Naval Reactors^a

(\$K)							
FY 2024	FY 2025	FY 2026	FY 2026 Request vs				
Enacted	Enacted Enacted		FY 2025 Enacted				
1,946,000	1,946,000	2,346,000	+400,000				

Proposed Appropriation Language

For Department of Energy expenses necessary for naval reactors activities to carry out the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition (by purchase, condemnation, construction, or otherwise) of real property, plant, and capital equipment, facilities, and facility expansion, \$2,346,000,000 to remain available until expended: *Provided*, that of such amount made available under this heading, \$61,540,000 shall be available until September 30, 2027, for program direction.

Mission

The Naval Reactors' (NR) request of \$2,346,000,000 in FY 2026 is for continued achievement of its core objective of ensuring the safe and reliable operation of the Nation's nuclear fleet. NR's request supports continued reinvestment in advanced technology development, modernization of infrastructure, and remediation of environmental liabilities.

Overview

NR's appropriation is responsible for U.S. Navy nuclear propulsion work, beginning with reactor plant technology development and design, continuing through reactor plant operation and maintenance, and ending with final disposition of naval spent nuclear fuel. The program ensures the safe and reliable operation of reactor plants in nuclear-powered submarines and aircraft carriers (constituting over 40% of the Navy's major combatants)^b and fulfills the Navy's requirements for new nuclear propulsion plants that meet current and future national defense requirements.

Naval Reactors' mission includes ensuring the safety of reactors and associated naval nuclear propulsion plants, and control of radiation and radioactivity associated with naval nuclear propulsion activities, including prescribing and enforcing standards and regulations for these areas, as they affect the environment, safety and health of workers, operators, and the public. Naval Reactors maintains oversight in areas such as security, nuclear safeguards and transportation, radiological controls, public information, procurement, logistics, and fiscal management.

As part of the National Nuclear Security Administration (NNSA), NR is working to provide the U.S. Navy with nuclear propulsion plants that can respond to the challenges of the 21st-century security environment.

Department of Energy (DOE) Working Capital Fund (WCF) Support

The NR appropriation's projected contribution to the DOE WCF for FY 2026 is \$3,344,000. This funding covers certain shared enterprise activities including managing enterprise-wide systems and data, telecommunications, and supporting the integrated acquisition environment.

Rickover Fellowship Program

NR manages the fellowship to attract and develop technical leaders in the areas of reactor technology and design as it pertains to naval nuclear propulsion. NR anticipates spending \$1,535,563 in FY 2026 to support this program.

^a Throughout this document, funding amounts do not reflect the mandated transfer of \$92.8 million in FY 2024 and FY 2025 to the Office of Nuclear Energy for operation of the Advanced Test Reactor.

^b Major combatants, in this instance, include aircraft carriers, submarines, and surface combatants based on the "Active in Commission" column from the Naval Vessel Register.

Naval Reactors Funding (\$K)

	FY 2024	FY 2024 FY 2025	FY 2026	FY 2026 Request vs FY 2025 Enacted	
	Enacted	Enacted	Request	\$	%
Naval Reactors					
Naval Reactors Operations and Infrastructure	712,036	742,080	703,581	-38,499	-5.2%
Naval Reactors Development	820,240	835,800	884,579	+48,779	5.8%
<i>Columbia</i> -Class Reactor Systems Development	52,900	45,610	35,300	-10,310	-22.6%
Program Direction	61,540	61,540	61,540	0	0.0%
Construction					
26-D-530 KL East Side Office Building	0	0	75,000	+75,000	0.0%
25-D-530 Naval Examination Acquisition Project	0	20,000	60,000	+40,000	200.0%
24-D-530 NRF Medical Science Complex	36,584	0	0	0	0.0%
22-D-532 KL Security Upgrades	0	41,670	0	-41,670	-100.0%
22-D-531 KL Chemistry and Radiological Health Building	10,400	0	0	0	0.0%
21-D-530 KL Steam and Condensate Upgrade	53,000	0	0	0	0.0%
14-D-901 Spent Fuel Handling Recapitalization Project NRF	199,300	199,300	526,000	+326,700	163.9%
Total, Construction	299,284	260,970	661,000	+400,030	153.3%
Total, Naval Reactors	1,946,000	1,946,000	2,346,000	+400,000	20.6%

