 PULSE New Access, NNSS	5,000	-		50,000	50,000	0.0%
25-D-510 Plutonium Mission Safety & Quality Building, LANL	48,500	-		0	0	0.0%
24-D-510 Analytic Gas Laboratory, PX	36,000	-		0	0	0.0%
23-D-517 Electrical Power Capacity Upgrade, LANL	70,000	-	60,000	65,000	65,000	0.0%
Total, Mission Enabling Construction	159,500	-	60,000	203,700	203,700	0.0%
Total, Infrastructure and Operations	**3,354,466**	**3,348,093**	**600,000**	**4,761,362**	**1,413,269**	**42.2%**

[1] P.L. 119-21 (Working Families Tax Cut Act, or WFTC) provided $3,885,000,000 billion in funding to DOE/NNSA. From this funding, DOE/NNSA has allocated $400,000,000 to Maintenance and Repair of Facilities and $140,000,000 to Recapitalization.

Infrastructure and Operations
Outyear Funding ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
Infrastructure and Operations				
Operating				
Operations of Facilities	1,801,759	1,830,118	1,873,028	1,944,436
Safety and Environmental Operations				
Nuclear Criticality Safety Program	35,267	37,530	37,257	37,529
Nuclear Safety Research and Development	3,090	2,476	2,528	2,581
Packaging	33,561	33,480	34,997	35,732
Environmental Operations	118,723	119,669	121,691	124,632
Nuclear Materials Integration	30,599	32,510	33,705	34,308
Total, Safety and Environmental Operations	221,240	225,665	230,178	234,782
Maintenance and Repair of Facilities	1,426,009	1,466,250	1,477,252	1,511,514
Recapitalization	1,250,590	1,324,098	1,257,871	1,215,709
Total, Operating	**4,699,598**	**4,846,131**	**4,838,329**	**4,906,441**
Mission Enabling Construction				
31-D-XXX Protective Forces Support Facility, LANL	-	-	-	98,700
31-D-XXX 138 kV Back Loop Replacement, NNSS	-	-	-	98,700
30-D-XXX TA-46 Protective Force Facility, LANL	-	-	98,700	-
30-D-XXX Plutonium Program Accounting Building, LANL	-	-	98,700	-
29-D-XXX Plutonium Production Building, LANL	-	98,700	-	-
25-D-511 PULSE New Access, NNSS	140,000	90,000	20,000	-
23-D-517 Electrical Power Capacity Upgrade, LANL	62,674	52,430	-	-
Total, Mission Enabling Construction	**202,674**	**241,130**	**217,400**	**197,400**
Total, Infrastructure and Operations	**4,902,272**	**5,087,261**	**5,055,729**	**5,103,841**

Overview

The Operations of Facilities program provides the funding required to operate NNSA facilities in a safe manner. Operations of Facilities is fundamental to achieving NNSA's plutonium, uranium, tritium, lithium, high explosives, and other mission objectives. It includes essential support such as water and electrical utilities, safety systems, lease agreements for facilities and land, emergency response services, and other critical systems. This program also provides resources for environment, safety, health, and quality (ESH&Q) costs associated with ensuring compliance with Federal, state, and local environmental, worker safety, and health regulations as well as applicable DOE Orders and Directives.

The Operations of Facilities program also funds facility waste management activities, including treatment, storage, and waste disposition of both hazardous and newly generated radiological wastes. It provides for the daily operations and staffing to ensure facilities, systems, and capabilities are available to meet mission requirements.

FY 2025-FY 2031 site allocations for the Operations of Facilities program are provided in Table 4 below.

Table 4
National Nuclear Security Administration
Operations of Facilities Allocations by Site
($K)

Site	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 3031 Request
Kansas City National Security Campus	113,100	136,000	150,000	155,000	160,000	165,000	175,000
Lawrence Livermore National Laboratory	111,000	130,000	140,000	145,000	147,000	152,000	158,000
Los Alamos National Laboratory	455,000	580,000	615,000	625,000	635,000	645,000	670,000
Nevada National Security Site	119,500	135,000	152,000	156,000	158,000	161,000	166,000
Pantex Plant	99,700	107,000	109,000	113,000	115,000	118,000	121,000
Sandia National Laboratories	120,000	135,000	145,000	149,000	151,000	156,000	160,000
Savannah River Site	105,000	210,000	217,000	223,000	227,000	233,000	241,000
Savannah River National Laboratory	34,000	-	-				
Y-12 National Security Complex	131,000	145,000	155,000	159,000	162,000	167,000	177,000
Enterprise Acquisitions *	57,210	37,605	69,310	76,759	75,118	76,028	76,436
SAFER**	23,240	-	-				
SWEIS**	5,225	-	-				
Waste Management**	4,750	-	-				
TOTAL	**1,378,725**	**1,615,605**	**1,752,310**	**1,801,759**	**1,830,118**	**1,873,028**	**1,944,436**

*The Operations of Facilities allocation under "Enterprise Acquisitions" includes funding to quickly respond to emergent unforeseeable issues. Funding is distributed to the sites during execution, which is consistent with industry best practices.
** SAFER, SWEIS & Nuclear Waste Management scope & funding transitioned to Safety and Environmental Operations in FY 2026.

Highlights of the FY 2027 Budget Request
The FY2027 budget request enables the program to keep pace with increased programmatic mission tempo across the nuclear security enterprise.

Explanation of Change for Operations of Facilities (+$136.705 million)
- The increase includes additional support for the expanded Kansas City National Security Campus (KCNSC) as well as microelectronics, waste management, and non-nuclear component mission growth. At Lawrence Livermore National Laboratory (LLNL), increases support mission growth in high explosives, test & experiments, Radioactive and Hazardous Waste Management (RHWM) division operations, and pit production capacity at Superblock. At Nevada National Security Site (NNSS), increases will support Device Assembly Facility (DAF) staffing, the already-expanded operational footprint at PULSE, High Explosives Facility (HEF) mission utilization, and Area 11 new facility operations associated with Enhanced Capabilities for Subcritical Experiments. Funding at Sandia National Laboratories (SNL) will allow staffing and supply increases needed for mission growth supporting Microelectronics, Accelerators, Primary Standards Lab (PSL), Mechanical Test and Evaluation Facility (METF), and Tonopah Test Range (TTR). At Y-12 National Security Complex (Y-12), increases support waste activities and enriched uranium mission growth.

Infrastructure and Operations
Safety and Environmental Operations

Overview

The Safety and Environmental Operations (SEOps) program includes a suite of activities that crosscut the various missions within NNSA. These include direct funded activities such as the Department's Nuclear Criticality Safety Program (NCSP) and Nuclear Safety Research and Development subprograms, the Nuclear Packaging subprogram, the Environmental Operations (EO) subprogram, and the Nuclear Materials Integration subprogram (NMI). These activities form building blocks used by the line organizations to implement their missions.

The Long-Term Stewardship (LTS) activities within the EO subprogram address residual contamination remaining at NNSA mission sites after cleanup projects are completed and long-term remedy operations are established. It ensures safe cleanup levels are maintained by operating and maintaining remediation systems, performing surveillance and maintenance of engineered controls, and monitoring contaminant levels in the soil and groundwater while ensuring compliance with environmental regulations.

SEOps maintains Enterprise data and information management tools such as Safety, Analytics, Forecasting, Evaluation, and Reporting (SAFER) and the Nuclear Materials Management and Safeguard System (NMMSS) to assess and mitigate risk throughout the enterprise.

NA-ESH leads NNSA's planning, preparation and disposition of material excess to NNSA mission needs including chemical, radioactive, and mixed waste from throughout the Enterprise. In accordance with Executive Orders 14299 and 14301 related to reinvigoration of the U.S. nuclear industrial base as well as promoting development of nuclear energy options, NA-ESH's goal is to effectively manage risks by identifying and exploiting economies of scale, implementing process improvements, and developing contingent pathways for processing and/or disposition. NA-ESH pursues this goal through continuous dynamic assessment of NNSA operations to expose and address performance bottlenecks that impede mission success, expanding waste management and minimization initiatives, and constructive engagement and integration of private sector capabilities whenever applicable. NA-ESH accomplishes these objectives by collaborating with field sites and on-site personnel to ensure effective solutions that support NNSA mission success are implemented in a timely manner.

SEOps oversees NNSA's National Environmental Policy Act (NEPA) Program, which completes environmental impact analyses required by NEPA to better inform NNSA decision-makers of the potential environmental and economic impacts of proposed NNSA projects through Site Wide Environmental Impact Statements (SWEIS), environmental assessments, and other environmental impact statements. In addition, SEOps funds the New Mexico Environment Department and other Agreement-in-Principle/grant type activities to fully support both New Mexico sites (Los Alamos National Laboratory and Sandia National Laboratories-New Mexico), as well as sites in California and Texas.

Table 5
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
SEOps							
Nuclear Criticality Safety Program	31,141	34,789	34,779	35,267	37,530	37,257	37,529
Nuclear Safety R&D	3,159	3,153	3,090	3,090	2,476	2,528	2,580
Packaging	23,259	32,690	33,518	33,561	33,480	34,997	35,732
Environmental Operations [1]	72,450	98,872	117,809	118,723	119,669	121,691	124,633
Nuclear Materials Integration	24,961	24,856	28,706	30,599	32,510	33,705	34,308
SEOps Total	**154,970**	**194,360**	**217,902**	**221,240**	**225,665**	**230,178**	**234,782**

Highlights of the FY 2027 Budget Request
Provides funding for the Safety and Environmental Operations (SEOps) program to facilitate nuclear safety across NNSA and to execute the Long-Term Stewardship Program; Nuclear Material Management and Safeguards System (United States Accountability System for Nuclear Materials); National Environmental Policy Act (NEPA) analyses; and infrastructure resilience, energy security, and waste management initiatives to enable facility space availability and support pit production schedules.

Explanation of Change for Safety and Environmental Operations (+$23.542 million)

- **Nuclear Criticality Safety Program**
  - No significant change.

- **Nuclear Safety Research and Development**
  - No significant change.

- **Packaging**
  - The increase funds the procurement of additional DPP-1 containers.

- **Environmental Operations**
  - The increase funds the new regulatory compliance requirements for investigation and corrective measure studies of newly discovered contamination of the Ogallala aquifer at Pantex, addresses new requirements to mitigate contamination plume movement in the perched aquifer at Pantex, and implements new soil vapor intrusion requirements at LLNL's main site.

- **Nuclear Materials Integration**
  - The increase supports the near-term critical needs to address Storage Space shortage at multiple critical facilities which are at the risk of delaying plutonium pit production and causing a cascade of delays throughout the Complex.

1 Starting in FY 2026, the EO subprogram consists of activities conducted under the Long-Term Stewardship (LTS) subprogram, along with Nuclear Waste Management, SAFER, and SWEIS efforts previously funded in Operations of Facilities. EO funding also includes program support activities and support for corporate assessments.

Overview

The Maintenance and Repair of Facilities program provides direct-funded maintenance activities across the NNSA enterprise, including DOE owned federal Field Office space, for the recurring day-to-day work required to sustain and preserve facilities and equipment in a condition suitable for their designated purpose. These efforts include predictive, preventive, and corrective maintenance activities to maintain facilities, property, assets, systems, roads, and vital safety systems. This program also funds maintenance of excess facilities (including high-risk excess facilities) necessary to minimize the risk posed by those facilities prior to disposition.

Maintenance and Repair of Facilities is prioritized within an enterprise risk management framework based on mission needs; probability of failure of a system or a component; and risk determination regarding safety, security, and environmental requirements. Investments focus on those structures, systems, and components that are considered essential to the national security mission. FY 2025-FY 2031 site allocations are provided in Table 6 below.

This program also funds the Roof Asset Management Program (RAMP) and the Cooling and Heating Asset Management Program (CHAMP). RAMP provides a dedicated approach to managing roofing assets through a single prioritized list of roofing needs across the nuclear security enterprise. The successful RAMP methodology has been expanded to other common components/systems under the Asset Management Program (AMP). Other systems will be analyzed as possible AMPs to achieve additional efficiencies.

Table 6
National Nuclear Security Administration
Direct Funded Maintenance & Repair of Facilities Allocations by Site
($K)

Site	FY 2025 Enacted	WFTCA Funding	FY 2026 Enacted	FY 2027 Request	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
Kansas City National Security Campus	44,800	40,000	5,000	55,000	70,000	75,000	85,000	95,000
Lawrence Livermore National Laboratory	51,090	40,000	50,180	100,000	115,000	125,000	135,000	140,000
Los Alamos National Laboratory	212,000	55,000	235,473	305,000	305,000	315,000	330,000	345,000
Nevada National Security Site	103,388	50,000	110,435	165,000	180,000	195,000	195,000	200,000
Pantex Plant	140,000	65,000	120,000	190,000	185,000	190,000	190,000	195,000
Sandia National Laboratories	33,000	40,000	5,000	50,000	50,000	50,000	52,000	52,000
Savannah River Site	47,000	40,000	32,000	80,000	90,000	95,000	105,000	110,000
Savannah River National Laboratory	8,000	-	-	-	-	-	-	-
Y-12 National Security Complex	180,811	70,000	159,240	250,000	210,000	215,000	230,000	235,000
Enterprise Acquisitions [1]	99,511	-	113,172	189,323	221,009	206,250	155,252	139,514
TOTAL	**919,600**	**400,000**	**830,500**	**1,384,323**	**1,426,009**	**1,466,250**	**1,477,252**	**1,511,514**

[1] The Maintenance and Repair of Facilities allocation under "Enterprise Acquisitions" includes funding for Asset Management Programs, which achieve economies of scale and maintenance standardization for critical building systems that are common across the enterprise (e.g., roofs, HVAC) and to quickly respond to emergent unforeseeable issues. Funding is distributed to the sites during execution, which is consistent with industry's best practices.

Highlights of the FY 2027 Budget Request
The FY 2027 budget request supports all key NNSA missions, including stockpile stewardship, nonproliferation, and global security. Key capabilities within NNSA's 6,000 + real property assets, with 60 percent rated in poor condition, will be addressed. The funding positions the maintenance program to perform preventive, predictive and corrective maintenance, as well as perform risk reduction work. It also supports the sites' ability to address emergent events and sustain ongoing risk reduction efforts without compromising schedules.

Explanation of Change for Maintenance and Repair of Facilities (+$553.823 million)
- The delta reflects only discretionary funding. NNSA will obligate $400 million of mandatory funding for Maintenance and Repair of Facilities by the end of FY 2026.
- The increase reflects the increased tempo at NNSA's sites to meet mission requirements. LANL's plutonium facilities will require additional maintenance as the site ramps up its pit production capacity. LANL's facilities that perform specialized tests and experiments also required additional maintenance to support stockpile modernization schedules. The increase also supports a significant facility revitalization of LLNL's National Ignition Facility (NIF). LLNL will perform replacement of safety significant systems in Superblock ensuring worker safety and uninterrupted mission work. NNSS will address deferred maintenance at the Principal Underground Laboratory for Subcritical Experimentation (PULSE), as well as provide additional support to the Device Assembly Facility (DAF) to allow operations to perform work without interruption. PX will address many high-risk projects, including phase III of the domestic water system project, which was restarted in FY 2026. PX will also perform replacement of critical HVAC systems to ensure humidity levels are at appropriate levels in the Bays and Cells that stage the NNSA stockpile. Consistent issues with drainage at the PX site will be addressed through a special maintenance project that will reduce the risk of flooding. Increased funding at SRS will address the replacement of sprinkler heads through multiple facilities that satisfy National Fire Protection Association (NFPA) requirements. SRS will perform numerous maintenance activities to ensure the Site can operate at the required tempo as Tritium and plutonium activities ramp up. Y-12's increased funding will fund projects focused on the mission enabling infrastructure that have seen increases in emergent events over the prior years. Several maintenance projects will reduce the risk to facilities supporting the Depleted and Enriched Uranium capabilities and limit the impacts to operations.

Infrastructure and Operations
Recapitalization

Overview

The Recapitalization program, a key to modernizing NNSA infrastructure, prioritizes investments to improve the condition and extend the design life of the structures, capabilities, and/or systems which contribute to the reliability, productivity, and efficiency of NNSA's infrastructure, reducing overall operating costs and delivering expanded production capacity. It also reduces safety, environmental, and program risk associated with facilities and systems that are often well beyond their design life.

The Recapitalization program includes costs for minor construction projects, real property purchases, like for like replacements projects, general contract support for construction project management, and Other Project Costs (OPC) for mission enabling infrastructure line-item construction projects. Recapitalization also funds deactivation and disposal of excess infrastructure, including stabilization and risk reduction activities at high-risk excess facilities, resulting in surveillance and maintenance cost avoidance and reduced risk to workers, the public, environment, and programs.

Table 7 shows the plans for Recapitalization projects to be executed with FY 2027 funding based on the status of enterprise infrastructure as of March 2026. This plan may need to be updated before the FY 2027 execution year to respond to emerging infrastructure conditions and requirements.