Naval Reactors Naval Reactors Operations and Infrastructure

Description

The Naval Reactors Operations and Infrastructure resources ensure Naval Reactors maintains an integrated and effective enterprise across program sites located in Pennsylvania, New York, and Idaho, to provide safe operation of the nuclear fleet. The Naval Reactors Operations and Infrastructure program resources provide funding for work associated with the operation of one land-based nuclear prototype and the defueling and lay-up of one land-based nuclear prototype at the Kesselring Site located in West Milton, NY; two dedicated, government-owned, contractor-operated laboratory facilities, Knolls and Bettis, located in Niskayuna, NY and West Mifflin, PA, respectively; and naval spent nuclear fuel handling facilities and operations at the Naval Reactors Facility at the Idaho National Laboratory in Idaho. These resources fund work that ensures unique Naval Reactors' infrastructure and advanced naval nuclear capabilities are maintained well into the future. These efforts include:

- 1. Operation, maintenance, and lay-up of the DOE land-based nuclear prototypes supporting technology development and nuclear operator training.
- 2. Defueling of the Modifications and Additions to Reactor Facilities (MARF) prototype and perform the necessary work to leave the plant in a benign condition for eventual disassembly.
- 3. Activities to ensure Naval Reactors program operations meet or exceed applicable federal, state, and local standards and requirements.
- 4. Disposition of naval spent nuclear fuel from the inactivation and refueling of ships.
- 5. Remediation, dismantlement, and disposal of inactive Naval Reactors program systems, facilities, and areas.
- 6. Providing technical infrastructure support at laboratory facilities enabling technical work supporting the operations of the fleet as well as design and development efforts.
- 7. Design and procurement of capital equipment.
- 8. Design and construction of facilities and infrastructure to provide for capacity, security, safety, environmental, and obsolescence needs.

Research Reactor Facility Operations & Maintenance

The mission of this subprogram is to support one land-based prototype located at the Kesselring Site in New York through the following work efforts: (1) Test and examine reactor materials, components, systems, and new design applications under actual operating conditions. (2) Provide a ship-like operating platform to train nuclear operators. (3) Support improved design activities for the operating prototype and perform systematic preventive maintenance, corrective maintenance, upgrades, and modifications on the prototype and support equipment. (4) Evaluate problems using engineering tests and other troubleshooting techniques. (5) Procure and maintain adequate spare parts, material, specialized tools, and instrumentation for troubleshooting and prototype testing.

MARF Defueling and Layup

The mission of this subprogram is to defuel and lay up the MARF prototype, to place the plant in a safe and benign condition, for eventual dismantlement and off-site disposal. The requested funds permit: (1) Completion of all remaining defueling activities. (2) Shipment of M-140 containers to Naval Reactors Facility in Idaho. (3) Completion of all remaining MARF prototype layup activities.

Laboratory Facility Regulation, Compliance & Protection

The mission of this subprogram is to ensure that Naval Reactors operations and design activities meet or exceed applicable federal, state, and local standards and requirements, such as Radiological Controls, Environmental, Safety and Health, Quality Assurance, and Nuclear Materials Management. This compliance is accomplished by: (1) Personnel training, instruction, supervision, independent oversight, and formal auditing. (2) Extensive personnel and environmental sampling and monitoring programs to ensure operations have no discernible impact on human health or the environment. (3) Preparing and issuing numerous reports required by federal, state, and local regulations and requirements. (4) Reviewing of new and existing nuclear plant designs and the related procurement of nuclear fuel and new project equipment. Naval Reactors' workforce is a highly trained group, capable of responding in the event of an accident, as well as supporting routine operations. Funding is

also provided for contractor fixed services that support Naval Reactors operations on laboratory facilities (e.g., network infrastructure) and the integrated nature of Naval Reactors and the Naval Nuclear Laboratory (NNL).

Nuclear Spent Fuel Management

The mission of this subprogram is to fulfill Naval Reactors' cradle-to-grave responsibility for all aspects of naval nuclear propulsion by properly managing naval spent nuclear fuel. Specifically, resources in this subprogram support the safe reception, handling, preparation, packaging, examination, and temporary storage of naval spent nuclear fuel coming from the nuclear-powered fleet and prototypes. This includes fuel handling operations at Department of Energy facilities, mechanically processing naval spent nuclear fuel at the Naval Reactors Facility (NRF) in the State of Idaho, packaging the naval spent nuclear fuel for dry storage in a geologic repository or interim storage facility, and disposing of the radiological waste by-products produced by these processes. The subprogram also supports nuclear-powered warship deployments by managing Naval Reactors naval spent nuclear fuel shipping container capacity for aircraft carrier and submarine refueling overhauls and defueling inactivation operations; conducts destructive and non-destructive examinations of expended naval cores and irradiated test specimens from the Advanced Test Reactor located at the Idaho National Laboratory; and manages the construction of projects that directly support improvements to the naval spent nuclear fuel receiving, processing, packaging, and disposal efforts, reducing radiological risks at the NRF.

Radiological/Environmental Remediation & Demolition

The mission of this subprogram is to remediate, dismantle, and dispose of inactive Naval Reactors systems, facilities, and areas that once supported research and development, design, testing, training, and prototype operations. Requirements are prioritized based on a criteria model that prioritizes projects most critical to Naval Reactors with emphasis on balancing factors such as risk reduction and inactive facility lifecycle costs. Once remediation and dismantlement projects are completed, this subprogram delivers usable site footprint for future mission enabling infrastructure.

Technical Infrastructure and Operations Support

The mission of this subprogram is to support laboratory and testing facilities at NNL to enable the technical work supporting the operations of the naval nuclear fleet, as well as engineering and development efforts required to ensure continued performance, safety and reliability, and resolution of emergent fleet problems. This includes the preparation and maintenance of infrastructure at program laboratory sites (e.g., laboratory space/building, test loops, hot cells) to support Program technical work (e.g., testing, engineering and analysis, design, and examinations). The up-front work needed to prepare laboratory facilities is distinct from operating the systems or test programs within such facilities (e.g., actual execution/performance of the test once a test loop has been prepared). Technical infrastructure such as test loops are large and require significant infrastructure (e.g., building dimensions, utilities, and design safety calculations support in order to prepare the tests for safe operations.). The skills required to engineer and maintain technical infrastructure are like the skills used to support general facility infrastructure (e.g., general office buildings), and test engineers work collaboratively with site facilities engineers to maintain safe and reliable test operation.

Capital Equipment

The mission of this subprogram is to provide the critical technical tools and equipment to ensure that Naval Reactors can achieve its mission. This subprogram includes MIE (major items of equipment) and non-MIE. Capital equipment is defined as non-construction related equipment, computer systems, tooling, and furniture or fixtures having useful life of two or more years and costing greater than \$500,000. The tools and equipment are required to support the other work efforts within the sub-categories of Naval Reactors Operations and Infrastructure (e.g. operator training and facilities maintenance).

Minor Construction Projects

The mission of this subprogram is to execute minor construction projects of a general nature, the Total Estimated Cost of which may not exceed the established minor construction threshold. Minor construction projects are necessary to adapt facilities to new or improved production techniques, to effect economies of operations, and to reduce or eliminate health, fire, and security vulnerabilities. These projects provide for design and construction, additions, and improvements to land, buildings, and utility systems, and they may include construction of new buildings, recapitalizing utilities and infrastructure, and general area improvements. Funding is derived from established site construction plans and used for emergent and unforeseen infrastructure needs.

Highlights and Major Changes in the FY 2026 Budget Request (-\$38.499 million)

The FY 2026 Budget Request reflects completion of the defueling and inactivation of the MARF prototype, incorporates updates to planned decontamination and decommissioning and infrastructure recapitalization projects, supports preparation for delivery of the Naval Spent Fuel Handling Facility, and supports the return of the S8G Prototype to operations.

Naval Reactors Naval Reactors Development

Description

The Naval Reactors Development (NRD) resources fund work that ensures the current and future fleet is the most advanced, well-maintained, and capable nuclear fleet in the world. This funding supports unique technologies used in naval reactors that are crucial to delivering superior navy fleet operations and dominance in the maritime domain to counter the increasing threats from our adversaries. These efforts include:

- 1. Supporting naval operations while ensuring reactor safety by providing technical support to the fleet, engineering solutions to emergent reactor plant issues, enabling equipment replacement and maintenance, and tracking reactor performance over time.
- 2. Validating design assumptions made for operating ships to reduce required conservatism allowing extension of ship lifetimes
- 3. Developing and enhancing the fundamental methods, modeling, and materials used in reactor cores and plants, which reduce lifecycle costs and improves performance and reactor safety.
- 4. Designing and maintaining the major reactor plant components and plant systems required for technologically superior naval nuclear propulsion.
- 5. Providing funding for the operation of the Advanced Test Reactor (ATR) to DOE's Office of Nuclear Energy and performing irradiation testing to support the operating fleet, evaluate new material systems, and develop new core designs to maintain the US advantage over near-peer rivals.
- 6. Designing and procuring capital equipment in support of the work above.
- 7. Supporting development of technologies specifically targeted for implementation in the next propulsion plant design and sustainment of associated critical design skills.