Table 7

National Nuclear Security Administration
Recapitalization
Planned FY 2027 Recapitalization Projects - As of March, 2026

Site	Project Name	FY 2027 Allocation ($K)
KC	Bldg 23 North Surveillance Production Activities Expansion Buildout [Execution] (Minor Construction)	26,359
	Bldg 23 North Development Capabilities Conversion [Design] (Minor Construction)	2,631
	Bldg 23 North Non-Destructive Testing & Environmental Lab Buildout [Design] (Minor Construction)	1,547
	Bldg 23 North Additive Manufacturing Expansion Buildout [Execution] (Minor Construction)	27,760
	Bldg 23 North Chemical Storage Buildout [Execution] (Minor Construction)	3,758
Subtotal, Kansas City National Security Campus		**62,055**
LLNL	Bldg 154 Nuclear Forensics Analytical Labs Conversion (Minor Construction)	2,350
	CW01 Site 200 Cathodic Protection System Upgrade (Minor Construction)	9,925
	New Network Intelligence Research Office Facility (STAR) (Minor Construction)	33,700
	New Site 300 Energetic Materials Manufacturing Science Facility (EMMSF) [Design] (Minor Construction)	2,125
	New Site 300 Energetic Materials Development Enclave Campus (EMDEC) Office Bldg and Site Development [Execution] (Minor Construction)	29,700
	Site 300 Bldg 843 Corp Yard Upgrade (Minor Construction)	5,980
	Bldg 170 SE Wing Upgrade (Minor Construction)	16,675
	New Site 300 Stockpile Modernization & Production Office (Minor Construction)	33,400
	Bldg 182 O Program Disposition	1,061
Subtotal, Lawrence Livermore National Laboratory		**134,916**
LANL	New TA-22 Secure Detonator Support and Storage Facility (STAR) (Minor Construction)	27,659
	TA-09-0021 HVAC Upgrade (Minor Construction)	15,200
	TA-55 Fire Suppression Water Line Installation for Security within the PIDAS (Minor Construction)	13,800
	New TA-36 HE Storage Magazine Multiplex (Minor Construction)	9,700
	CMR Deinventory Scope in Wings 1, 2, and 4	4,000
	PHERMEX Firing Point Blast Mat and Debris Deinventory	4,100
Subtotal, Los Alamos National Laboratory		**74,459**

NNSS	138kV Power Transmission System to Valley Substation Upgrade (Minor Construction)	26,800
	New Mercury Materials Packaging and Surveillance Building 23-474 (Minor Construction)	33,300
	PULSE Lightning Protection Upgrades (Minor Construction)	5,700
	Area 23 Mercury Solar PV & Storage Installation (Minor Construction)	20,200
	Mission Corridor Water System Upgrades (Minor Construction)	21,000
	6 Buildings in Areas 3, 6, and 15 Disposition	4,300
Subtotal, Nevada National Security Site		**111,300**
	Bay & Cell FDS & Lead-In Improvements Portfolio	17,959
	Bay & Cell RAMS Replacement Portfolio	12,949
	New Zone 12 South HPFL Tank & Pump House [Design & LLE] (Minor Construction)	5,000
	New Zone 4 Material Receipt & Staging Support Facility (Minor Construction)	11,800
	South Main Substation Switchgear; Capacitor Bank; & Controller Upgrade - 200 Circuit [Design & LLE] (Minor Construction)	6,500
	Zone 12 Sectional Switch Upgrades (Minor Construction)	7,600
	10 Bldgs in Area 11 Prep for Disposition (HESE D&D)	13,200
Subtotal, Pantex Plant		**75,008**
SNL	New CA Complex Central Utility Bldg (CUB) [Execution] (Minor Construction)	22,100
	New CA Materials Science and Diagnostics Lab Facility (MSDL) STAR (Minor Construction)	29,100
	Bldg 858N Generator Installation (Minor Construction)	8,000
	Bldg 983 (Z Machine) HVAC Upgrade (Minor Construction)	18,000
	CA Potable Water South Branch Distribution System Upgrade (Minor Construction)	11,750
	Bldg 899A Central Utility Building (CUB) Chilled Water Upgrade [Design] (Minor Construction)	1,850
	Bldg 827 PSL Mechanical Calibration Lab Addition [Execution] (Minor Construction)	22,575
Subtotal, Sandia National Laboratories		**113,375**
SRS	New Plutonium Operations Support Facility (POP) (Minor Construction)	4,700
	New Analytical Receipt & Inspection Center (ARIC) [Design] (Minor Construction)	1,300
	New Radiological Response (RAP) Operations Center (Minor Construction)	31,202
Subtotal, Savannah River Site		**37,202**
Y-12	New Protected Area Maintenance Facility 1 [Design] (Minor Construction)	3,000
	New West End Production Change House [Execution] (Minor Construction)	29,000
	Bldg 9204-02E North Potable & Bldg 9215 South Fire & Potable Water Lateral East Section Upgrades [Design] (Minor Construction)	2,600
	East End Electrical Distribution Upgrade [Design] (Minor Construction)	3,000
	South Ridge Electrical Distribution Upgrade (Minor Construction)	26,100
	Bldg 9998 Supply Fan H2-1 Replacement - UESC	12,020
	Building 9401-03 Steam Plant Disposition	46,384
	Building 9201-05 (Alpha 5) Structural Modifications Design	5,200

Subtotal, Y-12 National Security Complex		**127,304**
	Planning, Assessments, Infrastructure Management Tools, and Purchases	464,180
	Construction Other Project Costs (OPC)	3,328
Grand Total, Recapitalization		**1,203,127**

Highlights of the FY 2027 Budget Request

The FY 2027 Budget Request supports executing modernization of NNSA infrastructure via mission enabling projects including minor construction of new facilities, upgrades that add capacity/capabilities to existing infrastructure, recapitalization of aged infrastructure across the NNSA complex, and disposition of excess facilities. It also maintains progress on the multiphase acquisition of the Kansas City Non-Nuclear Expansion Transformation (KC NExT), including acquisition of Phase 4 which will deliver additional manufacturing capacity as well as occupancy and outfitting of the Phase 3 supporting facilities.

Explanation of Change for Recapitalization (+$495.499 million)

- The delta reflects only discretionary funding. NNSA will obligate $140 million of mandatory funding for Recapitalization in FY 2026.
- The increase provides significant funding to maintain progress on multiple phases of the KC NExT acquisition. FY 2027 funding will fund outfitting execution for the first manufacturing building and adjacent support facilities, execution of a purchase and sales agreement for the second manufacturing phase, and design of the second classified office building. The concurrent execution of multiple phases enables NNSA to maintain a steady pace in the delivery of significant capacity expansion at Kansas City to support the growing non-nuclear capability mission demands.
- The FY 2027 increase for the Recapitalization Program will enable the program to increase the delivery of modernization through the planning and execution of additional modernization projects across the NNSA complex. This funding level will enable the initiation of more than two dozen new infrastructure projects and fully fund the construction phase for designs initiated in a previous fiscal year. Key projects include the delivery of additional capacity at Kansas City in building 23, several new footprint projects such as the LLNL-New Site 300 Energetic Materials Development Enclave Campus (EMDEC) Office Bldg 839A and Site Development, NNSS- New Mercury Materials Packaging and Surveillance Building 23-474 at the Mercury Campus, and the completion execution of the West End Change House at Y-12, the New LLNL Site 300 Stockpile Modernization & Production Office, both the New TA-36 HE Storage and New Magazine Multiplex at LANL and funding to initiate the design of the SRS New Analytical Receipt & Inspection Center (ARIC). Furthermore, the program will also support Global Security missions with the construction of the New Radiological Response (RAP) Operations Center at SRS and the New Network Intelligence Research Office Facility (STAR) at LLNL. Finally, this request includes sustained investments to continue addressing critical deficiencies in life safety and utilities systems across NNSA sites through ongoing PX Bay & Cell FDS, HPFL Lead-in, and RAMS replacements, as well as critical utility upgrades to electrical, water, and HVAC systems to support increased mission demands and enhance operational efficiency.
- The funding request includes increased funding for facility dispositions including the demolition of the >64,000 gsf Steam Plant facility at Y-12.

Overview

The Construction program plays a critical role in revitalizing the nuclear security enterprise. Investments from this program will improve the responsiveness and capabilities of infrastructure across the Complex. The program designs and delivers mission-enabling projects that support national security objectives. Table 8 shows the breakout of funding by line-item.

Table 8

Project	FY 2025 Enacted	FY 2026 Enacted	WFTCA Funding	FY 2027 Request	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
Mission Enabling Construction								
31-D-XXX Protective Forces Support Facility, LANL	-	-	-	-	-	-	-	98,700
31-D-XXX 138 kV Back Loop Replacement, NNSS	-	-	-	-	-	-	-	98,700
30-D-XXX Plutonium Program Accounting Building, LANL	-	-	-	-	-	-	98,700	-
30-D-XXX TA-46 Protective Force Facility, LANL	-	-	-	-	-	-	98,700	-
29-D-XXX Plutonium Production Building, LANL	-	-	-	-	-	98,700	-	-
27-D-512 Plutonium Engineering Support Building; LANL	-	-	-	88,700	-	-	-	-
25-D-511, PULSE New Access, NNSS	5,000	-	-	50,000	140,000	90,000	20,000	-
25-D-510, Plutonium Mission Safety & Quality Building, LANL	48,500	-	-	-	-	-	-	-
24-D-510, Analytic Gas Laboratory, PX	36,000	-	-	-	-	-	-	-
23-D-517, Electrical Power Capacity Upgrade, LANL	70,000	-	60,000	65,000	62,674	52,430	-	-
Total, Mission Enabling Construction	**159,500**	**-**	**60,000**	**203,700**	**202,674**	**241,130**	**217,400**	**197,400**

Highlights of the FY 2027 Budget Request

FY 2027 funding will fully fund the design and construction activities for the Plutonium Engineering Support Building project at LANL. The project will provide an approximately 45,324 square foot (SF) new office facility located in Technical Area 48 of the Pajarito Corridor. The facility will provide approximately 323 workstations and conference rooms to support Quality Control Engineering, System Engineering, Maintenance Engineering, Plutonium Pit Engineering, and Production Engineering.

FY 2027 funding will begin design for the PULSE New Access project (formerly U1a Complex) at NNSS. The project will provide reliable underground access for larger experimental vessels as well as the additional staff required to operate multiple testbeds at the PULSE facility in support of the nuclear security enterprise's maintenance and certification programs of the NNSA Stockpile Stewardship Program. An approximately 1,000 foot deep, 24-foot diameter shaft and a tunnel connecting this shaft to the existing underground complex will be constructed. A new hoist, additional utilities, and ventilation & muck loading systems are also being provided by this project.

FY 2027 funding will continue to support construction for the Electrical Power Capacity Upgrade project at LANL. The project will increase the LANL electrical transmission system capacity and the LANL distribution system capacity and redundancy. Current transmission/distribution capacity is insufficient to provide redundant and reliable power supply essential to all future programmatic missions at LANL.

Explanation of Change for Mission Enabling Construction (+$203.700 million)

- The delta reflects only discretionary funding. NNSA will obligate $60 million of mandatory funding for the Electrical Power Capacity Upgrade project in FY 2026.
- Increase fully funds the Plutonium Engineering Support Building project at LANL, starts design for the PULSE New Access project (formerly U1a Complex) at NNSS, and continues construction for the Electrical Power Capacity Upgrade project at LANL.

27-D-512, Plutonium Engineering Support Building
Los Alamos National Laboratory (LANL), Los Alamos, New Mexico
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary

The FY 2027 Request for the Plutonium Engineering Support Building project is $88,700,000 of Total Estimated Cost (TEC) funding. The project is being executed using a build-to-budget acquisition strategy with a Total Project Cost (TPC) cap of $89,900,000. The preliminary Start of Operations forecast is 2Q FY 2030. The FY 2027 request fully funds all design and construction activities required for this project.

The Plutonium Engineering Support Building project will support Quality Control Engineering, System Engineering, Maintenance Engineering, Plutonium Pit Engineering, and Production Engineering at Los Alamos National Laboratory (LANL).

Other Project Costs are funded out of the Recapitalization program in Infrastructure and Operations.

Significant Changes

This project is a new start in FY 2027.

On June 21, 2019, NNSA launched a pilot to streamline the execution of low complexity construction projects using an "Enhanced Minor Construction – Commercial (EMC2)." The pilot implements the FY 2018 National Defense Authorization Act mandate to streamline non-nuclear construction projects less than $100 million (M).

On July 3, 2025, the DOE Project Management Risk Committee endorsed exempting the Plutonium Engineering Support Building from DOE Order 413.3B requirements, except for the Project Assessment and Reporting System (PARS) reporting requirement, which will be tailored to the project.

On August 29, 2025, the Acting NNSA Administrator approved an Order 413.3B exemption for this project, except for tailored PARS reporting.

The Plutonium Engineering Support Building project received Mission Need Statement & Program Requirements Document (MNS/PRD) approval on June 25, 2025. The PRD requires the maximum number of classified and unclassified workstations achievable within the budgeted TPC, with the goal of at least 300 workstations.

On January 30, 2026, a 30% design maturity conceptual design was completed. This conceptual design depicts a two-story version of the 25-D-510, Plutonium Mission Safety & Quality Building. The conceptual design's Overall Level 1 and Level 2 Furniture, Fixtures, and Equipment (FF&E) Plans show that 323 workstations will be provided.

The acquisition approach will be a firm fixed price Design-Build contract.

An NNSA Los Alamos Field Office Federal Project Manager (FPM) has been assigned to this project instead of a Federal Project Director (FPD).

Critical Milestone History

Fiscal Year	MNS/PRD	Conceptual Design Complete	Performance Baseline	Final Design Complete	Construction Mobilization	D&D Complete	Start of Operations
FY 2027	6/25/2025	1/30/2026	3Q FY 2027	1Q FY 2028	4Q FY 2027	N/A	2Q FY 2030

MNS/PRD – Approve Mission Need Statement and Program Requirements Document for a construction project with a conceptual scope and cost range.
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable).
Performance Baseline – Cost, schedule, and scope commitment.
Final Design Complete – Estimated/Actual date the project design will be/was complete(d).
Construction Mobilization – First arrival of contractor personnel, equipment, supplies, and/or temporary facilities at the jobsite.
D&D Complete – Completion of D&D work.
Start of Operations – Achievement of project completion and readiness to use the system, facility, or capability.

Project Cost History ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC Total	OPC, Except D&D	OPC D&D	OPC Total,	TPC
FY 2027	5,235	83,465	88,700	1,200	0	1,200	89,900

2. Project Scope and Justification

Scope
The Plutonium Engineering Support Building project is a facility design and construction project. The project will provide a 45,324 square foot (SF) new office facility located in Technical Area (TA) 48 of the Pajarito Corridor. The facility will provide 323 workstations and conference rooms to support Quality Control Engineering, System Engineering, Maintenance Engineering, Plutonium Pit Engineering, and Production Engineering.

Justification
Additional workstations are required for employees needing routine access to TA-46, TA-48, TA-50, TA-55, and TA-63. The missions supported by the additional employees include: Plutonium Modernization (including pit production), Plutonium Surveillance and Science, Plutonium Disposition, Pu-238 Programs, Material Recycle & Recovery, Americium Oxide Production, and other operational and logistical activities at LANL. The existing facilities in and around the TA-55 complex cannot accommodate the additional staff.

The project is being conducted in accordance with the project management concepts within DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, appendix C, paragraphs 1A-K, but is exempt from the Order. The EMC^2 approach uses minor construction project management processes, industry standard terminology for subcontractor terms and conditions, commercial quality controls, and streamlines Environmental, Safety, and Health while still meeting 10 Code of Federal Regulations Part 851 requirements for Worker Safety and Health Program.

Key Performance Parameters (KPPs)

The Threshold KPPs represent the minimum acceptable performance that the project must achieve. Achievement of the Threshold KPPs will be a prerequisite for approval of project completion. The Objective KPPs represent the desired project performance.

These KPPs will be finalized when the Performance Baseline is approved.

Performance Measure	Threshold KPP	Objective KPP
Classified Workstation Capacity	A classified workstation to unclassified workstation ratio of 80:20	100% classified workstations
Conference Room Capacity	Conference rooms capable of conducting classified / unclassified Video Teleconferences at 20 net square feet/occupant	Same as Threshold

3. Financial Schedule ($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2027	5,235	5,235	3,490
FY 2028	0	0	1,745
Total Design	**5,235**	**5,235**	**5,235**
Construction			
FY 2027	83,465	83,465	2,800
FY 2028	0	0	33,865
FY 2029	0	0	38,300
FY 2030	0	0	8,500
Total Construction	**83,465**	**83,465**	**83,465**
TEC			
FY 2027	88,700	88,700	6,290
FY 2028	0	0	35,610
FY 2029	0	0	38,300
FY 2030	0	0	8,500
Total TEC	**88,700**	**88,700**	**88,700**
Other Project Costs (OPC)			
FY 2025	400	400	0
FY 2026	800	800	1,200
FY 2027	0	0	0
FY 2028	0	0	0
FY 2029	0	0	0
FY 2030	0	0	0
Total, OPC	**1,200**	**1,200**	**1,200**
Total Project Costs (TPC)			
FY 2025	400	400	0
FY 2026	800	800	1,200
FY 2027	88,700	88,700	6,290
FY 2028	0	0	35,610
FY 2029	0	0	38,300
FY 2030	0	0	8,500
Total TPC	**89,900**	**89,900**	**89,900**

4. Details of Project Cost Estimate ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	4,735	N/A	N/A
	Contingency	500	N/A	N/A
Total Design		**5,235**	**N/A**	**N/A**
Construction				
	Site Work	5,000	N/A	N/A
	Equipment	2,600	N/A	N/A
	Construction	59,300	N/A	N/A
	Oversight & Management	8,700	N/A	N/A
	Contingency	7,865	N/A	N/A
Total Construction		**83,465**	**N/A**	**N/A**
Total Estimated Cost (TEC)		**88,700**	**N/A**	**N/A**
Contingency, TEC		*8,365*	*N/A*	*N/A*
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Design	785	N/A	N/A
	Project Execution Plans	215		
	Contingency	200	N/A	N/A
Total OPC		**1,200**	**N/A**	**N/A**
Contingency, OPC		*200*	*N/A*	*N/A*
Total Project Cost		**89,900**	**N/A**	**N/A**
Total Contingency (TEC+OPC)		***8,565***	***N/A***	***N/A***

5. Schedule of Appropriations Requests ($K)

Request Year	Type	Prior Years	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Out Years	Total
FY 2027	TEC	0	0	0	88,700	0	0	0	0	0	88,700
	OPC	0	400	800	0	0	0	0	0	0	1,200
	TPC	0	400	800	88,700	0	0	0	0	0	89,900

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	2Q FY 2030
Expected Useful Life (number of years)	40
Expected Future Start of D&D of this capital asset (fiscal quarter)	2Q FY 2070

Related Funding Requirements ($M)

Funding Requirements	Annual Costs		Life Cycle Costs	
Estimate Totals	Previous Estimate	Current Estimate	Previous Estimate	Current Estimate
Operations and Maintenance	N/A	1.25	N/A	50

7. D&D Information

The new area being constructed in this project is 45,324 square feet. The new facility being constructed by this project is not replacing existing facilities. LANL will D&D an offsetting amount of space in accordance with their current facility plan.

8. Acquisition Approach

The Plutonium Engineering Support Building project acquisition strategy is a firm fixed price Design-Build contract managed by the LANL Management & Operating contractor.

25-D-511, PULSE New Access Project
Nevada National Security Sites (NNSS), Mercury, Nevada
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary

The FY 2027 request for the Principal Underground Laboratory for Subcritical Experimentation (PULSE) New Access Project (PNAP) is $50,000,000 and will be used for the design scope. The most recent Critical Decision (CD) for PNAP was the approval of CD-0, *Approve Mission Need*, on April 26, 2023, with a preliminary cost estimate range of $85,000,000 to $303,000,000 and a CD-4, *Approve Start of Operations or Project Completion*, range of September 2028 to September 2034. The current working estimate is $339,049,000 and the project completion date is 3Q FY 2033. The project will provide reliable underground access for larger experimental vessels and staff to operate multiple testbeds at the PULSE facility.

Funds appropriated to this project may be used for contracted support services to the Federal Program Manager and the Federal Project Director to conduct independent assessments of the planning and execution of this project required by Department of Energy (DOE) Order (O) 413.3B and to conduct technical reviews of design and construction documents. All costs associated with the conduct of Independent Cost Reviews/Independent Cost Estimates (ICRs/ICEs), to include Federal staff travel, are funded by this project.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*. As allowed by DOE O 413.3B, work will be phased to improve overall efficiency.

This project is funded as a TEC line-item in the budget. Other Project Costs (OPCs) are funded out of the Recapitalization Program under Infrastructure and Operations.

A Federal Project Director has been assigned to this project.

Significant Changes

The lifecycle cost was updated to include escalation costs of 2.48% per year.

The project team completed an updated estimate and schedule based on the results of the Conceptual Design which was provided to an Independent Cost Review (ICR) and an Independent Project Review (IPR) in December 2025. These activities are part of the requirements to proceed to CD-1. The estimate and schedule represent an increase in the preliminary cost estimate range and CD-4 range from CD-0. The project team's estimate and schedule will be reconciled against the results of the ICR and IPR and will be presented to the Project Management Executive by the Federal Project Director as part of the CD-1 approval package.

The project received no funding in FY 2026 and has pushed the project out one year in execution.

Critical Milestone History

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2025	4/26/2023	4QFY2024	1QFY2025	1QFY2027	3QFY2026	1QFY2027	N/A	4QFY2034
FY 2026	4/26/2023	4QFY2025	2QFY2026	1QFY2028	3QFY2027	1QFY2028	N/A	3QFY2032
FY 2027	4/26/2023	8/21/2025	2QFY2027	1QFY2029	3QFY2028	1QFY2029	N/A	3QFY2033

CD-0 – Approve Mission Need for a construction project with a conceptual scope and cost range/
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable).
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete(d)
CD-3 – Approve Start of Construction
D&D Complete –Completion of D&D work
CD-4 – Approve Start of Operations or Project Complete

Fiscal Year	CD-3A	CD-3B
FY 2026	1QFY2027	N/A
FY 2027	1QFY2028	2QFY2028

CD-3A – Approve Site Preparation
CD-3B – Approve Long Lead Procurement

Project Cost History ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC Total	OPC, Except D&D	OPC, D&D	OPC Total,	TPC
FY 2025	53,000	242,000	295,000	15,244	N/A	15,244	310,244
FY 2026	53,000	250,000	303,000	34,049	N/A	34,049	337,049
FY 2027	55,000	250,000	305,000	34,049	N/A	34,049	339,049

2. Project Scope and Justification

Scope

PNAP will provide reliable underground access for larger experimental vessels as well as the additional staff required to operate multiple testbeds at the PULSE facility in support of the NNSA Defense Programs' Stockpile Stewardship Program (SSP). The project must provide a means for reliable underground ingress and egress to support the continuing mission of the PULSE facility, including personnel and current and future Enhanced Capabilities for Subcritical Experiments (ECSE) experimental equipment. The PNAP process consists of the conceptual, followed by the preliminary, and then final design of an approximately 24-ft diameter by approximately 1000 ft- deep vertical shaft to improve the handling, safety and reliability of hoist operations as compared to current conveyance between the surface and the underground. Specifically, during design and construction, the PNAP project scope includes mobilization, demobilization, design, shaft collar/sub-collar, hoist and headframe, shaft excavation, shaft liner, muck pocket and loading system, shaft and station utilities, hoist enclosure, connection drift at the base of the shaft, utility trenches, ventilation system, and contingency for future utility infrastructure/needs. When complete PNAP operation will support ingress and egress of staff, large equipment, muck removal, and movement of experiments and equipment on occasion into and out of the PULSE underground using the PNAP shaft. The project is planning for site preparation and long-lead procurements (CD-3X's) prior to CD-2/3 to meet schedule requirements.

Justification

The PULSE facility, formerly referred to as the U1a Complex, is located in the NNSS Mission Corridor. It is a premiere NNSA nuclear HC-2 underground experimental facility providing critical experimental capabilities and data to the nation's nuclear security enterprise. The PULSE facility supports the SSP and is the only location where relevant quantities of plutonium can be combined with high explosives to perform subcritical experiments (SCEs).

PULSE is challenged with an increased number of SCEs, which will continue to increase with significant NNSA investment to include a new surface building complex, upgraded utilities and the underground infrastructure enabling ECSE for the next 30+ years. ECSE investments include the U1a Complex Enhancements Project (UCEP), Advanced Sources and Detectors (ASD) project (Scorpius machine), and Neutron Diagnosed Subcritical Experiments (NDSE) installations (consisting of the Z-pinch Experimental Underground System [ZEUS] and ZEUS Testbed Facilities Improvement Project) which are outfitting the PULSE facility. These mission investments drive new underground requirements, including extensive expansion of the underground drift network, accommodation of larger six-foot experimental vessels, substantial increase in numbers of underground personnel, and construction and commissioning of two new experimental testbeds, including a vastly more powerful, larger radiographic machine (Scorpius) and a dense plasma focus machine (ZEUS).

The two main shafts that support PULSE operations, U1a shaft and U1h shaft, are each equipped with hoisting capabilities for personnel, equipment, and materials. Two shafts/hoists are required for PULSE operations for safety and effectiveness. These underground access capabilities present significant risk to the NNSA's ability to fully operate the PULSE in support of planned increased and enhanced experimental requirements. Both the U1a and U1h shafts/hoists are degrading more rapidly than previously planned due to heavy usage with current downtimes for maintenance and repair at 20 percent and increasing. The expected future experimental operations schedule will be even more difficult to maintain with the existing PULSE access capabilities, increasing risk of significant mission delays. A new underground access capability is imperative for the PULSE facility to meet NNSA mission requirements over the next 30+ years.

Key Performance Parameters (KPPs)

These preliminary KPPs represent the minimum acceptable performance that the project must achieve and support the current cost and schedule estimates:

Key Performance Parameter	Description	Threshold
KPP-1	Reliable ingress/egress capability	New components shall have a minimum service life of 30 years & ability to support a shift change of no less than 100 workers to exit and/or enter within a 30-minute time window
KPP-2	Underground ingress and egress of current and future experimental vessels and transportation cart/execution stand	Meet the design basis for UCEP/ASD relative to enabling ingress and egress of a 6' vessel with transportation cart/execution stand or other equipment of 8 feet wide x 8 feet deep x 10 feet high and a live load of 36,000 lbs.

KPP-3	Support experimental package transport to and from the underground by integrating DOE Safety-in-Design in the project	Meet the Documented Safety Analysis requirements to enable transport of experimental packages to and from the underground

3. Financial Schedule ($K)

	Budget Authority (Appropriations)	Obligations	Costs
Design			
FY 2025	5,000	5,000	0
FY 2026	0	0	0
FY 2027	50,000	50,000	13,250
FY 2028	0	0	28,500
FY 2029	0	0	13,250
Total Design	**55,000**	**55,000**	**55,000**
Construction			
FY 2027	0	0	0
FY 2028	140,000	140,000	30,000
FY 2029	90,000	90,000	99,996
FY 2030	20,000	20,000	67,008
FY 2031	0	0	34,996
Out Years	0	0	18,000
Total Construction	**250,000**	**250,000**	**250,000**
TEC			
FY 2025	5,000	5,000	0
FY 2026	0	0	0
FY 2027	50,000	50,000	13,250
FY 2028	140,000	140,000	58,500
FY 2029	90,000	90,000	113,246
FY 2030	20,000	20,000	67,008
FY 2031	0	0	34,996
Out Years	0	0	18,000
Total TEC	**305,000**	**305,000**	**305,000**
Other Project Costs (OPC)			
Prior Years	13,618	11,893	4,442
FY 2025	3,312	5,037	8,466

	Budget Authority (Appropriations)	Obligations	Costs
FY 2026	2,119	2,119	6,141
FY 2027	0	0	0
FY 2028	0	0	0
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	10,000	10,000	7,500
Outyears	5,000	5,000	7,500
Total, OPC	**34,049**	**34,049**	**34,049**
Total Project Costs (TPC)			
Prior Years	13,618	11,893	4,442
FY 2025	8,312	10,037	8,466
FY 2026	2,119	2,119	6,141
FY 2027	50,000	50,000	13,250
FY 2028	140,000	140,000	58,500
FY 2029	90,000	90,000	113,246
FY 2030	20,000	20,000	67,008
FY 2031	10,000	10,000	42,496
Out Years	5,000	5,000	25,500
Total TPC	**339,049**	**339,049**	**339,049**

4. Details of Project Cost Estimate ($K)

		Current Total Estimate	Previous Total Estimate	Previous Validated Baseline
Design				
	Design	47,000	45,000	NA
	Federal Design Review Support	1,000	1,000	NA
	Contingency	7,000	7,000	NA
Total Design		**55,000**	**53,000**	**NA**
Construction				
	Site Work	20,000	20,000	NA
	Equipment	50,000	50,000	NA
	Construction	134,000	134,000	NA
	Federal Support	11,000	11,000	NA
	Contingency	35,000	35,000	NA
Total Construction		**250,000**	**250,000**	**NA**

Total Estimated Cost (TEC)		**305,000**	**303,000**	**NA**
Contingency, TEC		*42,000*	*42,000*	*NA*
Other Project Costs (OPC)				
OPC except D&D				
	Analysis of Alternatives	416	416	NA
	Conceptual Design	11,344	11,344	NA
	CD-1 Documents/Fed Support	5,861	5,861	NA
	Start-up	15,000	15,000	NA
	Contingency	1,428	1,428	NA
Total OPC		**34,049**	**34,049**	**NA**
Contingency, OPC		*1,428*	*1,428*	*NA*
Total Project Cost		**339,049**	**337,049**	**NA**
Total Contingency (TEC+OPC)		***43,428***	***43,428***	***NA***

5. Schedule of Appropriations Requests

Request Year	Type	Prior Years	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Out Years	Total
FY 2025	TEC	0	25,000	90,000	90,000	90,000	0	0	0	N/A	295,000
	OPC	12,04	150	150	150	150	2,604	0	0	N/A	15,244
	TPC	12,04	25,150	90,150	90,150	90,150	2,604	0	0	N/A	310,244
FY 2026	TEC	0	5,000	48,000	N/A	N/A	N/A	N/A	N/A	250,00	303,000
	OPC	13,61	3,312	2,119	N/A	N/A	N/A	N/A	N/A	15,000	34,049
	TPC	13,61	8,312	50,119	N/A	N/A	N/A	N/A	N/A	265,00	337,049
FY 2027	TEC	0	5,000	0	50,000	140,00	90,000	20,000	0	0	305,000
	OPC	13,61	3,312	2,119	0	0	0	0	10,000	5,000	34,049
	TPC	13,61	8,312	2,119	50,000	140,00	90,000	20,000	10,000	5,000	339,049

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	3Q FY 2033
Expected Useful Life (number of years)	30
Expected Future Start of D&D of this capital asset (fiscal quarter)	3Q FY 2063

Related Funding Requirements ($M)

Funding Requirements	Annual Costs*		Life Cycle Costs	
Estimate Totals	**Previous Estimate**	**Current Estimate**	**Previous Estimate**	**Current Estimate**
Operations and Maintenance	15	15	450	656**

* Annual Costs based on FY2032 dollars

** Lifecycle cost updated to include 2.48% per year escalation (NAP 413.6, Appendix APB-24 (nuclear rates for NNSS))

7. D&D Information

The new area being constructed by this project does not replace existing facilities.

	Square Feet
New area being constructed by this project at NNSS	4,750
Area of D&D in this project at NNSS	NA
Area at NNSS to be transferred, sold, and/or D&D outside the project, including area previously "banked"	4,750
Area of D&D in this project at other sites	NA

8. Acquisition Approach

The project is being managed by the NNSS Management and Operating (M&O) contractor because the PULSE facility is an underground operating nuclear facility with limited access. Design and construction of the surface to underground access are expected to be performed by a subcontractor specializing in that type of work, where the underground modifications are expected to be performed by the NNSS M&O contractor through the cost-plus contract.

23-D-517 Electrical Power Capacity Upgrade
Los Alamos National Laboratory (LANL), Los Alamos, New Mexico
Project is for Design and Construction

1. Summary, Significant Changes, and Schedule and Cost History

Summary:
The Fiscal Year (FY) 2027 Request for the Electrical Power Capacity Upgrade (EPCU) Project is $65,000,000 and will be used to support construction activities. The project will resolve projected future shortfalls in the electrical transmission and distribution system at Los Alamos National Laboratory (LANL), increasing capability and improving reliability and resiliency. The project achieved CD-2/3 on October 4, 2025, with a CD-4 of September 30, 2031. The Project's baseline is $428,240,000. A CD-3A approval was authorized on February 25, 2025, to enable procurement of long lead electrical equipment in support of the construction schedule. Funds requested will continue to pay for the procurement and installation of the equipment necessary to achieve the project's key performance parameters.

Significant Changes:
- This Construction Project Data Sheet (CPDS) is an update of the FY 2026 CPDS and does not include a new start for the budget year.
- CD-2/3 Approve Performance Baseline and Start of Construction Execution was achieved on October 4, 2025.
- The Key Performance Parameters were finalized with CD-2/3 Baseline approval.
- The forecast Total Project Cost (TPC) is increasing based on an updated assessment of remaining project risks driven from continuing condition assessments through the completion of design activities and evolving operational constraints of the operational transmission and distribution systems.
- Significant delays resulted from the National Environmental Policy Act (NEPA) Environmental assessment, which was published September 6, 2024, with a Finding of No Significant Impact (FONSI) on August 12, 2025. The publication of FONSI was delayed compared to the 2026 data sheet due to the requirement for a National Historic Preservation Act Memorandum of Agreement (NHPA MOA) between NNSA, United States Forest Service, New Mexico State Historic Preservation Office, and the Advisory Council on Historic Preservation. This MOA was agreed to by all required parties on June 24, 2025.
- The stipulations agreed to in the NHPA MOA are included in this budget request, which will support tribal monitors and other construction phase stipulations.
- Design progression, of the portion of the project scope through Bureau of Land Management (BLM) and United States Forest Service (USFS) land, was severely delayed by lack of a special use permit for geotechnical investigations. The delay in design definition delayed the procurement and escalated cost of equipment.

Critical Milestone History

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2023	8/24/2018	8/18/2021	4Q FY 2022	2Q FY 2024	4Q FY 2024	3Q FY 2024	N/A	1Q FY 2028
FY 2024	8/24/2018	8/18/2021	11/16/2022	4Q FY 2024	4Q FY 2024	4Q FY 2024	N/A	1Q FY 2029
FY 2025	8/24/2018	8/18/2021	11/16/2022	2Q FY 2025	1Q FY 2026	2Q FY 2025	N/A	3Q FY 2030
FY 2026	8/24/2018	8/18/2021	11/16/2022	4Q FY 2025	1Q FY 2026	4Q FY 2025	N/A	3Q FY 2030
FY 2027	8/24/2018	8/18/2021	11/16/2022	10/04/2025	3Q FY 2026	10/04/2025	N/A	3Q FY 2031

Fiscal Year	CD-3A
FY 2026	02/25/2025

CD-0 – Approve Mission Need
Conceptual Design Complete – Actual date the conceptual design was completed (if applicable)
CD-1 – Approve Alternative Selection and Cost Range
CD-2 – Approve Project Performance Baseline
Final Design Complete – Estimated/Actual date the project design will be/was complete(d)
CD-3 – Approve Start of Construction/Execution
D&D Complete – Completion of D&D work (see Section 9)
CD-4 – Approve Start of Operations or Project Completion

Project Cost History

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC Except D&D	OPC, D&D	OPC, Total	TPC
FY 2023	24,000	260,000	284,000	9,938	N/A	9,938	293,938
FY 2024	29,000	260,000	289,000	14,140	N/A	14,140	303,140
FY 2025	67,683	221,317	289,000	14,140	N/A	14,140	303,140
FY 2026	62,195	286,805	349,000	19,140	N/A	19,140	368,140
FY 2027	59,814	349,290	409,104	19,136	N/A	19,136	428,240

2. Project Scope and Justification

Scope
In support of LANL's mission growth, the EPCU project will improve the electrical power capacity for the Laboratory as it will allow load growth from 116 MVA (existing limit) up to a minimum of 200 MVA. Improvements include a new offsite 115 kV import transmission line, crossing BLM, USFS, and DOE administered land. Additionally, an on-site 115 kV transmission line approximately 4.5 miles long; upgrades for three 115 kV/13.8 kV substations; addition of medium-voltage, underground, and substation inter-tie circuits and switchgear; and addition of medium-voltage feeder circuits and switchgear to increase power capacity to support 60 MW for strategic computing platforms at LANL, will be provided.

Justification
The mission of the project is to resolve the projected future shortfalls in the Laboratory's electrical transmission and distribution system to ensure it can reliably support the power demands from all programs performing work at LANL while maintaining compliance with applicable Federal Energy Regulatory Commission (FERC) / North American Electric Reliability Corporation (NERC) requirements for utility operations. The site will exceed peak power demand for the Norton Line (NL), which is one of two 115 kV transmission lines that feeds power to LANL. The NL is forecasted to exceed its operating limit within the 2026/2027 timeframe without operational constraint. LANL anticipates an increase in power demands across several mission areas including integrated nuclear programs, science & technology experiments, and infrastructure re-investment over the next ten years. While most of this demand growth is temporally distributed, growth in high-performance computing for large computing platforms is a key schedule driver. Without sufficient electrical capacity and capability, the DOE's and NNSA's core mission pillars at LANL will be fundamentally compromised.

The funds appropriated under this data sheet may be used for contracted support services to the Federal Program Manager and the Federal Program Director (FPD) to conduct independent assessments of the planning and execution of this project required by DOE O 413.3B and to conduct technical reviews of design and construction documents. The project is being conducted in accordance with the project management requirements in DOE O 413.3B, Program and Project Management for the Acquisition of Capital Assets. As allowed by DOE O 413.3B, work will be phased to improve overall efficiency.