Ship Construction & Maintenance Support (SCMS)

The mission of this subcategory is to directly support both the operation and new construction of the nuclearpowered fleet. Operating reactors require engineering support throughout their lifetimes to address any issues that arise, incorporate new technology, assess the effect of actual Navy operations compared to assumed operations when the reactors were designed, and to account for new information learned over the decades that ship class will operate. This engineering support is required to ensure safe operation throughout the life of the reactor plant. While overall fleet support efforts are funded across all Naval Reactors Development subprograms, SCMS supports direct efforts. Examples of direct SCMS efforts include analyses to extend the reactor operational life of a ship, reactor servicing technical support, new instrumentation and control system qualification prior to ship installation, emergent problem resolution arising during propulsion plant component manufacturing, installation, testing or operational life of the ship. Also, maintenance of the reactor plants involves designing equipment and systems to safely handle new fuel and highly radioactive spent fuel including safely maintaining plant components and resolving obsolescence issues. These efforts are closely associated with the more comprehensive technology efforts that underpin NR's fleet support efforts in Nuclear Reactor Technology (NRT) and Reactor Systems & Component Technology (RSCT).

Nuclear Reactor Technology

The mission of this subcategory is to develop and deploy reactor core material systems that improve nuclear safety, stealth, tactical ability, and reactor plant capability and performance; and to support the qualification and the manufacture of those systems at the naval nuclear core vendor. The materials testing executed using NRT resources forms the basis for naval nuclear reactor operational capability, which has enabled over 75 years of safe nuclear reactor operations greactor plant performance and reducing platform lifecycle cost. This research and development capability informs new design decisions and enables timely response to issues encountered in the operating fleet. Advanced fuel and poison development efforts, including specimen manufacture, irradiation testing, and post irradiation examination, are executed using resources from this subcategory. Lastly, this subcategory supports the examination of expended fuel modules and irradiated core components at the Expended Core Facility located at the Naval Reactors Facility, which is part of the Idaho National Laboratory. This examination capability provides real performance data on hardware to ultimately

understand both long-term material behavior and design impacts which are used to inform new design and extend the lifetime of existing platforms.

Reactor Systems & Component Technology

The mission of this subcategory is to provide Naval Reactors with the technology for major reactor plant components (e.g., reactors, steam generators, reactor coolant pumps, valves) as well as plant systems (e.g., instrumentation and control). This subcategory provides the support and expertise necessary to ensure the satisfactory operation of reactor plant components in the naval nuclear fleet and prototypes, to design and implement *Virginia*-class, *Ford*-class, *Columbia*-class, and future generation reactor plant components, and to develop higher power density, faster to build, and more affordable components for technology insertion applications in existing ship classes. Funding within this subcategory supports the major objectives of instrumentation and control component and system development to deliver the next generation of instrumentation and control, and electrical equipment for naval nuclear propulsion applications to improve ship mission capabilities, reactor safety, and widen the advanced technology gap over our adversaries. This subcategory also enables the Program's advanced technology incubator effort to accelerate the pace of R&D that holds promise for step-change advancements and asymmetrical warfighting advantages for naval nuclear propulsion.

Advanced Test Reactor Operations

The mission of this subcategory is to provide base operations funding for the Advanced Test Reactor. The Advanced Test Reactor is the only domestic platform that provides a prototypical thermal irradiation environment for fleet support, core design, manufacturing support, and analytical model development for reactor materials and nuclear fuels. The ATR is located on the Idaho National laboratory (INL) and is owned by the DOE Office of Nuclear Energy and operated by the INL contractor. Naval Reactors has sole use of six of nine ATR test loops. This subprogram provides the majority of the ATR's base operations funding.

Capital Equipment

The mission of this subcategory is to provide the critical technical tools and equipment to ensure that Naval Reactors can achieve its technology missions. This subprogram includes both MIE (major items of equipment) and non-MIE. Capital equipment is defined as non-construction related equipment, computer systems, tooling, and furniture or fixtures having a useful life of two or more years and costing greater than \$500,000. The tools and equipment are required to support other work efforts within the subcategories of Naval Reactors Development (e.g., designing and testing of reactor plant systems, developing new technologies).