Key Performance Parameters (KPPs)
The Threshold KPPs consider minimum import capacity, power system reliability, and distribution capacity to serve the Strategic Computing Center. Achievement of the Threshold KPPs is a prerequisite for approval of CD-4, *Project Completion*. The preliminary KPPs have been updated and finalized with CD-2/3 baseline approval. The TPC approved at CD-2/3 is based on the Threshold KPPs stated below.

THRESHOLDS		OBJECTIVES	
T1	Provide a 115 kV transmission system with a minimum system operating limit of 200 MVA that can reliably withstand the next credible contingency	O1a	Provide a 115 kV transmission system with up to a 20% increase in the minimum system operating limit of 200 MVA that can reliably withstand the next credible contingency within acceptable performance parameters while maintaining interconnection integrity.

	within acceptable performance parameters while maintaining interconnection integrity.	O1b	Provide a 115 kV transmission system with up to a 30% increase in the minimum system operating limit of 200 MVA that can reliably withstand the next credible contingency within acceptable performance parameters while maintaining interconnection integrity.
		O1c	Provide increased operational flexibility using voltage support devices at critical 115 kV substation locations to reduce the impact of credible contingencies.
T2	Provide a 13.8 kV distribution system with a minimum system operating limit of 200 MVA that can reliably withstand the next credible contingency within acceptable performance parameters while maintaining interconnection integrity.	O2a	Provide increased operational flexibility using voltage support devices at critical 13.8 kV distribution switchgear locations to reduce the impact of credible contingencies.
		O2b	Provide increased operational flexibility using 13.8 kV distribution interties between critical switchgear locations to reduce the risk impact of certain credible contingencies.
T3	Provide a minimum of 60 MVA capacity for dedicated 13.8 kV distribution feeders and associated 13.8 kV switchgear to the Strategic Computing Complex (SCC).	O3	Provide a minimum of 80 MVA capacity for dedicated 13.8 kV distribution feeders and associated 13.8 kV switchgear to the Strategic Computing Complex (SCC).

3. Financial Schedule

($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	24,000	24,000	20,738
FY 2025	32,619	32,619	13,417
FY 2026	3,195	3,195	23,807
FY 2027	0	0	1,852
Total Design	**59,814**	**59,814**	**59,814**
Construction			
Prior Years	75,000	75,000	0
FY 2025	37,381	37,381	10,977
FY 2026	56,805	56,805	115,301
FY 2027	65,000	61,000	103,250
FY 2028	62,674	63,000	62,674
FY 2029	52,430	56,104	43,992
FY 2030	0	0	9,458
FY 2031	0	0	3,638
Total Construction	**349,290**	**349,290**	**349,290**
TEC			
Prior Years	99,000	99,000	20,738
FY 2025	70,000	70,000	24,394
FY 2026[1]	60,000	60,000	139,108
FY 2027	65,000	61,000	105,102
FY 2028	62,674	63,000	62,674
FY 2029	52,430	56,104	43,992
FY 2030	0	0	9,458
FY 2031	0	0	3,638
Total TEC	**409,104**	**409,104**	**409,104**

[1] P.L. 119-21 (Working Families Tax Cut Act, or WFTC) provided $3,885,000,000 in funding to DOE/NNSA. EPCU received $60M in funding.

Other Project Costs (OPC)			
Prior Years	11,122	11,122	11,055
FY 2025	0	0	12
FY 2026	3,198	3,198	2,000
FY 2027	2,000	2,000	2,000
FY 2028	0	0	1,000
FY 2029	0	0	0
FY 2030	2,816	2,816	2,000
FY 2031	0	0	1,069
Total, OPC	**19,136**	**19,136**	**19,136**
Total Project Costs (TPC)			
Prior Years	110,122	110,122	31,793
FY 2025	70,000	70,000	24,406
FY 2026	63,198	63,198	141,108
FY 2027	67,000	63,000	107,102
FY 2028	62,674	63,000	63,674
FY 2029	52,430	56,104	43,992
FY 2030	2,816	2,816	11,458
FY 2031	0	0	4,707
Total TPC	**428,240**	**428,240**	**428,240**

4. Details of Project Cost Estimate

($K)

		Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	43,403	43,403	43,403
	Contingency	16,411	16,411	16,411
Total Design		**59,814**	**62,195**	**59,814**
Construction				
	Site Work	0	0	0
	Equipment	87,724	65,461	87,724
	Construction	105,583	117,008	105,583
	Title III Services	4,566	2,807	4,566
	Oversight & Management	58,410	45,508	58,410
	Contingency	93,007	56,021	93,007
Total Construction		**349,290**	**286,805**	**349,290**
Total Estimated Cost (TEC)		**409,104**	**349,000**	**409,104**
Contingency, TEC		*109,418*	*70,429*	*109,418*
Other Project Costs (OPC)				
OPC except D&D				
	Project Definition	784	784	784
	Conceptual Design	3,305	3,305	3,305
	NEPA & Contracting	6,472	6,472	
	Start-up	2,993	2,993	2,993
	NHPA MOA Stipulations	5,000	5,000	5,000
	Other Project Costs	582	586	582
	Contingency	0	0	0
Total OPC		**19,136**	**19,140**	**19,136**
Contingency, OPC		*0*	*0*	*0*
Total Project Cost		**428,240**	**368,140**	**428,240**
Total Contingency (TEC+OPC)		***109,418***	***70,429***	***109,418***

5. Schedule of Appropriation Requests (K)

Request Year	Type	Prior Years	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	Out Years	Total
FY 2023	TEC	119,000	86,000	79,000	0	0	0	0	0	0	284,000
	OPC	7,127	0	0	0	0	0	0	0	2,811	9,938
	TPC	126,127	86,000	79,000	0	0	0	0	0	2,811	293,938
FY 2024	TEC	99,000	86,000	104,000	0	0	0	0	0	0	289,000
	OPC	11,329	0	0	0	0	0	0	0	2,811	14,140
	TPC	110,329	86,000	104,000	0	0	0	0	0	2,811	303,140
FY 2025	TEC	99,000	70,000	85,000	0	0	0	0	0	35,000	289,000
	OPC	11,122	190	0	0	0	0	0	0	2,828	14,140
	TPC	110,122	70,190	85,000	0	0	0	0	0	37,828	303,140
FY 2026	TEC	99,000	70,000	85,000	0	0	0	0	0	95,000	349,000
	OPC	11,122	190	3,000	0	0	0	0	0	4,828	19,140
	TPC	110,122	70,190	88,000	0	0	0	0	0	99,828	368,140
FY 2027	TEC	99,000	70,000	60,000	65,000	62,674	52,430	0	0	0	409,104
	OPC	11,122	0	3,198	2,000	0	0	2,816	0	0	19,136
	TPC	110,122	70,000	63,198	67,000	62,674	52,430	2,816	0	0	428,240

The FY 2026 Appropriations Request does not include any funding provided through the FY 2026 Appropriation Bill. The $85,000k request is pending additional Public Law 119–21 funding decisions.

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	1Q FY 2029
Expected Useful Life (number of years)	41
Expected Future Start of D&D of this capital asset (fiscal quarter)	1Q FY 2070

Related Funding Requirements
(Budget Authority in Millions of Dollars)

	Annual Costs[1]		Life Cycle Costs	
	Current Total Estimate	Previous Total Estimate	Current Total Estimate	Previous Total Estimate
Operations and Maintenance	3.90	4.08	160	167

7. D&D Information

There is no new area being constructed in this construction project. This scope of this project does not include adding any floor space to an existing facility.

8. Acquisition Approach

The Project will be managed and constructed by the LANL M&O contractor, which in turn is using a Design-Build firm fixed-price, best value procurement subcontract.

[1] Dollars are base year FY 2023 dollars

Secure Transportation Asset

Overview

The Secure Transportation Asset (STA) is responsible for operating the Transportation Safeguards System (TSS) safely and securely in support of nuclear modernization and sustainment program requirements. STA provides the transportation infrastructure that enables sustained delivery of plutonium pits, strategic materials, high explosives, and non-nuclear components to support the stockpile and future deterrence needs throughout the Nuclear Security Enterprise (NSE). Cargo is transported in highly modified secure tractor-trailers and escorted by Federal Agents (FA) providing security and national incident command system response in the event of emergencies. Stockpile modernization programs, limited-life component exchanges, surveillance, dismantlement, nonproliferation activities, and experimental programs rely on safe, secure, and on-schedule transport of STA cargos.

STA currently has the mission capacity to meet National Nuclear Security Administrations (NNSA) stockpile sustainment priorities, strategic material and component transfers, and other NSE workloads. STA will continue to balance and prioritize customer requests against capacity. Since its establishment in 1974, STA has maintained its legacy of safety and security to include no loss of cargo and no radiological release on any shipment.

The Fiscal Year (FY) 2027 Budget Request of $587,071,000 is 30.8 percent above FY 2026 Enacted to support the Mobile Guardian Transporter (MGT) program development, escort vehicle production, C-UAS operations implementation and FA recruitment and retention efforts The STA program includes the Operations and Equipment (OPS) and Program Direction (PD) subprograms.

Secure Transportation Asset Funding ($K)[1]

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding	FY 2027 Request	FY 2027 Request vs. FY 2026 Enacted	
					$	%
Secure Transportation Asset						
Operations and Equipment	**236,160**	**299,541**	**-**	**443,075**	**+143,534**	**+47.9%**
Mission Capacity	*59,654*	*71,029*	*-*	*148,298*	*+77,269*	*+108.8%*
Security/Safety Capability	*23,878*	*33,990*	*-*	*35,423*	*+1,433*	*+4.2%*
Infrastructure and C5 Systems	*40,122*	*55,005*	*-*	*54,397*	*-608*	*-1.1%*
Program Management	*8,886*	*9,032*	*-*	*9,139*	*+107*	*+1.2%*
Mobile Guardian Transporter	*103,620*	*130,485*	*-*	*195,818*	*+65,333*	*+50.1%*
Total Operations and Equipment	**236,160**	**299,541**	**-**	**443,075**	**+143,534**	**+47.9%**
Program Direction	**118,056**	**149,244**	**-**	**143,996**	**-5,248**	**-3.5%**
Salaries and Benefits	*87,674*	*115,155*	*-*	*109,214*	*-5,941*	*-5.2%*
Travel	*6,909*	*8,025*	*-*	*8,182*	*+157*	*+2.0%*
Other Related Expenses	*23,473*	*26,064*	*-*	*26,600*	*+536*	*+2.1%*
Total, Program Direction	**118,056**	**149,244**	**-**	**143,996**	**-5,248**	**-3.5%**
Total, Secure Transportation Asset	**354,216**	**448,785**	**-**	**587,071**	**+138,286**	**+30.8%**
Federal FTEs - Program Direction						
Funded	**492**	**502**	**-**	**506**	**+4**	**+0.8%**

Secure Transportation Asset Outyear Funding ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
Secure Transportation Asset				
Operations and Equipment				
Mission Capacity	*95,596*	*95,818*	*97,023*	*99,018*
Security/Safety Capability	*45,947*	*64,192*	*65,107*	*29,194*
Infrastructure and C5 Systems	*62,844*	*57,750*	*59,025*	*63,440*
Program Management	*20,100*	*9,802*	*10,877*	*11,105*
Mobile Guardian Transporter	*185,267*	*215,201*	*207,804*	*205,683*
Total Operations and Equipment	**409,754**	**442,763**	**439,836**	**408,440**
Program Direction				
Salaries and Benefits	*126,310*	*126,833*	*140,028*	*148,224*
Travel	*8,347*	*8,517*	*8,687*	*8,869*
Other Related Expenses	*28,254*	*28,475*	*29,089*	*29,701*
Total, Program Direction	**162,911**	**163,825**	**177,804**	**186,794**
Total, Secure Transportation Asset	**572,665**	**606,588**	**617,640**	**595,234**

[1] P.L. 119-21 (Working Families Tax Cut Act, or WFTC) provided $3,885,000,000 in funding to DOE/NNSA.

Secure Transportation Asset
Operations and Equipment

Overview

The OPS subprogram budget supports modernization and sustainment of STA communications systems and transportation assets, including life extension of the Safeguard Transporter (SGT) until replaced by the MGT. The MGT First Production Unit (FPU) is planned for completion in FY 2029. Additionally, funding provides for maintenance and replacement of specialized mission vehicles and one 737-400 aircraft (~40 years old), Counter Uncrewed Aircraft Systems (C-UAS), minor construction, command and control system platforms, equipment for the Federal Agent Candidate Training (FACT) program, and support service contracts assisting with program execution in several areas such as aviation, information technology, and engineering.

Within the STA OPS subprogram, five (5) activities make unique contributions to the safety and security of the transport of the nuclear stockpile. These activities accomplish the following:

(1) Mission Capacity – provides mission-essential agent equipment, maintenance, modification and replacement of the transportation fleet, and aviation services.
(2) Security/Safety Capability – Conducts FACT courses to help keep up with losses due to mandatory retirements and attrition. Develops and implements new fleet technologies, C-UAS, agent sustainment training equipment, and implements Security, Safety, and Emergency Response programs.
(3) Infrastructure and Command and Control, Communication, Computer and Cyber (C5) Systems – provides support for minor construction projects, and C5 systems.
(4) Program Management – provides corporate functions and business operations that control, assist, and direct secure transport operations.
(5) MGT – allows for the design, development, testing, and fabrication of the MGT.

Mission Capacity

Sustains STA systems through equipment purchases to fulfill transportation requirements. Current assets include agent equipment, tractors, trailers, escort vehicles, other support vehicles, and aircraft. Lifecycle replacement of the transportation infrastructure is critical to support current and future nuclear security missions. Modernizing and sustaining these assets requires an integrated, long-term strategy and substantial investment. STA's strategy includes retiring outdated assets, refurbishing existing assets to extend their useful life, and procuring new assets with increased capabilities to meet our customers' ever-changing needs and evolving threats.

STA's efforts include:

- Lifecycle replacement of aging vehicles with new vehicles includes the design, engineering, testing, and fielding of specialized vehicles, tractors, and trailers necessary for successful convoy operations.
- Maintenance, sustainment and lifecycle replacement of STA's aircraft fleet ensuring availability and reliability for STA and the Office of Counterterrorism and Counterproliferation's mission operations.
- Sustain the required readiness posture of STA vehicles and aircraft fleet to support the NSE commitments to Department of War (DoW) in strengthening the nuclear posture.

Security/Safety Capability

Sustains STA systems capacity through integration of safety and security capabilities. This includes the following activities:

- Identify, design, and test new fleet and mission technologies. Deliverables include enhancements to the secure trailers, data analysis, information dissemination, and use of emerging physical security technology.

- Conduct FACT classes each year to increase FA workforce and develop an elite workforce through training and equipping FA candidates with the best products and tools available for mission requirements.
- Sustain specialized FA skills and qualifications by providing technical equipment, logistics, curriculum development, and staffing necessary to conduct Special Response Force training, Operational Readiness Training, Comprehensive Force-on-Force exercises, and Agent Sustainment Training. Sustainment Training includes surveillance detection, tactics, advanced driving skills, and firearms instruction. In addition, funding supports contracts for mission operation support and off-site training venues capable of supporting unit or FA commands during training activities.
- Maintain security and safety programs by conducting liaison activities with state and local law enforcement organizations, analysis of security methods and equipment, vulnerability assessments, development of Safeguards and Security Plans, and combat simulation computer modeling. Furthermore, validation of needed safety and security measures, execution of safety studies recommendations and review of engineering analysis results, execution of Nuclear Explosive Safety protocols and risk reduction of over-the-road safety issues.
- Maintain the Emergency Operations Center and the Transportation Emergency Control Center (TECC) in Albuquerque, New Mexico, train, and exercise the STA emergency response capability. Includes the Emergency Management Program, FA Incident Command System refresher, and sustainment training.
- The unmanned systems program continues to investigate, develop, acquire, and support the integration of unmanned technologies for use in the STA mission operations. Unmanned capabilities, air and ground, enhance situational awareness during emergencies or off-normal events involving critical STA mission assets.
- The C-UAS program continues to develop, test and implement C-UAS capability into STA operations.

Infrastructure and Command, and Control, Communication, Computer, and Cyber

Sustains the system platforms operated by STA to provide critical information obtained, analyzed, and disseminated prior to and during missions. Includes continuous monitoring of all data for accuracy, validity and constant communication within convoys and between convoys and headquarters (HQ) to ensure mission success. These activities must be accomplished in real-time while balancing cybersecurity requirements, reliability, and integrity. STA leverages other systems technology supporting business processes, uses commercial products and operations which improve efficiency and effectiveness of STA operations. Additionally, provide for the necessary facility infrastructure to support the STA workforce and mission-essential functions. This funding supports the following sub-elements:

- Modernize and sustain C5 systems activities to maintain vigilant oversight of nuclear convoys. Operate the TECC and maintain the New Mexico Relay Station, and communications systems across the STA.
- Maintain and expand the Mission Management System, a secure unclassified to classified controlled interface. This allows communications from unclassified to classified systems, and maintenance and enhancement of a common operating picture for the TECC as well as convoys.
- Expand, upgrade, and maintain the STA facilities and equipment in support of mission requirements. STA strives to minimize operational safety and health risks by addressing facility maintenance promptly at four locations with approximately 83 total facilities and infrastructure. Facilities include FA commands, vehicle mechanical and electronic maintenance shops, training command, and support staff buildings. Activities to sustain these facilities include repair, maintenance, and minor construction projects. STA meets at least annually to identify and prioritize facility projects and continues to use commercial standards.

Program Management

Creates a well-managed, responsive, and accountable organization by employing effective business practices for the STA program. This activity includes:

- Corporate functions such as technical document support and business processes that control, assist, and direct secure transport operations (includes supplies, equipment, and regulation control procedures).
- Assess, evaluate, and improve functions and processes including self-assessments, configuration management, quality assurance program, and business integration activities.

Mobile Guardian Transporter
Provides for the design, production, and testing of the MGT. The MGT will conduct secure transportation of nuclear assets to assure the safety and security of cargo and containers, protect the public, meet nuclear explosive safety requirements associated with accident scenarios, reduce the risk to security threats, and provide for enhanced communications. This includes the following activities:

- Build two MGT Training Trailers
- Build initial MGT block of four operational trailers.
- Rolling Chassis block one and two acquisition.
- Mechanical Systems Development
- Electronics and Auxiliary Systems Development
- Active Delay System Development
- Begin procurement of Enhanced Cargo Restraint Systems

Highlights of the FY 2027 Budget Request
The development, design, production, and maintenance of specialized mission vehicles, tractors, trailers, escort vehicles, training of FAs, robust communications systems and procurement of one 737-700/800 aircraft.

- SGT life extension and risk reduction activities include refurbishment, major repairs, annual testing, Tester replacement, powerplant replacement, critical spares procurement, Integrated Surety Architecture (ISA) and trailer communication for the aging fleet. SGT life extension is required until the MGT is integrated into mission operations.
- System development and production work of the MGT to include critical system testing, and procurement of components toward the FPU.
- Lifecycle replacement and refurbishment of aircraft, escort vehicles, and support vehicles.
- Minor construction projects to provide safe and secure facility infrastructure to support training, manpower, transportation, and independent operations. Specifically supports the Aviation Hangar extension and Apron replacement.
- Sustainment of system platforms operated by STA, including continuous monitoring of all data and communication within and between convoys and headquarters to ensure mission success.
- A C-UAS program development, procurement, testing and implementation for integration into STA operations.

Operations and Equipment (+$143.534 million)
The increase reflects efforts to address challenges including ensuring mission assets meet modernization and replacement schedules, limited vendor availability, restricted expertise to integrate specialized equipment, safety and security risks technological advances impose on the TSS, and supply chain challenges. Specific increases provide for the delivery of the MGT rolling chassis, final engineering releases for MGT FPU, and acquisition of Enhanced Cargo Restraints; refurbishment, sustainment and lifecycle replacement of specialized vehicles and aircraft; initial implementation of the C-UAS program and minor construction associated with STA sites.

- **Mission Capacity**
  - Refurbishment, sustainment and lifecycle replacement of specialized mission assets including SGT, escort and support vehicles. Additionally, lifecycle replacement of the first 737-400 aircraft (~40 years old).

- **Security/Safety Capability**
  - The increase Supports research, development, and procurement of two CUAS special operations prototype vehicles and hardware for on-the-move operations.

- **Infrastructure and C5 Systems**
  - The increase reflects planned hiring of specialized support service contractors to support cybersecurity and critical IT services for secure communications for STA's over the road operational mission.

- **Program Management**
  - No major change.

- **Mobile Guardian Transporter**
  - The FY 2027 increase enables critical progress toward fielding the MGT by scaling engineering and system-integration activities and incorporating lessons learned from the FY 2026 Test Article 2 crash test. Additional resources allow the program to expand procurement of rolling chassis, enhanced cargo restraints, electronics systems, and assembly components needed to maintain production timelines and reduce mission risk.

Secure Transportation Asset
Program Direction

Overview

The PD subprogram budget provides for personnel ensuring the safety and security of the nuclear stockpile while in transport. The total planned Full Time Equivalents (FTE) supports the FA force, federal pilots, emergency management personnel to execute plans/activities, security and safety programs, C-UAS personnel and training, and other key elements of the STA mission. STA is committed to a stable human resources strategy to achieve an optimal agent force to meet the NNSA NSE priorities and mission requirements. The optimal FA force is determined by analysis of the projected workload and the resources required to support the NSE weapon modernization and production schedule.

STA is implementing initiatives to attract, hire, and retain the FA workforce, such as increased salaries, recruitment bonuses, career ladder positions and a special pay table to sustain the readiness and deployment requirements required to execute the nuclear deterrence missions. However, the program faces challenges onboarding and sustaining the FA workforce to keep up with turnover. STA pursued a Staffing Supplement to address FA pay disparities to improve recruitment and retention. In Quarter 1 FY2026, the supplement (10 percent salary increase) and the 3.8 percent Law Enforcement Officers pay increase were approved. STA implemented the pay enhancements in calendar year 2026. STA will continue to assess the outcome of the FA initiatives to ensure the FA workforce is properly staffed and postured for successful mission execution.

Salaries and Benefits

Salaries and Benefits provide for 506 federal FTEs located in Albuquerque, New Mexico, Fort Chaffee, Arkansas, Oak Ridge, Tennessee, Amarillo, Texas and the District of Columbia. Funding includes FA initiatives to attract, hire and retain the FA workforce, overtime, worker's compensation, and Permanent Change of Station (PCS) associated with FAs and support staff.

Travel

Travel funds utilized for secure convoys, training at military installations and other facilities, and program oversight.

Other Related Expenses

Provides for support service contracts including Human Reliability Program (HRP) for FAs and designated staff, provides for Energy Information Technology Services/DOE Common Operating Environment (EITS/DOECOE), and other contractual service requirements to include facility maintenance (janitorial and ground maintenance), intelligence and administrative support. Additionally, PD funding provides professional development training for all STA federal employees including new employee orientation, job specific training, supervisory, professional, leadership and soft skills, certification training for pilots, FA's and other key personnel, leadership development programs, and group training not related to FA unit training. Provides uniforms or allowances for uniforms, as authorized by 5 U.S.C. §§ 5901–5902 for select STA staff as outlined in STA Policy 1.22E.

Highlights of the FY 2027 Budget Request

The FY 2027 request supports FA and staff FTEs for STA mission execution and priorities. This includes:

- Support for 506 Federal FTEs, including FA hiring initiatives to attract, hire and retain FAs, federal pilots, TECC personnel, C-UAS operators and staff.
- Travel to support mission, operational, and training requirements.
- EITS/DOECOE fees, support service contracts, HRP, and facility maintenance costs.
- C-UAS personnel and training.

- Certification and training to sustain skills for FAs and staff.

Program Direction (-$5.248 million)
The funding decrease reflects a shift from employing fewer seasoned personnel, paid at a higher rate, to a larger number of junior personnel paid at lower rates.

Program Direction
Funding

Activities and Explanation of Changes

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Program Direction **$149,244,000**	**Program Direction** **$143,996,000**	**Program Direction** **-$5,248,000**
Salaries and Benefits **$115,155,000**	**Salaries and Benefits** **$109,214,000**	**Salaries and Benefits** **-$5,941,000**
• Recruited, hired, and retained quality personnel based on current and future mission needs. • Filled FA and pilot vacancies to sustain workload requirements. • Conducted FACT courses (projections consider gains from FACT and losses due to mandatory retirements and attrition). • Continued recruitment, salary, and retention incentives for FAs.	• Continue to fill FA and secondary staff vacancies to sustain workload requirements. • Administer FACT courses. • Continue to support recruitment, salary, and retention incentives for FAs. • C-UAS personnel	• The funding decrease reflects a shift from employing fewer seasoned personnel, paid at a higher rate, to a larger number of junior personnel paid at lower rates.
Travel **$8,025,000**	**Travel** **$8,182,000**	**Travel** **+$157,000**
• Travel required to transport nuclear weapons, components, and special nuclear materials. • Funding supported travel to facilities that provide unique training to maintain FA skills. • Charter plane contract funded biennially as a contingency plan to support requirements when current STA aircraft are unavailable.	• Travel is required to support safe and secure transportation of nuclear weapons, components, and special nuclear materials. Includes FA and support staff. • Funding supports travel to facilities that provide unique training to maintain FA skill sets. • Charter planes contract funded biennially as a contingency plan to support requirements when current STA aircraft is unavailable.	• Increase supports travel for FA recruitment and FA mission travel required to support the NSE.
Other Related Expenses **$26,064,000**	**Other Related Expenses** **$26,600,000**	**Other Related Expenses** **+$536,000**
• Continuous medical evaluations of individuals assigned to HRP duties and additional medical training for FA medics.	• Continuous medical evaluations of individuals assigned to HRP duties and additional medical training for FA medics.	• The increase supports personnel training for C-UAS implementation and EITS/DOECOE support.

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
• Support FACT at the Federal Law Enforcement Training Center (FLETC). • Support processing security clearances. • Support EITS/DOECOE costs. • Support service contracts for facility maintenance, intelligence analysts, and other administrative staff at multiple STA sites. • Provide the necessary training to sustain competencies associated with the job responsibilities (FA, pilots, and technical staff).	• Support FACT at FLETC which provides FA training for legal, use of force and vehicle stops. • Support processing security clearances. • Support EITS/DOECOE costs. • Support service contracts for facility maintenance, intelligence analysts, and other administrative staff at multiple STA sites. • Professional development training for all STA Federal employees. • C-UAS personnel and training.	

Secure Transportation Asset
Capital Equipment Summary
($K)

	Total	Prior Years	FY 2025 Enacted	FY 2026 Request	FY 2027 Request
Capital Equipment (> $500K)					
Total Non-MIE Capital Equipment (TEC <$10M)	N/A	N/A	9,513	9,787	9,097
Mobile Guardian Transporter	1,870,994	627,432	103,620	130,485	195,818
Counter Uncrewed Vehicle Platform	108,970	-	-	-	10,000
Replacement Aircraft (Lifecycle Replacement 737)	64,000	-	-	-	64,000
Total, Capital Equipment	**N/A**	**N/A**	**113,133**	**140,272**	**278,915**

Secure Transportation Asset
Outyear Capital Equipment Summary
($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request	Outyears
Capital Equipment (> $500K)					
Total Non-MIE Capital Equipment (TEC <$10M)	15,300	15,300	15,300	15,300	N/A
Mobile Guardian Transporter	185,267	215,202	207,487	205,683	N/A
Counter Uncrewed Vehicle Platform	20,100	38,200	38,570	2,100	N/A
Replacement Aircraft (Lifecycle Replacement 737)	-	-	-	-	N/A
Total, Capital Equipment	**220,667**	**268,702**	**261,357**	**223,083**	**N/A**

Defense Nuclear Security

Overview

The Defense Nuclear Security (DNS) program leads, develops, and implements the National Nuclear Security Administration's (NNSA) security program, enabling its nuclear security enterprise (NSE) missions. DNS protects NNSA personnel, facilities, nuclear weapons, and special nuclear materials from a full spectrum of threats, ranging from minor security incidents to acts of terrorism, at its national laboratories, production plants, processing facilities, Nevada National Security Site, and satellite facilities for federal staff. Employing more than 2,200 Protective Force (PF) officers, DNS secures more than 6,000 buildings and protects more than 60,000 personnel. Today, the program is charting a course of transformative change to ensure DNS's mission-enabling function keeps pace with the expanding work scope across all elements of the NNSA mission in future years.

The DNS Operations and Maintenance program integrates personnel, equipment, and procedures to protect physical assets and resources against theft, sabotage, diversion, or other criminal acts. Each NNSA contract mission partner has an approved Site Security Plan (SSP) detailing protection measures and resources needed to protect site security interests.

PF duties include, specialized training, performance testing, facilities, equipment, weapons/firearms, ammunition, vehicles, and other expenses. These forces are each site's primary frontline protection and consist of armed, uniformed officers. PF officers are integral to a site's security posture and are trained in tactics and techniques necessary to protect NNSA sites.

Physical Security Systems include Counter Unmanned Aircraft Systems (CUASs), intrusion detection and assessment systems, performance testing and certification/recertification, access control systems, barrier and delay mechanisms, canine explosive detection programs, and tactical systems. This subprogram funds investments in critical security systems and infrastructure upgrades to address assets that are well beyond their designed lifecycles and require increased maintenance and testing. This subprogram includes funding for the Physical Security Center of Excellence (PSCOE) at Sandia National Laboratories in New Mexico, the centrally managed Argus program at Lawrence Livermore National Laboratory in California, as well as the effort to replace the aging centrally managed Argus system with Caerus, a modern security system, at sites with Category I quantities of special nuclear material.

The Physical Security Systems subprogram includes the Security Infrastructure Revitalization Program (SIRP), which executes high-priority replacement and refurbishment projects. SIRP projects include refreshing barriers, sensors, cameras, lighting, communication, power, critical systems, and smaller capital equipment projects. The urgent need to repair systems with the highest risk of failure is driving this program's requirements.

Information Security provides classification guidance, technical surveillance countermeasures, operational security, and protection and control of classified matter.

Personnel Security includes access authorizations, badging, the Human Reliability Program, classified and unclassified visits, and foreign visits and assignments. It encompasses the administrative support for the site clearance process, including security clearance determinations at each site.

Material Control and Accountability controls and accounts for special and alternative nuclear materials through measurements, quality assurance, accounting, containment, surveillance, and physical inventory. This activity also includes Local Area Nuclear Materials Accountability Software application and training, as well as operational support provided to the Department of Energy and NNSA sites and facilities.

Security Program Operations and Planning includes budget development, responses to audits and information requests, SSPs, vulnerability/risk assessments, and performance testing and assurance activities. Additionally, it provides security incident and reporting management, security surveys and self-assessments, support for deviation requests, and control over security technology transfer activities. Security Program Operations and Planning also supports the facility clearance processing and Foreign Ownership, Control, or Influence determinations for security contracts.

Defense Nuclear Security
($K)[1]

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding	FY 2027 Request	FY 2027 Request vs. FY 2026 Enacted	
					$	%
Protective Forces	544,709	665,983	-	689,073	+23,090	+3.5%
Physical Security Systems	190,111	235,443	-	251,429	+15,986	+6.8%
Information Security	72,061	80,043	-	62,287	-17,756	-22.2%
Personnel Security	63,565	76,763	-	83,011	+6,248	+8.1%
Nuclear Material Control and Accountability	53,411	63,798	-	65,022	+1,224	+1.9%
Security Program Operations and Planning	106,228	123,388	-	154,971	+31,583	+25.6%
Total, Operations and Maintenance	**1,030,085**	**1,245,418**	**-**	**1,305,793**	**+60,375**	**+4.8%**
17-D-710 West End Protected Area Reduction Project, Y-12	54,000	-	-	-	-	0%
Total, Defense Nuclear Security	**1,084,085**	**1,245,418**	-	**1,305,793**	**+60,375**	**+4.8%**

Defense Nuclear Security
Outyear ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
Protective Forces	716,526	742,149	742,800	770,091
Physical Security Systems	256,358	250,965	262,602	258,388
Information Security	58,839	60,888	67,935	68,202
Personnel Security	83,483	86,189	88,401	89,372
Nuclear Material Control and Accountability	63,605	64,326	71,917	66,461
Security Program Operations and Planning	153,098	154,030	152,063	160,919
Total, Operations and Maintenance	**1,331,909**	**1,358,547**	**1,385,718**	**1,413,432**
17-D-710 West End Protected Area Reduction Project, Y-12	**-**	**-**	**-**	**-**
Total, Defense Nuclear Security	**1,331,909**	**1,358,547**	**1,385,718**	**1,413,432**

[1] P.L. 119-21 (Working Families Tax Cut Act, or WFTC) provided $3,885,000,000 in funding to DOE/NNSA.

Highlights of the FY 2027 Budget Request for Operations and Maintenance

The Budget Request supports increased security needs from known mission growth across the NSE, including pit production at Los Alamos National Laboratory (LANL) and the Savannah River Plutonium Production Facility (SRPPF), Kansas City expansion efforts, and Uranium Processing Facility (UPF) testing and transition to operations.

The request includes substantial investments in deploying and comprehensive research, development, testing, and evaluation of next-generation Counter Unmanned Aircraft Systems (NexGen CUAS).
In addition, the request continues to support the initiative to replace the aging Argus system with a modern security system (Caerus), as well as continuous improvement initiatives through the Center for Security Technology, Analysis, Response, and Testing system and PSCOE activities, and the capability to adapt to rapidly evolving technologies.

This request also includes funding SIRP projects, addressing critical security systems, and related security infrastructure and equipment refresh needs.

Explanation of Change for Operations and Maintenance

Operations and Maintenance (+$60.375 million)

- The increase reflects growth of security requirements associated with continued mission growth across the NNSA NSE, including plutonium pit production at LANL and SRPPF, Kansas City expansion efforts, and preparation for UPF testing and transition to operations.
- The increase also reflects higher labor rates for PF and other contractor staff.
- NNSA is making substantial investments in NexGen CUAS. These investments include hardware and software updates to existing CUAS platforms, and the acquisition of new technology CUAS platforms. NNSA continues collaborating with the Idaho National Laboratory using its dedicated CUAS range to evaluate future-generation CUAS acquisitions. This testing identifies potential solutions for enhancing NNSA's CUAS capabilities.
- This request includes increased support for the development and implementation of Caerus, including integration with NexGen CUAS.
- PF shooting range upgrades are included.

Defense Nuclear Security
Capital Equipment ($K)

	Total	Prior Years	FY 2025 Enacted	FY 2026 Request	FY 2027 Request
Capital Equipment (> $500K)					
Total Non-MIE Capital Equipment (TEC <$10M)	N/A	N/A	2,397	2,445	2,494
Total, Capital Equipment	**-**	**-**	**2,397**	**2,445**	**2,494**

Outyears Capital Equipment ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request	Outyears
Capital Equipment (> $500K)					
Total Non-MIE Capital Equipment (TEC <$10M)	2,544	2,595	2,646	2,699	N/A
Total, Capital Equipment	**2,544**	**2,595**	**2,646**	**2,699**	**N/A**

Defense Nuclear Security
Other Information
($K)

Full Cost Recovery Estimates

The Budget Request provides direct funding for mission-based DNS programs. Strategic Partnership Projects (SPPs) will continue to fund an allocable share of the base program through full cost recovery. Extraordinary security requirements for SPPs, such as dedicated security for special projects or exercises on an extended basis, will be charged directly to those customers.

Site	FY 2025 Enacted	FY 2026 Request	FY 2027 Request	FY 2027 Request vs. FY 2026 Request	
				$	%
Kansas City National Security Campus	2,714	3,391	4,039	+648	23.9%
Lawrence Livermore National Laboratory	11,000	12,497	12,497	0	0%
Los Alamos National Laboratory	5,191	4,989	5,250	+261	5.0%
Nevada National Security Sites	1,075	1,700	1,700	0	0%
Pantex Plant	895	498	508	+10	1.1%
Sandia National Laboratories	26,619	26,852	26,648	-204	-0.8%
Y-12 National Security Complex	1,248	1,273	1,984	+711	57.0%
Total	**48,742**	**51,200**	**52,626**	**+1,426**	**2.9%**

Information Technology and Cybersecurity

Overview

The National Nuclear Security Administration's (NNSA) Information Technology (IT) and Cybersecurity Program focuses on investments in technology to effectively support the Nuclear Security Enterprise (NSE). These investments are fundamentally redesigning the NNSA IT and cybersecurity environments, delivering highly secure and risk-informed IT and cybersecurity solutions across the entire NSE. The program implements and maintains modern, innovative, resilient, and secure technology solutions. Delivery of critical functions includes managing classified IT services and systems and ensuring pervasive, strong cybersecurity support throughout the NSE. This approach aims to provide commodity services for NNSA Management and Operating (M&O) partners at laboratories, plants, and sites which will improve the security of sensitive NNSA data and shared services.