Future Advanced Submarine Technology

The mission of this subcategory is to directly support the technological development and sustainment of associated critical design skills necessary to execute a new propulsion plant design and implement matured technologies. A supplementary data sheet within this document captures information for this subcategory within Naval Reactors Development.

Highlights and Major Changes in the FY 2026 Budget Request (+\$48.779 million)

The FY 2026 Budget Request enables development of the methods, models, materials, components, and systems required for future platforms to achieve enhanced capability, improved affordability, and sustained reliability and provides continuous support to U.S. Navy fleet operations. To meet the growing strategic threat from China and Russia, NR is partnering with NNL and industry to identify and develop cutting-edge technologies. This investment in R&D will continue critical progress in maintaining the Navy's dominance in the maritime domain.

Naval Reactors Future Advanced Submarine Technology

Description

Since the commissioning of USS Nautilus in 1954, NR has demonstrated the superior ability to design and deliver militarily effective naval nuclear propulsion plants to counter global threats, maintaining maritime superiority and an undersea advantage over our adversaries. NR's investment in technology and critical design expertise for the next generation of submarine designs is essential to ensure maritime superiority is maintained into the future. Sustained investment in reactor plant technologies is required for agile response to Navy demands for increased capabilities as the global threat environment and adversary capabilities evolve. Future Advanced Submarine Technology (FAST) encompasses NR's investment in technology and critical design expertise to support design of the propulsion plant for the Navy's next generation attack submarine.

FAST resources directly support the next generation attack submarine propulsion plant design as driven by capability goals set by the Navy. A gap analysis of the current fleet has identified the need for: (1) Greater speed. (2) Increased payload capacity. (3) Improved acoustics. (4) Increased operational availability. In addition, NR is working to develop technologies that address current submarine enterprise challenges by evolving propulsion plant designs to be more affordable, easier to sustain, and to take advantage of modern manufacturing techniques. Technology development is required to close these gaps.

Work within FAST is synchronized with Navy timelines for development of the next generation attack submarine propulsion plant design. The FAST-funded design work includes reactor plant concept and detail design, core concept design, reactor plant instrumentation and control design, reactor plant configuration, reactor coolant pump design, and applications of matured acoustics technology.

In addition to preparing for and executing the next generation attack submarine design, FAST resources maintain critical design skills that are not frequently exercised in support of existing ship classes and would be difficult to reconstitute if lost. Historically, these skills, such as core design and reactor plant system design, were exercised and maintained through the relatively frequent design of propulsion plants for new or existing prototypes and ship classes. However, in recent years, these skills have been underutilized due to the 22-year gap between submarine propulsion plant designs (*COLUMBIA*-Class and SSN(X)), the longest period between designs in NR's history. This gap in design work presents a risk that must be carefully managed to ensure design capabilities are not lost. To address this risk, the current budget request is based on defining the trade space for de-risking technology and sustaining critical design skills through insertions of SSN(X) technology into existing ship classes. This ensures that the highly specialized design teams at Navy laboratories and nuclear-capable Shipyards are sustained, prepared to execute the SSN(X), and other future designs.

In contrast with NR's base technology development efforts, FAST contains resources required to design a new propulsion plant and implement matured technologies. After the start of a formal design, this line contains all resources required to execute the anticipated next generation propulsion plant design.

Naval Reactors COLUMBIA-Class Reactor Systems Development

Description

OHIO-Class ballistic missile submarines (SSBNs) have been the backbone of the Nation's sea-based strategic deterrent since the early 1980s. Recapitalization of this strategic asset is required as the *OHIO*-Class retires. With the *COLUMBIA*-Class, the Navy plans to maintain its sea-based strategic deterrent force with a class of 12 ships, two fewer than today's *OHIO*-Class, due in part to a life-of-ship-core. This new life-of-ship core will eliminate the need for mid-life reactor refueling (mid-life refueling overhauls are an over-three-year evolution during which the ship is unavailable for service). By increasing class operational availability, development of a new reactor plant for the *COLUMBIA*-Class will permit 12 *COLUMBIA*-Class submarines to do the work of 14 *OHIO*-Class submarines – an operational and sustainment savings of over \$40 billion over the life of the class.