To successfully achieve its mission, the NNSA Office of the Associate Administrator for Information Management and Chief Information Officer (NA-IM) organizational structure is comprised of three offices: the Office of IT, the Office of Cybersecurity, and the Office of Mission Integration. NNSA collaborates with the Department of Energy's (DOE) Office of the Chief Information Officer (OCIO) on the development and deployment of IT and cybersecurity solutions to protect DOE information and information assets. Risk management, agility, trust, and partnership serve as essential guiding tenets for NNSA, where aligning people, processes, and technology directly contributes to the IT and Cybersecurity Program's success.

Cybersecurity

The Cybersecurity Program is organized into two subprograms: Site Infrastructure and Enterprise Operations.

The Site Infrastructure subprogram supports cybersecurity operations and activities at NNSA laboratories, plants, and sites. Funds provided for this subprogram sustain local cybersecurity operations at laboratories, plants, and sites in support of NNSA mission priorities and in accordance with DOE and NNSA policy. Approximately 86% of these funds directly support the cybersecurity workforce and the remaining 14% support cybersecurity systems at the laboratories, plants, and sites. Recent initiatives have focused on improving the detection and resolution of cyber risks and issues including, but not limited to, operational technologies and industrial control systems that support the NNSA mission.

The Enterprise Operations subprogram provides essential cybersecurity support and operations to the NSE through active defensive cyber operations, assessments (including exercises, penetration testing, and Red and Blue Teaming tests of NNSA systems and incident response procedures), policy, management, planning, and training. NNSA manages an enterprise Cybersecurity Operations Center (SOC) that provides 24/7/365 cybersecurity services to NNSA and DOE networking enclaves. The NNSA SOC provides near real-time network defense and incident response services that protect these classified and unclassified enclaves and information from attacks. Through its participation in DOE's Integrated Joint Cybersecurity Coordination Center (iJC3) Program, the NNSA SOC further enhances enterprise-level cyber threat management and situational awareness for DOE. The Enterprise Operations subprogram is also responsible for developing and advancing policies and initiatives that support short- and long-term solutions to specific cybersecurity requirements at NNSA sites and headquarters locations. This subprogram also manages enterprise solutions, including the implementation of Zero Trust Architecture (ZTA) enablers, to create a more secure environment. NNSA continues to transition from a defense-in-depth cybersecurity posture towards ZTA.

To sustain the stockpile stewardship program and other core information assets, networks, applications, and systems, NNSA requires an enterprise-level identity model, strong multifactor authentication (MFA), and a centralized monitoring and analysis capability function to secure the infrastructure system. This broad base of

security and network services includes application integration, authentication services, directory services, enterprise data resource management, the NNSA SOC and Network Operations Center (NOC), Identity and Access Management (IAM), Public Key Infrastructure (PKI), and security monitoring and intrusion detection.

The Cybersecurity Program leverages industry best practices for investing critical resources to address Federal requirements. NNSA also continues to enhance security across the NSE through the implementation of a standardized cybersecurity spending strategy for its laboratories, plants, and sites. Such efforts are building NNSA's capacity to meet evolving IT and cybersecurity threats, gain operational efficiencies, and achieve enterprise-wide improvements for IT infrastructure.

Information Technology

NNSA directs the design, development, and maintenance of all computing aspects, providing staff with the IT resources necessary to achieve mission goals and objectives. The IT Program supports the infrastructure and protection for classified and unclassified computing networks, secure communications, applications, systems, and logical environments. It ensures electronic information and information assets are operating efficiently and effectively and are protected from unauthorized access and malicious acts that could adversely affect national and economic security. Furthermore, the IT Program provides enterprise-level classified computing infrastructure and unclassified applications services to NNSA Federal staff in support of the NNSA mission. Where applicable, it leverages commercial cloud-based services and solutions to support infrastructure hosting, application development, operations, and maintenance.

NNSA's classified IT computing infrastructure enables laboratories, plants, and sites to communicate and share mission-critical information. The program supports IT systems and networks and serves as DOE's computer network defense service provider for the Secret Fabric.

- Significantly enhances NNSA's worldwide radiological and nuclear emergency response missions by ensuring assured communications and continuous modernization of IT infrastructure, network architecture, and classified systems, including the Emergency Communications Network (ECN) and the Nuclear Emergency Support Team Communications (NEST Comms). These efforts also align with digital transformation (DT) and digital engineering (DE) priorities, improving collaboration tools, network services, redundancy, and global performance to deliver continuous, effective, and secure services for all DOE/NNSA response components during operational emergencies.
- The National Security Network (NSN) supports the processing of Secret/National Security Information (NSI) and facilitates the interconnection with Department of War (DoW) SIPRNET.
- The Enterprise Secure Network (ESN) environment operates at the Secret/Restricted Data (S/RD) level and consists of independent site installations of standardized hardware and software integrated through a common infrastructure, shared policies, and procedures. ESN serves as the base network for classified commodity services, enabling classified collaborative computing via secure Virtual Desktop Infrastructure (VDI) to facilitate information sharing among disparate DOE/NNSA entities.
- Other classified networks enable communication and sharing of information in support of NNSA's mission as well as Federal partners.

To think, behave, and respond as one cohesive agency with a shared, critical national security mission, it is necessary to reengineer telecommunications networks and improve service offerings. Such efforts outfit employees with effective communication tools and maximize efficiency, lower operational costs, remove technical barriers, and facilitate collaboration. Additionally, the footprint of the enterprise networks continues to expand as NNSA's mission requirements increase and/or change. Accordingly, the IT Program enhances enterprise services to support emerging technologies and the NNSA mission, investing to:

- Improve connectivity between laboratories, plants, and sites through classified IT infrastructure enhancements and IT modernization projects. These efforts will support digital transformation, digital engineering, and AI initiatives across both nuclear and non-nuclear security activities within the DOE enterprise.
- Enhance IT commodity-based computing infrastructure, leveraging modern systems and secure data transfer technologies, to facilitate effective collaboration and information sharing for NNSA Federal employees and support contractors.
- Increase automation capabilities for rapid, reliable, consistent, and secure technology deployments, and utilize new techniques and technology to achieve rapid development in a modern cloud environment.
- Partner with DOE to ensure technology services consistently meet organizational requirements.

Information Technology and Cybersecurity
($K)

	FY 2025 Enacted	FY 2026 Enacted	WFTC Funding	FY 2027 Request	FY 2027 Request vs. FY 2026 Enacted	
					$	%
Information Technology and Cybersecurity						
Cybersecurity						
Site Infrastructure	149,524	150,314	-	203,316	+53,002	+35.3%
Enterprise Operations	181,540	206,286	-	246,324	+40,038	+19.4%
Subtotal, Cybersecurity	**331,064**	**356,600**	**-**	**449,640**	**+93,040**	**+26.1%**
Information Technology	267,315	331,400	-	485,360	+153,960	+46.5%
Total, Information Technology and Cybersecurity	**598,379**	**688,000**	**-**	**935,000**	**+247,000**	**+35.9%**

Information Technology and Cybersecurity
Outyear ($K)

	FY 2028 Request	FY 2029 Request	FY 2030 Request	FY 2031 Request
Information Technology and Cybersecurity				
Cybersecurity				
Site Infrastructure	217,383	223,905	231,899	240,481
Enterprise Operations	261,250	261,275	261,401	266,629
Subtotal, Cybersecurity	**478,633**	**485,180**	**493,300**	**507,110**
Information Technology	505,067	502,594	498,929	504,964
Total, Information Technology and Cybersecurity	**983,700**	**987,774**	**992,229**	**1,012,074**

Highlights of the FY 2027 Budget Request for Cybersecurity

Cybersecurity will significantly enhance enterprise resilience, fortify defenses against sophisticated and evolving threats, and streamline incident response through strategic investments in technology, risk management, and collaborative initiatives.

In FY 2027, Cybersecurity will concentrate on:

- Improving enterprise-wide cyber programs and infrastructure, including the NNSA SOC and operational technology security.
- Further developing and strengthening cybersecurity across the ZTA pillars through strategic investments in advanced tools, such as Endpoint Detection and Response (EDR), and specialized Operational Technology security initiatives. These efforts enhance resilience, enable continuous monitoring, and establish a robust, enterprise-wide security model for NNSA information assets.
- Continuing to evolve integrated communications capabilities to enhance information sharing between other government agencies (OGAs) and NNSA, facilitating expanded partnerships, the sharing of lessons learned, and modernizing mission execution.
- Countering malicious actors and nation states through proactive detection, prevention, and disruption of suspicious activity using continuous monitoring and innovative tools, while ensuring quick and effective response to cybersecurity incidents through coordinated enterprise-wide efforts.
- Strengthening the resilience of the NSE by expanding supply chain management collaboration and supply chain risk management.
- Sustaining investment and deployment of Security Data Integration (SDI) across laboratories, plants, and sites.
- Continuing to harness artificial intelligence and machine learning (AI/ML) cybersecurity capabilities, integrating with SDI for a proactive defensive posture against evolving cyber defense capabilities.
- Continuing expansion of NNSA's exercise program as well as Red and Blue Team cybersecurity operations.
- Implementing cloud-based Enterprise Governance, Risk, and Compliance (eGRC), enhancing the ability to analyze and share critical cybersecurity risk information and improving enterprise situational awareness.
- Sustaining Controlled Unclassified Information (CUI) protocols to safeguard information.

Explanation of Changes for Cybersecurity (+$93.040 million)

- The funding increase sustains and enhances cybersecurity programs at NNSA laboratories, plants, and sites. Investment will accommodate organizational growth and facilitate crucial workforce expansion, ensuring robust, on-site cybersecurity operations are equipped to manage evolving demands and provide comprehensive protection against emerging threats.
- The increase advances cybersecurity tools, operational capabilities, and the implementation of ZTA enablers across the enterprise. These investments will ensure NNSA meets stringent Federal cybersecurity standards.
- These strategic investments collectively bolster overall cybersecurity postures by fostering comprehensive workforce development and enhancing NNSA's capabilities to meet complex, evolving mission requirements, while simultaneously investing in cybersecurity operations and exercises, a robust portfolio of enterprise cybersecurity tools and infrastructure, Cyber Centers of Excellence (COE), and ZTA to build resilience, reduce vulnerabilities, and mature the NSE cybersecurity posture and protect vital assets against a dynamic threat landscape.

Highlights of the FY 2027 Budget Request for Information Technology

The IT Program will execute a comprehensive modernization of its infrastructure, strategically enhancing data management, and accelerating connectivity. By leveraging advanced technologies, including AI and cloud platforms, the program will bolster mission support and ensure robust operational resilience across the enterprise.

In FY 2027, the IT Program will concentrate on:

- Expanding the adoption of AI/ML and commercial cloud-based technologies for enterprise services to optimize workflows, build foundations for AI infrastructure, and migrate critical applications and data to secure, scalable cloud environments.
- Investing in integrated platforms for DT and DE to enhance collaboration and streamline data sharing.
- Enhancing NNSA's worldwide radiological and nuclear emergency response missions by providing robust interagency communication and collaboration capabilities, particularly at the Secret level.
- Recapitalizing and enhancing aging infrastructure, replacing legacy systems, and strengthening inherited networks, systems, and applications. Efforts improve inter-site connectivity, enhance core services for enterprise secure computing environments, and strengthen overall architectural resiliency through network changes, migrations to commercial data centers, and cloud deployments.
- Strategically deploy advanced classified mobility solutions for authorized personnel, providing secure, remote access to critical information and applications. Classified mobile solutions improve capabilities for manufacturing and logistics systems, enable senior leaders to communicate and collaborate effectively, and improve the reliability of video teleconferencing and wireless solutions for classified systems.
- Modernizing technology to support integrated communications and collaboration services for both classified and unclassified networks.
- Establishing robust data management and governance practices, developing common IT ecosystems across the enterprise to strengthen interoperability, and ensuring data fidelity.

Explanation of Change for Information Technology (+$153.960 million)

- Increased funding addresses escalating demand for classified networks and unclassified IT services, supporting the continuous modernization of the entire IT infrastructure. Efforts will enhance network architecture, upgrade critical collaboration tools, and improve overall efficiency and resilience of network services.
- Additional funding enables unclassified and classified cloud investments to advance DT/DE initiatives across the NSE.
- Investment further supports the modernization of high-risk, classified compartmented systems. This critical contribution will enable enhanced collaborative capabilities across the NSE, directly addressing vulnerabilities in existing infrastructure and significantly elevating security postures and operational efficiency for these essential systems.
- Increased investment in assured communications improves radiological and nuclear emergency response capabilities and ensures continuous, secure services for NNSA's vital IT infrastructure and classified systems.

Information Technology and Cybersecurity
Other Information

The FY 2027 Budget Request supports funding for mission-driven activities to achieve IT and cybersecurity solutions. Costs for materials and services provided to OGAs will be allocated to Strategic Partnership Program (SPP) customers as work is accomplished at the laboratories, plants, and sites. The table below provides an estimate of costs that will be recovered from SPP customers.

Full Cost Recovery Estimates
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Site					
Kansas City National Security Campus	1,443	1,313	1,300	-13	-0.9%
Lawrence Livermore National Laboratory	4,813	4,813	4,813	-	0%
Los Alamos National Laboratory	2,007	1,853	2,168	+316	+17.0%
Nevada National Security Site	475	475	475	-	0%
Pantex Plant	55	41	34	-7	-16.2%
Y-12 National Security Complex	107	135	104	-31	-23.3%
Sandia National Laboratories	16,373	17,041	16,283	-758	-4.4%
Savannah River Site	-	-	-	-	-
Total, Information Technology and Cybersecurity	**25,273**	**25,671**	**25,073**	**-493**	**-27.8%**

DEPARTMENT OF ENERGY
Funding by Site Detail
TAS_0240 - Weapons Activities - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Argonne National Laboratory			
Secondary Capability Modernization	0	2,500	2,000
Secondary Capability Modernization (SCM)	0	2,500	2,000
Total, Production Modernization	0	2,500	2,000
Assessment Science (AS)	9,055	10,000	20,000
Assessment Science	9,055	10,000	20,000
Total, Stockpile Research, Technology, and Engineering	9,055	10,000	20,000
Safety and Environmental Operations	20	0	0
Total, Operating	20	0	0
Total, Infrastructure and Operations	20	0	0
Total Argonne National Laboratory	**9,075**	**12,500**	**22,000**
Brookhaven National Laboratory			
Safety and Environmental Operations	425	615	500
Total, Operating	425	615	500
Total, Infrastructure and Operations	425	615	500
Total Brookhaven National Laboratory	**425**	**615**	**500**
Chicago Operations Office			
Academic Programs	2,000	0	0
Total Chicago Operations Office	**2,000**	**0**	**0**
Idaho National Laboratory			
High Explosives & Energetics	179	0	0
High Explosives and Energetics	179	0	0
Total, Primary Capability Modernization	179	0	0
Tritium and Defense Fuels Program	3,599	3,339	1,909
Total, Tritium and Defense Fuels Program	3,599	3,339	1,909
Capability Based Investments	150	0	0
Total, Production Modernization	3,928	3,339	1,909
Rapid & Advanced Capabilities	0	0	1,125
Total, Stockpile Research, Technology, and Engineering	0	0	1,125
Safety and Environmental Operations	95	100	100
Total, Operating	95	100	100
Total, Infrastructure and Operations	95	100	100
Total Idaho National Laboratory	**4,023**	**3,439**	**3,134**
Kansas City National Security Complex (KCNSC)			
B61-12 LEP	615	0	0
W80-4 LEP	321,886	378,656	441,852
W80-5 Modification Program	7,982	0	0
W87-1 Modification Program	79,561	135,511	180,605

DEPARTMENT OF ENERGY
Funding by Site Detail
TAS_0240 - Weapons Activities - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
W93 Program	38,394	75,847	144,631
Future Programs	0	0	15,833
Total, Stockpile Modernization	448,438	590,014	782,921
Stockpile Operations	187,461	222,592	254,630
Stockpile Operations (SO)	187,461	222,592	254,630
Weapons Dismantlement and Disposition	0	51	548
Production Operations	175,296	200,220	237,671
Nuclear Enterprise Assurance	10,000	11,806	11,522
Total, Stockpile Management	821,195	1,024,683	1,287,292
Enterprise Pit Production Support	12,591	14,091	55,347
Total, Plutonium Modernization	12,591	14,091	55,347
Total, Primary Capability Modernization	12,591	14,091	55,347
Secondary Capability Modernization	500	510	700
Secondary Capability Modernization (SCM)	500	510	700
Non-Nuclear Capability Modernization	56,080	72,760	78,926
Total, Non-Nuclear Capability Modernization	56,080	72,760	78,926
Capability Based Investments	8,816	12,425	16,000
Total, Production Modernization	77,987	99,786	150,973
Engineering	3,610	3,489	3,682
Total, Engineering	3,610	3,489	3,682
Rapid & Advanced Capabilities	14,701	12,566	35,171
Weapon Technology and Manufacturing Maturation	37,257	31,657	47,942
Advanced Simulation & Computing	4,750	5,105	5,212
Total, Stockpile Research, Technology, and Engineering	60,318	52,817	92,007
Operations of Facilities	115,113	136,000	150,000
Safety and Environmental Operations	3,230	3,477	5,041
Maintenance and Repair of Facilities	104,598	5,000	55,000
Recapitalization	51,435	64,755	135,986
Total, Operating	274,376	209,232	346,027
Total, Infrastructure and Operations	274,376	209,232	346,027
Operations and Equipment - STA	48,588	81,288	146,452
Total, Secure Transportation Asset	48,588	81,288	146,452
Operations and Maintenance - DNS	37,127	39,794	52,243
Defense Nuclear Security	37,127	39,794	52,243
Information Technology and Cybersecurity	20,062	27,731	41,350
Total Kansas City National Security Complex (KCNSC)	**1,339,653**	**1,535,331**	**2,116,344**
Lawrence Berkeley National Laboratory			
Information Technology and Cybersecurity	3,306	5,000	5,513
Total Lawrence Berkeley National Laboratory	**3,306**	**5,000**	**5,513**

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Lawrence Livermore National Laboratory			
W80-4 LEP	153,000	130,729	68,134
W80-5 Modification Program	12,800	0	0
W87-1 Modification Program	271,243	151,166	188,666
W93 Program	2,000	4,002	2,948
Future Programs	0	0	8,367
Total, Stockpile Modernization	439,043	285,897	268,115
Stockpile Operations	115,125	136,809	225,914
Stockpile Operations (SO)	115,125	136,809	225,914
Weapons Dismantlement and Disposition	1,108	3,197	3,545
Production Operations	11,250	16,307	15,829
Nuclear Enterprise Assurance	10,000	17,000	26,156
Total, Stockpile Management	576,526	459,210	539,559
Enterprise Pit Production Support	82,858	80,096	166,696
Total, Plutonium Modernization	82,858	80,096	166,696
High Explosives & Energetics	21,765	26,722	76,500
High Explosives and Energetics	21,765	26,722	76,500
Total, Primary Capability Modernization	104,623	106,818	243,196
Secondary Capability Modernization	15,365	27,675	34,953
Secondary Capability Modernization (SCM)	15,365	27,675	34,953
Tritium and Defense Fuels Program	115	115	0
Total, Tritium and Defense Fuels Program	115	115	0
Non-Nuclear Capability Modernization	1,538	800	0
Total, Non-Nuclear Capability Modernization	1,538	800	0
Capability Based Investments	31,262	31,000	36,250
Total, Production Modernization	152,903	166,408	314,399
Assessment Science (AS)	289,151	340,351	352,616
Assessment Science	289,151	340,351	352,616
Engineering	52,752	46,912	55,709
Total, Engineering	52,752	46,912	55,709
Rapid & Advanced Capabilities	55,608	25,790	87,188
Inertial Confinement Fusion	433,088	493,000	494,757
26-D-514 NIF Enhanced Fusion Yield Capability, LLNL	0	25,000	84,000
Inertial Confinement Fusion (ICF)	433,088	518,000	578,757
Weapon Technology and Manufacturing Maturation	43,737	37,937	55,049
Advanced Simulation & Computing	297,408	238,172	233,274
Total, Stockpile Research, Technology, and Engineering	1,171,744	1,207,162	1,362,593
Academic Programs	4,700	1,000	0
Operations of Facilities	133,351	130,000	140,000
Safety and Environmental Operations	36,173	36,226	41,683
Maintenance and Repair of Facilities	76,994	50,180	100,000
Recapitalization	81,335	60,339	140,216

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Total, Operating	327,853	276,745	421,899
Total, Infrastructure and Operations	327,853	276,745	421,899
Operations and Maintenance - DNS	91,694	100,596	103,022
Defense Nuclear Security	91,694	100,596	103,022
Information Technology and Cybersecurity	79,489	84,364	94,881
Total Lawrence Livermore National Laboratory	**2,404,909**	**2,295,485**	**2,836,353**
Livermore Field Office			
Safety and Environmental Operations	300	0	0
Total, Operating	300	0	0
Total, Infrastructure and Operations	300	0	0
Total Livermore Field Office	**300**	**0**	**0**
Los Alamos National Laboratory			
B61-12 LEP	20,477	8,000	0
B61-13	5,000	10,557	11,858
W88 ALT 370	4,326	0	0
W80-4 LEP	105,000	118,295	106,622
W80-5 Modification Program	1,119	0	0
W87-1 Modification Program	30,410	5,544	18,410
W93 Program	197,185	366,981	477,852
Future Programs	0	0	10,261
Total, Stockpile Modernization	363,517	509,377	625,003
Stockpile Operations	287,250	372,111	367,732
Stockpile Operations (SO)	287,250	372,111	367,732
Weapons Dismantlement and Disposition	2,400	3,797	4,384
Production Operations	73,205	83,196	111,439
Nuclear Enterprise Assurance	8,500	14,000	16,281
Total, Stockpile Management	734,872	982,481	1,124,839
Los Alamos Pit Production	954,382	807,702	1,402,359
21-D-512 Plutonium Pit Production Project, LANL	470,000	450,100	812,100
15-D-302 TA-55 Reinvestments Project, Phase 3, LANL	39,475	7,942	0
07-D-220-04 Transuranic Liquid Waste Facility, LANL	0	5,865	10,000
04-D-125 Chemistry and Metallurgy Research Replacement Project, LANL	0	0	110,000
Total, Los Alamos Plutonium Modernization	1,463,857	1,271,609	2,334,459
Total, Plutonium Modernization	1,463,857	1,271,609	2,334,459
High Explosives & Energetics	19,957	22,372	50,000
High Explosives and Energetics	19,957	22,372	50,000
Total, Primary Capability Modernization	1,483,814	1,293,981	2,384,459
Secondary Capability Modernization	52,380	52,144	59,108

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Secondary Capability Modernization (SCM)	52,380	52,144	59,108
Tritium and Defense Fuels Program	2,255	6,370	2,321
Total, Tritium and Defense Fuels Program	2,255	6,370	2,321
Non-Nuclear Capability Modernization	961	1,180	0
Total, Non-Nuclear Capability Modernization	961	1,180	0
Capability Based Investments	20,302	30,287	26,108
Total, Production Modernization	1,559,712	1,383,962	2,471,996
Assessment Science (AS)	317,638	385,966	539,430
26-D-512 LANSCE Modernization Project (LAMP), LANL	0	20,000	15,200
Assessment Science	317,638	405,966	554,630
Engineering	62,087	54,832	71,836
Total, Engineering	62,087	54,832	71,836
Rapid & Advanced Capabilities	53,951	32,809	114,915
Inertial Confinement Fusion	25,246	35,000	28,571
Inertial Confinement Fusion (ICF)	25,246	35,000	28,571
Weapon Technology and Manufacturing Maturation	60,370	55,170	76,239
Advanced Simulation & Computing	274,472	308,040	214,015
Total, Stockpile Research, Technology, and Engineering	793,764	891,817	1,060,206
Academic Programs	1,100	0	0
Operations of Facilities	459,804	580,000	615,000
Safety and Environmental Operations	20,915	19,674	22,124
Maintenance and Repair of Facilities	211,910	235,473	305,000
Recapitalization	40,530	45,667	83,259
Total, Operating	733,159	880,814	1,025,383
27-D-512 Plutonium Engineering Support Building, LANL	0	0	88,700
25-D-510 Plutonium Mission Safety & Quality Building, LANL	48,500	0	0
23-D-517 Electrical Power Capacity Upgrade, LANL	70,000	0	65,000
Mission Enabling Construction	118,500	0	153,700
Total, Mission Enabling Construction	118,500	0	153,700
Total, Infrastructure and Operations	851,659	880,814	1,179,083
Operations and Maintenance - DNS	144,491	156,336	160,720
Defense Nuclear Security	144,491	156,336	160,720
Information Technology and Cybersecurity	38,193	40,799	57,107
Total Los Alamos National Laboratory	**4,123,791**	**4,336,209**	**6,053,951**
Los Alamos Field Office			
Information Technology and Cybersecurity	14	0	25
Total Los Alamos Field Office	**14**	**0**	**25**

DEPARTMENT OF ENERGY
Funding by Site Detail
TAS_0240 - Weapons Activities - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
National Energy Technology Lab			
B61-12 LEP	3,834	1,060	0
B61-13	0	0	3,925
W88 ALT 370	7,300	0	0
W80-4 LEP	11,160	4,930	13,000
W80-5 Modification Program	1,886	655	0
W87-1 Modification Program	15,000	49	15,965
W93 Program	7,757	4,371	20,152
Future Programs	0	0	2,588
Total, Stockpile Modernization	46,937	11,065	55,630
Stockpile Operations	25,278	10,970	41,111
Stockpile Operations (SO)	25,278	10,970	41,111
Production Operations	7,201	3,330	7,651
Nuclear Enterprise Assurance	4,699	3,260	5,500
Total, Stockpile Management	84,115	28,625	109,892
Enterprise Pit Production Support	5,500	5,500	15,000
Total, Plutonium Modernization	5,500	5,500	15,000
High Explosives & Energetics	1,784	759	0
High Explosives and Energetics	1,784	759	0
Total, Primary Capability Modernization	7,284	6,259	15,000
Secondary Capability Modernization	0	2,252	0
Secondary Capability Modernization (SCM)	0	2,252	0
Tritium and Defense Fuels Program	4,096	3,113	3,055
Total, Tritium and Defense Fuels Program	4,096	3,113	3,055
Non-Nuclear Capability Modernization	7,074	768	0
Total, Non-Nuclear Capability Modernization	7,074	768	0
Capability Based Investments	758	200	760
Warhead Assembly Modernization	762	550	0
Total, Warhead Assembly Modernization	762	550	0
Total, Production Modernization	19,974	13,142	18,815
Assessment Science (AS)	1,350	465	1,435
Assessment Science	1,350	465	1,435
Engineering	1,395	1,296	1,978
Total, Engineering	1,395	1,296	1,978
Rapid & Advanced Capabilities	1,211	1,553	6,503
Weapon Technology and Manufacturing Maturation	878	2,815	4,212
Total, Stockpile Research, Technology, and Engineering	4,834	6,129	14,128
Operations of Facilities	1,100	0	0
Total, Operating	1,100	0	0
Total, Infrastructure and Operations	1,100	0	0
Total National Energy Technology Lab	**110,023**	**47,896**	**142,835**

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Naval Reactors Facility			
Safety and Environmental Operations	709	1,530	859
Total, Operating	709	1,530	859
Total, Infrastructure and Operations	709	1,530	859
Total Naval Reactors Facility	**709**	**1,530**	**859**
Naval Research Laboratory			
Assessment Science (AS)	2,745	2,900	3,650
Assessment Science	2,745	2,900	3,650
Total, Stockpile Research, Technology, and Engineering	2,745	2,900	3,650
Total Naval Research Laboratory	**2,745**	**2,900**	**3,650**
Nevada Field Office			
Assessment Science (AS)	70	0	0
Assessment Science	70	0	0
Total, Stockpile Research, Technology, and Engineering	70	0	0
Information Technology and Cybersecurity	1,491	1,475	1,318
Total Nevada Field Office	**1,561**	**1,475**	**1,318**
Nevada National Security Site			
Future Programs	0	0	116
Total, Stockpile Modernization	0	0	116
Stockpile Operations	2,322	3,521	5,170
Stockpile Operations (SO)	2,322	3,521	5,170
Weapons Dismantlement and Disposition	0	160	125
Production Operations	250	200	2,144
Nuclear Enterprise Assurance	6,000	6,750	7,242
Total, Stockpile Management	8,572	10,631	14,797
Enterprise Pit Production Support	12,378	12,870	22,508
Total, Plutonium Modernization	12,378	12,870	22,508
High Explosives & Energetics	940	2,800	5,000
High Explosives and Energetics	940	2,800	5,000
Total, Primary Capability Modernization	13,318	15,670	27,508
Tritium and Defense Fuels Program	136	140	144
Total, Tritium and Defense Fuels Program	136	140	144
Non-Nuclear Capability Modernization	50	0	0
Total, Non-Nuclear Capability Modernization	50	0	0
Capability Based Investments	16,200	14,500	27,075
Total, Production Modernization	29,704	30,310	54,727
Assessment Science (AS)	157,454	129,516	197,157
17-D-640 U1a Complex Enhancements Project, NNSS	69,583	0	150,642

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
24-D-513 Z-pinch Experimental Underground System (ZEUS) (ZTBFI), NNSS	0	0	88,200
Assessment Science	227,037	129,516	435,999
Engineering	2,400	2,450	3,250
Total, Engineering	2,400	2,450	3,250
Rapid & Advanced Capabilities	3,265	2,215	3,288
Inertial Confinement Fusion	2,000	802	4,080
Inertial Confinement Fusion (ICF)	2,000	802	4,080
Weapon Technology and Manufacturing Maturation	1,350	3,850	7,129
Advanced Simulation & Computing	0	750	0
Total, Stockpile Research, Technology, and Engineering	236,052	139,583	453,746
Operations of Facilities	124,307	135,000	152,000
Safety and Environmental Operations	5,650	6,298	7,143
Maintenance and Repair of Facilities	103,132	110,435	165,000
Recapitalization	47,411	63,871	117,325
Total, Operating	280,500	315,604	441,468
25-D-511 PULSE New Access, NNSS	5,000	0	50,000
Mission Enabling Construction	5,000	0	50,000
Total, Mission Enabling Construction	5,000	0	50,000
Total, Infrastructure and Operations	285,500	315,604	491,468
Program Direction - STA	354	200	368
Total, Secure Transportation Asset	354	200	368
Operations and Maintenance - DNS	136,096	141,935	147,755
Defense Nuclear Security	136,096	141,935	147,755
Information Technology and Cybersecurity	50,079	50,078	50,111
Total Nevada National Security Site	**746,357**	**688,341**	**1,212,972**
NNSA Albuquerque Complex			
B61-12 LEP	1	1,879	0
B61-13	0	768	3,363
W88 ALT 370	9,177	0	0
W80-4 LEP	39,082	83,977	0
W80-5 Modification Program	31,491	181,180	0
W87-1 Modification Program	15,000	36,240	16,957
W93 Program	43,602	29,867	42,720
Future Programs	0	0	3,167
Total, Stockpile Modernization	138,353	333,911	66,207
Stockpile Operations	39,619	113,044	40,516
Stockpile Operations (SO)	39,619	113,044	40,516
Weapons Dismantlement and Disposition	0	4,759	0
Production Operations	0	4,644	68,265
Nuclear Enterprise Assurance	242	6,294	4,750
Total, Stockpile Management	178,214	462,652	179,738

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Los Alamos Pit Production	19,830	10,562	36,520
21-D-512 Plutonium Pit Production Project, LANL	0	7,800	0
Total, Los Alamos Plutonium Modernization	19,830	18,362	36,520
Savannah River Pit Production	500	4,221	3,020
21-D-511 Savannah River Plutonium Processing Facility, SRS	0	52,000	0
Total, Savannah River Plutonium Modernization	500	56,221	3,020
Enterprise Pit Production Support	6,484	7,089	6,772
Total, Plutonium Modernization	26,814	81,672	46,312
Total, Primary Capability Modernization	26,814	81,672	46,312
Tritium and Defense Fuels Program	127,610	87,459	102,696
Total, Tritium and Defense Fuels Program	127,610	87,459	102,696
Total, Production Modernization	154,424	169,131	149,008
Assessment Science (AS)	6,500	6,500	6,500
Assessment Science	6,500	6,500	6,500
Engineering	13,591	7,742	18,056
26-D-513 Combined Radiation Environments for Survivability Testing, SNL	0	7,248	980
Total, Engineering	13,591	14,990	19,036
Rapid & Advanced Capabilities	13,292	34,162	90,183
Inertial Confinement Fusion	39,500	47,000	45,000
Inertial Confinement Fusion (ICF)	39,500	47,000	45,000
Weapon Technology and Manufacturing Maturation	2,326	3,661	61,187
Total, Stockpile Research, Technology, and Engineering	75,209	106,313	221,906
Academic Programs	102,600	93,000	0
Operations and Equipment - STA	94,156	126,142	202,363
Program Direction - STA	117,702	149,044	143,628
Total, Secure Transportation Asset	211,858	275,186	345,991
Operations and Maintenance - DNS	9,292	21,900	20,483
Defense Nuclear Security	9,292	21,900	20,483
Legacy Contractor Pensions and Settlement Payments - DNN	12,500	4,100	40,869
Total NNSA Albuquerque Complex	**744,097**	**1,132,282**	**957,995**
Oak Ridge Institute for Science and Education			
Information Technology and Cybersecurity	0	17	0
Total Oak Ridge Institute for Science and Education	**0**	**17**	**0**

DEPARTMENT OF ENERGY
Funding by Site Detail
TAS_0240 - Weapons Activities - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Oak Ridge National Laboratory			
Production Operations	450	700	0
Total, Stockpile Management	450	700	0
Secondary Capability Modernization	0	350	350
Secondary Capability Modernization (SCM)	0	350	350
Tritium and Defense Fuels Program	30,000	60,000	90,000
Total, Tritium and Defense Fuels Program	30,000	60,000	90,000
Non-Nuclear Capability Modernization	750	1,750	0
Total, Non-Nuclear Capability Modernization	750	1,750	0
Capability Based Investments	750	1,750	0
Warhead Assembly Modernization	0	1,000	0
Total, Warhead Assembly Modernization	0	1,000	0
Total, Production Modernization	31,500	64,850	90,350
Advanced Simulation & Computing	1,252	510	505
Total, Stockpile Research, Technology, and Engineering	1,252	510	505
Safety and Environmental Operations	8,915	10,963	10,514
Total, Operating	8,915	10,963	10,514
Total, Infrastructure and Operations	8,915	10,963	10,514
Information Technology and Cybersecurity	0	11	28
Total Oak Ridge National Laboratory	**42,117**	**77,034**	**101,397**
Office of Scientific and Technical Information			
Assessment Science (AS)	220	220	220
Assessment Science	220	220	220
Total, Stockpile Research, Technology, and Engineering	220	220	220
Information Technology and Cybersecurity	359	400	460
Total Office of Scientific and Technical Information	**579**	**620**	**680**
Pacific Northwest National Laboratory			
Production Operations	150	100	0
Nuclear Enterprise Assurance	4,590	6,000	6,485
Total, Stockpile Management	4,740	6,100	6,485
High Explosives & Energetics	600	887	0
High Explosives and Energetics	600	887	0
Total, Primary Capability Modernization	600	887	0
Secondary Capability Modernization	4,600	6,285	5,780
Secondary Capability Modernization (SCM)	4,600	6,285	5,780
Tritium and Defense Fuels Program	84,976	93,839	87,721
Total, Tritium and Defense Fuels Program	84,976	93,839	87,721
Non-Nuclear Capability Modernization	645	1,200	0
Total, Non-Nuclear Capability Modernization	645	1,200	0
Capability Based Investments	3,500	3,000	3,420