Research, development, and design for the *COLUMBIA*-Class SSBN began in FY 2010. The new design will leverage *VIRGINIA*-Class technology, as well as manufacturing development and demonstration efforts being performed as part of the land-based S8G Prototype Refueling Overhaul program. NR must design a new reactor plant to meet the Navy's required capabilities, maximize operational availability, and reduce acquisition and lifecycle costs. The DOE reactor plant design and development work for the *COLUMBIA*-Class will continue in FY 2025 and beyond to include oversight of the manufacture of lead ship reactor plant components including the core and conduct the requisite safety analysis for the lead ship reactor plant.

Work to support the *COLUMBIA*-Class SSBN is tightly synchronized with Navy-funded propulsion plant work. The DOE-funded design work includes reactor plant component design and development, core design analysis and manufacturing development, reactor plant instrumentation and control design and development, reactor plant configuration, reactor systems development and integration, and reactor performance, analysis, and validation. Lead submarine construction began in FY 2021.

Highlights and Major Changes in the FY 2026 Budget Request (-\$10.310 million)

The FY 2026 Budget Request is consistent with the project's planned Department of Energy-funded profile. Lead ship reactor plant components have been delivered on schedule and the reactor core remains on track to support lead ship delivery. This budget request enables production, oversight analysis, and test support.

Naval Reactors Program Direction

Description

Due to the essential nature of nuclear reactor work, Naval Reactors provides centrally controlled, technical management of program operations. Federal employees directly oversee and set policies and procedures for developing new reactor plants, operating existing reactor plants, facilities supporting these plants, contractors, and the Bettis and Knolls Atomic Power Laboratories. In addition, these employees' interface with other DOE offices and local, state, and Federal regulatory agencies.

Naval Reactors' Federal employees are typically recruited from a community of highly trained military engineers who have completed a rigorous five-year on-the-job training program unique to Naval Reactors. This training program has groomed engineers with skill sets far beyond that of nuclear engineers found in the commercial and Federal sectors.

Training funds support the development of Naval Reactors' highly specialized workforce through a mix of technical instruction, leadership development, and organizational training initiatives. This includes short courses, professional certifications, and participation in technical conferences essential to maintaining the skills required for oversight of nuclear propulsion activities. Training ensures that Federal employees stay aligned with evolving technologies, safety standards, and program-specific procedures.

Travel funds are used to perform oversight activities of facilities located worldwide that require comprehensive audits and in-person visits to ensure compliance and safety. Additionally, Naval Reactors Representative positions at the field sites (to include locations in the United Kingdom, Japan, Hawaii, and the continental United States) rotate periodically due to retirements, attrition, and succession planning.

Other Related Expenses includes the maintenance of Naval Reactors' IT hardware, engineering software, working capital funding, and related licenses supporting mission-essential technical work. Additionally, these funds will support planned upgrades and maintenance of video teleconferencing equipment, travel, and security investigations of Federal personnel.

Highlights and Major Changes in the FY 2026 Budget Request (+\$0 million)

The FY 2026 Budget Request enables personnel and pay related costs and IT hardware and maintenance. NR will continue to reshape the workforce to manage knowledge transfer to ensure the accomplishment of the NR mission.

Naval Reactors Program Direction Funding (\$K)

	FY 2024	FY 2025	FY 2026	FY 2026 Reque Enac	est vs FY 2025 sted
	Enacted	Enacted	Request	(\$)	(%)
Naval Reactors					
Headquarters					
Salaries and Benefits	38,847	38,525	40,231	+1,706	4.4%
Training	431	440	449	+9	2.1%
Other Related Expenses	5,158	4,873	3,490	-1,371	-28.1%
Total, Headquarters	44,436	44,173	44,171	+10	0.0%
Naval Reactors Laboratory Field Office					
Salaries and Benefits	14,960	15,640	15,843	+203	1.3%
Training	135	164	167	+3	2.1%
Other Related Expenses	2,009	1,898	1,359	-551	-29.0%
Total, Naval Reactors Laboratory Field Office	17,104	17,367	17,369	-10	-0.1%
Total Program Direction					
Salaries and Benefits	53,807	54,165	56,074	+1,909	3.5%
Training	566	604	617	+13	2.1%
Other Related Expenses	7,167	6,771	4,849	-1,922	-28.4%
Total, Program Direction	61,540	61,540	61,540	+0	0.0%
Planned Federal FTEs	234	231	246	+15	+6.4%

Naval Reactors Program Direction - Other Related Expenses (\$K)

				FY 2026 Rec	juest vs FY
	FY 2024	FY 2025	FY 2026	2025 Er	nacted
	Enacted	Enacted	Request	(\$)	(%)
Security	915	755	605	-150.0	-19.9%
Contract Support	1,046	945	881	-64.1	-6.8%
Travel	951	923	838	-85.4	-9.3%
Equipment	1,600	1,484	215	-1,269.0	-85.5%
Employee Incentive Awards	1,794	1,867	1,867	+0.0	0.0%
PCS	583	502	225	-277.1	-55.2%
Communications, Other Rent and Utilities	176	172	127	-45.1	-26.2%
Outreach	70	72	54	-18.2	-25.3%
Postage and Courier	19	10	8	-2.7	-26.1%
Other Services	12	41	30	-10.7	-26.2%
Total, Other Related Expenses	7,167	6,771	4,849	-1,922	-28.4%

FY 2025 Enacted	FY 2026 Request	Explanation of Changes FY 2026 Request vs FY 2025 Enacted	
Salaries and Benefits \$54,165,000	\$56,074,000	+\$1,909,000	
• Federal salaries and benefits for employees that directly oversee and set policies and procedures for developing new reactor plants, operating existing reactor plants, facilities supporting these plants, contractors, and the Bettis and Knolls Atomic Power Laboratories.	• Federal salaries and benefits for employees that directly oversee and set policies and procedures for developing new reactor plants, operating existing reactor plants, facilities supporting these plants, contractors, and the Bettis and Knolls Atomic Power Laboratories.	• The increase reflects efforts to restore full Program Direction FTE utilization following a period of reduced charging levels.	
Training \$604,000	\$617,000	+\$13,000	
 Deliver technical and professional training programs that build and sustain the specialized skills required for oversight of naval nuclear propulsion activities. Invest in workforce development initiatives, including leadership training and succession planning, to ensure continuity of expertise across field offices and headquarters staff. 	 Deliver technical and professional training programs that build and sustain the specialized skills required for oversight of naval nuclear propulsion activities. Invest in workforce development initiatives, including leadership training and succession planning, to ensure continuity of expertise across field offices and headquarters staff. 	• No significant change.	
Other Related Expenses \$6,771,000	\$4,849,000	-\$1,922,000	
 Maintenance of Naval Reactors' IT hardware, engineering software, and related licenses supporting mission essential technical work. Support planned upgrades and maintenance of video teleconferencing equipment, security investigation of Federal personnel, and training requirements. 	 Maintenance of Naval Reactors' IT hardware, engineering software, and related licenses supporting mission essential technical work. Support planned upgrades and maintenance of video teleconferencing equipment, security investigation of Federal personnel, and training requirements. 	• The decrease reflects the early execution of planned requirements that were pulled forward to align with available funding from underruns in other budget areas.	

Program Direction Activities and Explanation of Changes

Naval Reactors Capital Equipment Summary (\$K)

	Total	Prior Years	FY 2024 Enacted	FY 2025 Enacted	FY 2026 Request	Outyear Total
Capital Equipment (> \$500K)						
Total Non-MIE Capital Equipment (TEC <\$10M)	N/A	N/A	15,100	23,990	14,600	N/A
Consolidated Steam Water Test Loops, BL	41,015	15,505	0	12,410	0	13,100
M-140 Cranes, Naval Spent Fuel Handling Facility	15,000	0	0	0	0	15,000
Total, Capital Equipment	N/A	N/A	15,100	36,400	14,600	83,200

26-D-530, KL East Side Office Building (ESOB) Knolls Atomic Power Laboratory, Niskayuna, NY Project is for Design and Construction

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

<u>Summary</u>

The Knolls Laboratory East Side Office Building (ESOB) will construct an office building to provide professional office space that enables the follow-on renovation of aging facilities and the elimination of office space in facilities with legacy liabilities (asbestos, radioactivity, etc.). The scope includes a new multi-story office building that will accommodate a minimum of 400 professional office spaces with conference rooms and document storage. A Federal Project Manager has been assigned to this project.

The FY 2026 request for this project is \$75,000,000 to perform Total Estimated Cost scope. This TEC supports the objective KPPs. The project achieved Critical Decision (CD) – 3 in April 2025 with a Total Estimated Cost of \$75,000,000 and a CD-4 date of Q2 2029. The project is being conducted in accordance with the Naval Nuclear Propulsion Program project management requirements.

Significant Changes

This project is a new start in FY 2026.