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Warhead Assembly Modernization	0	650	0
Total, Warhead Assembly Modernization	0	650	0
Total, Production Modernization	94,321	105,861	96,921
Assessment Science (AS)	150	175	3,040
Assessment Science	150	175	3,040
Engineering	700	825	100
Total, Engineering	700	825	100
Weapon Technology and Manufacturing Maturation	2,900	2,400	4,234
Advanced Simulation & Computing	1,135	261	521
Total, Stockpile Research, Technology, and Engineering	4,885	3,661	7,895
Safety and Environmental Operations	2,885	3,266	5,775
Total, Operating	2,885	3,266	5,775
Total, Infrastructure and Operations	2,885	3,266	5,775
Information Technology and Cybersecurity	5,275	4,461	7,069
Total Pacific Northwest National Laboratory	**112,106**	**123,349**	**124,145**
Pantex Plant			
B61-12 LEP	0	3,085	0
B61-13	0	18,232	18,115
W88 ALT 370	33,575	0	0
W80-4 LEP	77,000	110,221	109,764
W80-5 Modification Program	5,982	0	0
W87-1 Modification Program	13,842	11,758	34,383
W93 Program	4,720	18,213	17,520
Future Programs	0	0	184
Total, Stockpile Modernization	135,119	161,509	179,966
Stockpile Operations	131,048	181,738	180,683
Stockpile Operations (SO)	131,048	181,738	180,683
Weapons Dismantlement and Disposition	32,251	48,725	55,460
Production Operations	151,153	199,294	204,398
Nuclear Enterprise Assurance	3,000	4,250	3,382
Total, Stockpile Management	452,571	595,516	623,889
Enterprise Pit Production Support	385	250	510
Total, Plutonium Modernization	385	250	510
High Explosives & Energetics	17,467	30,399	29,375
15-D-301 HE Science & Engineering Facility, PX	15,000	0	0
High Explosives and Energetics	32,467	30,399	29,375
Total, Primary Capability Modernization	32,852	30,649	29,885
Secondary Capability Modernization	250	0	250
Secondary Capability Modernization (SCM)	250	0	250
Non-Nuclear Capability Modernization	350	200	0
Total, Non-Nuclear Capability Modernization	350	200	0

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Capability Based Investments	11,000	9,000	13,350
Warhead Assembly Modernization	24,042	22,000	35,100
Total, Warhead Assembly Modernization	24,042	22,000	35,100
Total, Production Modernization	68,494	61,849	78,585
Engineering	2,860	2,820	4,088
Total, Engineering	2,860	2,820	4,088
Rapid & Advanced Capabilities	8,420	4,647	16,948
Weapon Technology and Manufacturing Maturation	3,340	1,985	4,719
Advanced Simulation & Computing	1,516	0	782
Total, Stockpile Research, Technology, and Engineering	16,136	9,452	26,537
Operations of Facilities	105,567	107,000	109,000
Safety and Environmental Operations	24,696	20,302	31,795
Maintenance and Repair of Facilities	135,010	120,000	190,000
Recapitalization	74,729	51,018	81,357
Total, Operating	340,002	298,320	412,152
24-D-510 Analytic Gas Laboratory, PX	36,000	0	0
Mission Enabling Construction	36,000	0	0
Total, Mission Enabling Construction	36,000	0	0
Total, Infrastructure and Operations	376,002	298,320	412,152
Operations and Equipment - STA	8,655	8,188	9,651
Total, Secure Transportation Asset	8,655	8,188	9,651
Operations and Maintenance - DNS	174,729	180,221	179,969
Defense Nuclear Security	174,729	180,221	179,969
Information Technology and Cybersecurity	14,536	14,493	15,483
Total Pantex Plant	**1,111,123**	**1,168,039**	**1,346,266**
Pantex Field Office			
Safety and Environmental Operations	221	0	0
Total, Operating	221	0	0
Total, Infrastructure and Operations	221	0	0
Total Pantex Field Office	**221**	**0**	**0**
Portsmouth Gaseous Diffusion Plant			
Secondary Capability Modernization	19,400	15,000	26,250
Secondary Capability Modernization (SCM)	19,400	15,000	26,250
Tritium and Defense Fuels Program	39,000	40,000	50,000
Total, Tritium and Defense Fuels Program	39,000	40,000	50,000
Total, Production Modernization	58,400	55,000	76,250
Total Portsmouth Gaseous Diffusion Plant	**58,400**	**55,000**	**76,250**
Sandia National Laboratories			
B61-12 LEP	1,800	800	0
B61-13	6,000	300	0

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
W88 ALT 370	8,199	0	0
W80-4 LEP	420,381	298,410	203,549
W80-5 Modification Program	35,300	0	0
W87-1 Modification Program	443,182	227,775	314,477
W93 Program	121,235	219,333	305,172
Future Programs	0	0	55,066
Total, Stockpile Modernization	1,036,097	746,618	878,264
Stockpile Operations	461,819	526,952	584,385
Stockpile Operations (SO)	461,819	526,952	584,385
Weapons Dismantlement and Disposition	4,200	5,226	5,052
Production Operations	224,998	255,841	265,289
Nuclear Enterprise Assurance	14,500	21,750	22,540
Total, Stockpile Management	1,741,614	1,556,387	1,755,530
High Explosives & Energetics	23,985	17,361	21,400
High Explosives and Energetics	23,985	17,361	21,400
Total, Primary Capability Modernization	23,985	17,361	21,400
Secondary Capability Modernization	200	250	500
Secondary Capability Modernization (SCM)	200	250	500
Tritium and Defense Fuels Program	917	941	736
Total, Tritium and Defense Fuels Program	917	941	736
Non-Nuclear Capability Modernization	65,839	82,688	141,540
26-D-511 MESA Photolithography Capability (MPC), SNL	0	0	49,000
22-D-513 Power Sources Capability, SNL	50,000	4,000	137,000
Total, Non-Nuclear Capability Modernization	115,839	86,688	327,540
Capability Based Investments	28,998	13,000	21,103
Total, Production Modernization	169,939	118,240	371,279
Assessment Science (AS)	56,891	46,506	46,049
Assessment Science	56,891	46,506	46,049
Engineering	77,580	57,699	61,884
26-D-513 Combined Radiation Environments for Survivability Testing, SNL	0	45,000	104,020
Total, Engineering	77,580	102,699	165,904
Rapid & Advanced Capabilities	49,014	18,046	95,907
Inertial Confinement Fusion	91,989	107,000	118,645
Inertial Confinement Fusion (ICF)	91,989	107,000	118,645
Weapon Technology and Manufacturing Maturation	98,991	93,291	118,721
Advanced Simulation & Computing	251,670	213,479	240,705
Total, Stockpile Research, Technology, and Engineering	626,135	581,021	785,931
Academic Programs	4,600	0	0
Operations of Facilities	132,108	135,000	145,000
Safety and Environmental Operations	10,171	10,693	13,095
Maintenance and Repair of Facilities	35,495	5,000	50,000

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Recapitalization	42,714	50,710	115,575
Total, Operating	220,488	201,403	323,670
Total, Infrastructure and Operations	220,488	201,403	323,670
Operations and Equipment - STA	84,761	83,923	84,609
Total, Secure Transportation Asset	84,761	83,923	84,609
Operations and Maintenance - DNS	93,226	95,184	98,132
Defense Nuclear Security	93,226	95,184	98,132
Information Technology and Cybersecurity	60,085	63,022	74,084
Total Sandia National Laboratories	**3,000,848**	**2,699,180**	**3,493,235**
Savannah River National Laboratory			
Stockpile Operations	2,653	3,164	3,400
Stockpile Operations (SO)	2,653	3,164	3,400
Production Operations	0	500	0
Nuclear Enterprise Assurance	3,000	4,500	4,714
Total, Stockpile Management	5,653	8,164	8,114
Tritium and Defense Fuels Program	11,550	14,194	10,000
Total, Tritium and Defense Fuels Program	11,550	14,194	10,000
Non-Nuclear Capability Modernization	115	117	0
Total, Non-Nuclear Capability Modernization	115	117	0
Capability Based Investments	2,985	1,988	420
Total, Production Modernization	14,650	16,299	10,420
Assessment Science (AS)	328	800	800
Assessment Science	328	800	800
Engineering	2,900	3,150	3,250
Total, Engineering	2,900	3,150	3,250
Weapon Technology and Manufacturing Maturation	8,234	6,234	9,275
Advanced Simulation & Computing	1,011	100	521
Total, Stockpile Research, Technology, and Engineering	12,473	10,284	13,846
Operations of Facilities	34,000	0	0
Safety and Environmental Operations	8,396	8,377	10,197
Maintenance and Repair of Facilities	8,000	0	0
Total, Operating	50,396	8,377	10,197
Total, Infrastructure and Operations	50,396	8,377	10,197
Information Technology and Cybersecurity	3,399	3,022	3,725
Total Savannah River National Laboratory	**86,571**	**46,146**	**46,302**
Savannah River Operations Office			
Information Technology and Cybersecurity	990	955	436
Total Savannah River Operations Office	**990**	**955**	**436**

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Savannah River Site			
W80-4 LEP	3,200	4,940	2,901
W80-5 Modification Program	1,678	0	0
W87-1 Modification Program	1,736	1,710	3,411
W93 Program	1,707	2,639	714
Future Programs	0	0	721
Total, Stockpile Modernization	8,321	9,289	7,747
Stockpile Operations	42,955	54,570	54,624
Stockpile Operations (SO)	42,955	54,570	54,624
Weapons Dismantlement and Disposition	212	250	411
Production Operations	33,625	38,193	35,370
Nuclear Enterprise Assurance	2,900	3,000	4,516
Total, Stockpile Management	88,013	105,302	102,668
Savannah River Pit Production	73,740	69,906	294,450
21-D-511 Savannah River Plutonium Processing Facility, SRS	800,000	1,078,000	1,946,523
Total, Savannah River Plutonium Modernization	873,740	1,147,906	2,240,973
Total, Plutonium Modernization	873,740	1,147,906	2,240,973
Total, Primary Capability Modernization	873,740	1,147,906	2,240,973
Tritium and Defense Fuels Program	143,162	130,600	177,759
Total, Tritium and Defense Fuels Program	143,162	130,600	177,759
Capability Based Investments	6,485	10,800	13,873
Total, Production Modernization	1,023,387	1,289,306	2,432,605
Rapid & Advanced Capabilities	50	100	375
Weapon Technology and Manufacturing Maturation	0	50	0
Total, Stockpile Research, Technology, and Engineering	50	150	375
Operations of Facilities	108,587	210,000	217,000
Safety and Environmental Operations	75	50	100
Maintenance and Repair of Facilities	49,326	32,000	80,000
Recapitalization	25,566	21,775	37,202
Total, Operating	183,554	263,825	334,302
Total, Infrastructure and Operations	183,554	263,825	334,302
Operations and Maintenance - DNS	9,917	131,131	153,453
Defense Nuclear Security	9,917	131,131	153,453
Information Technology and Cybersecurity	9,645	11,773	27,163
Total Savannah River Site	**1,314,566**	**1,801,487**	**3,050,566**
SLAC National Accelerator Laboratory			
Assessment Science (AS)	1,000	0	0
Assessment Science	1,000	0	0
Inertial Confinement Fusion	180	60	180
Inertial Confinement Fusion (ICF)	180	60	180

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Total, Stockpile Research, Technology, and Engineering	1,180	60	180
Total SLAC National Accelerator Laboratory	**1,180**	**60**	**180**
University of Rochester			
Inertial Confinement Fusion	94,839	111,000	88,028
Inertial Confinement Fusion (ICF)	94,839	111,000	88,028
Total, Stockpile Research, Technology, and Engineering	94,839	111,000	88,028
Total University of Rochester	**94,839**	**111,000**	**88,028**
Washington Headquarters			
B61-12 LEP	773	1,176	0
W88 ALT 370	1,123	0	0
W80-4 LEP	21,041	22,708	20,967
W80-5 Modification Program	1,762	4,165	0
W87-1 Modification Program	17,899	11,684	22,390
W93 Program	8,026	14,522	21,206
Future Programs	0	0	1,881
Total, Stockpile Modernization	50,624	54,255	66,444
Stockpile Operations	21,420	25,136	38,115
Stockpile Operations (SO)	21,420	25,136	38,115
Weapons Dismantlement and Disposition	986	1,483	1,729
Production Operations	5,557	34,076	21,467
Nuclear Enterprise Assurance	3,721	10,359	2,450
Total, Stockpile Management	82,308	125,309	130,205
Los Alamos Pit Production	10,399	14,999	21,912
Total, Los Alamos Plutonium Modernization	10,399	14,999	21,912
Savannah River Pit Production	1,092	1,359	4,530
Total, Savannah River Plutonium Modernization	1,092	1,359	4,530
Enterprise Pit Production Support	1,768	2,198	4,064
Total, Plutonium Modernization	13,259	18,556	30,506
High Explosives & Energetics	44,998	30,723	69,490
High Explosives and Energetics	44,998	30,723	69,490
Total, Primary Capability Modernization	58,257	49,279	99,996
18-D-690 Lithium Processing Facility, Y-12	0	205,000	0
Secondary Capability Modernization	130,842	81,109	898,992
Secondary Capability Modernization (SCM)	130,842	286,109	898,992
Tritium and Defense Fuels Program	131,082	75,376	351,302
Total, Tritium and Defense Fuels Program	131,082	75,376	351,302
Non-Nuclear Capability Modernization	7,898	28,975	37,542
26-D-511 MESA Photolithography Capability (MPC), SNL	0	0	2,000

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
22-D-513 Power Sources Capability, SNL	0	1,000	3,000
Total, Non-Nuclear Capability Modernization	7,898	29,975	42,542
Capability Based Investments	6,169	19,046	21,629
Warhead Assembly Modernization	9,196	10,136	12,865
18-D-680 Material Staging Capability, PX	0	0	22,500
Total, Warhead Assembly Modernization	9,196	10,136	35,365
Total, Production Modernization	343,444	469,921	1,449,826
Assessment Science (AS)	19,987	31,892	72,370
17-D-640 U1a Complex Enhancements Project, NNSS	3,500	0	3,500
24-D-513 Z-pinch Experimental Underground System (ZEUS) (ZTBFI), NNSS	0	0	3,500
Assessment Science	23,487	31,892	79,370
Engineering	3,550	3,990	3,978
Total, Engineering	3,550	3,990	3,978
Rapid & Advanced Capabilities	2,870	6,063	16,661
Inertial Confinement Fusion	12,988	9,138	50,475
26-D-514 NIF Enhanced Fusion Yield Capability, LLNL	0	1,000	0
Inertial Confinement Fusion (ICF)	12,988	10,138	50,475
Weapon Technology and Manufacturing Maturation	4,153	7,026	5,657
Advanced Simulation & Computing	15,036	97,791	212,405
Total, Stockpile Research, Technology, and Engineering	62,084	156,900	368,546
Academic Programs	0	6,000	0
Operations of Facilities	26,105	37,605	69,310
Safety and Environmental Operations	9,055	45,388	44,558
Maintenance and Repair of Facilities	9,144	113,172	189,323
Recapitalization	291,258	319,254	357,724
Total, Operating	335,562	515,419	660,915
Total, Infrastructure and Operations	335,562	515,419	660,915
Operations and Maintenance - DNS	121,385	158,963	162,368
Defense Nuclear Security	121,385	158,963	162,368
Information Technology and Cybersecurity	291,986	360,821	535,713
Total Washington Headquarters	**1,236,769**	**1,793,333**	**3,307,573**
Waste Isolation Pilot Plant			
Assessment Science (AS)	70	500	0
Assessment Science	70	500	0
Total, Stockpile Research, Technology, and Engineering	70	500	0
Operations of Facilities	214	0	0
Safety and Environmental Operations	350	0	0
Total, Operating	564	0	0

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Total, Infrastructure and Operations	564	0	0
Total Waste Isolation Pilot Plant	**634**	**500**	**0**
Y-12 National Security Complex			
B61-13	5,000	19,500	9,167
W80-4 LEP	43,000	106,182	81,551
W87-1 Modification Program	128,458	67,659	117,967
W93 Program	31,150	71,022	73,191
Future Programs	0	0	1,610
Total, Stockpile Modernization	207,608	264,363	283,486
Stockpile Operations	59,310	69,593	89,010
Stockpile Operations (SO)	59,310	69,593	89,010
Weapons Dismantlement and Disposition	14,843	14,719	19,506
Production Operations	133,432	183,642	177,063
Nuclear Enterprise Assurance	3,850	8,224	5,477
Total, Stockpile Management	419,043	540,541	574,542
18-D-690 Lithium Processing Facility, Y-12	195,302	0	0
06-D-141 Uranium Processing Facility, Y-12	790,700	716,500	276,500
Secondary Capability Modernization	546,816	460,951	699,663
Secondary Capability Modernization (SCM)	1,532,818	1,177,451	976,163
Tritium and Defense Fuels Program	3,240	4,548	3,138
Total, Tritium and Defense Fuels Program	3,240	4,548	3,138
Non-Nuclear Capability Modernization	0	150	0
Total, Non-Nuclear Capability Modernization	0	150	0
Capability Based Investments	15,869	16,000	23,175
Total, Production Modernization	1,551,927	1,198,149	1,002,476
Engineering	4,458	2,631	2,232
Total, Engineering	4,458	2,631	2,232
Rapid & Advanced Capabilities	8,800	7,290	30,945
Weapon Technology and Manufacturing Maturation	9,653	7,903	11,049
Advanced Simulation & Computing	1,750	1,787	1,825
Total, Stockpile Research, Technology, and Engineering	24,661	19,611	46,051
Operations of Facilities	138,469	145,000	155,000
Safety and Environmental Operations	22,689	27,401	24,418
Maintenance and Repair of Facilities	185,991	159,240	250,000
Recapitalization	86,693	30,239	134,483
Total, Operating	433,842	361,880	563,901
Total, Infrastructure and Operations	433,842	361,880	563,901
Operations and Maintenance - DNS	212,128	219,358	227,648
17-D-710 West End Protected Area Reduction Project, Y-12	54,000	0	0
Construction - Defense Nuclear Security	54,000	0	0
Defense Nuclear Security	266,128	219,358	227,648

DEPARTMENT OF ENERGY
Funding by Site Detail
TAS_0240 - Weapons Activities - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Information Technology and Cybersecurity	19,470	19,578	20,534
Total Y-12 National Security Complex	**2,715,071**	**2,359,117**	**2,435,152**
Y-12 Field Office			
18-D-690 Lithium Processing Facility, Y-12	14,698	65,000	0
06-D-141 Uranium Processing Facility, Y-12	9,300	13,500	13,500
Secondary Capability Modernization	0	660	0
Secondary Capability Modernization (SCM)	23,998	79,160	13,500
Total, Production Modernization	23,998	79,160	13,500
Total Y-12 Field Office	**23,998**	**79,160**	**13,500**
Total Funding by Site for TAS_0240 - Weapons Activities	**19,293,000**	**20,378,000**	**27,441,159**