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 2026	1/17/2019	1/31/2023	4/15/2024	4/15/2024	2Q FY 2027	4/23/2025	N/A	3Q FY 2029

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

Project Cost History (\$K)

Fiscal Year	TEC, Design	TEC, Construction	TEC Total	OPC, Except D&D	OPC, D&D	OPC Total,	TPC
FY 2026	\$2,280	\$72,720	\$75,000	\$4,513	\$ 0	\$4,513	\$79,513

2. Project Scope and Justification

<u>Scope</u>

The ESOB project will construct a new multi-story office building that will accommodate a minimum of 400 professional office spaces including standard office building amenities (e.g., conference rooms, teaming areas, kitchenettes). The project also includes necessary utility work to support a complete and usable asset and will also follow the Guiding Principles for Sustainable Federal Buildings.

Justification

The ESOB will provide the Knolls Laboratory site with additional modern and professional office spaces to eliminate the need for existing personnel to occupy spaces in substandard areas (e.g., areas with a history of environmental or radiological contamination). The ESOB will also modernize work environments that aligns with Naval Nuclear Laboratory's (NNL) planning initiatives to enhance NNL's competitiveness to attract, hire, and retain a high-quality workforce supporting the Navy's nuclear-powered fleet. Lastly, the ESOB will allow the co-location of several technical organizations to improve efficiency.

Naval Reactors/Construction Construction/26-D-530, KL East Side Office Building (ESOB) KAPL, NY

Naval Reactors has an equivalency to the requirements in DOE Order 413.3, *Program and Project Management for the Acquisition of Capital Assets*. The KL East Side Office Building project is being conducted in accordance with the Naval Reactors Implementation Bulletin for DOE O 413.3, and appropriate project requirements have been met.

Key Performance Parameters (KPPs)

The project's KPPs were finalized with the CD-2 submittal and approval.

Performance Measure	Threshold	Objective
Multi-Story Office Building	Provide 76,000 gross square feet to support a minimum of 400 professional office spaces.	Provide 84,000 gross square feet to support a minimum of 450 professional office spaces.
Building Emissions	Provide a fully electric building and meet ASHRAE 90.1-2016 energy efficiency standard.	Provide a fully electric facility, exceed ASHRAE 90.1-2016 energy efficiency standard by 30%, and install necessary infrastructure to support becoming a net-zero facility.

3. Financial Schedule (\$K)

	Budget Authority (Appropriations)	Obligations	Costsª
Total Estimated Cost (TEC)			
Design			
FY 2026	2,280	2,280	1,824
Outyears	0	0	456
Total Design	2,280	2,280	2,280
Construction			
FY 2026	72,720	58,768	14,705
Outyears	0	13,952	58,015
Total Construction	72,720	72,720	72,720
TEC			
FY 2026	75,000	61,048	16,529
Outyears	0	13,952	58,471
Total TEC	75,000	75,000	75,000
Other Project Costs (OPC)			
Prior Years	723	723	589
FY 2024	543	543	678
FY 2025	224	224	224
FY 2026	2,196	2,196	1,054
Outyears	827	827	1,968
Total, OPC	4,513	4,513	4,513
Total Project Costs (TPC)			
Prior Years	723	723	589
FY 2024	543	543	678
FY 2025	224	224	224
FY 2026	77,196	63,244	17,583
Outyears	827	14,779	60,439
Total TPC	79,513	79,513	79,513

 ^a Totals may not add due to rounding.
 Naval Reactors/Construction
 Construction/26-D-530, KL East Side Office Building (ESOB)
 KAPL, NY

	Current	Previous	Previous
	Total	Total	Validated
	Estimate	Estimate	Baseline
Total Estimated Cost (TEC)			
Design			
Design	2,280	2,280	2,280
Contingency ^a	0	0	0
Total Design	2,280	2,280	2,280
Construction			
Construction	64,753	64,753	64,753
Equipment	0	0	0
Contingency ^a	7,967	7,967	7,967
Total Construction	72,720	72,720	72,720
Total Estimated Cost (TEC)	75,000	75,000	75,000
Contingency, TEC ^a	7,967	7,967	7,967
Other Project Costs (OPC)			
OPC except D&D			
OPC	4,026	4,026	4,026
Contingency	487	487	487
Total OPC	4,513	4,513	4,513
Contingency OPC	487	487	487
Total Project Cost	79,513	79,513	79,513
Total Contingency (TEC+OPC)	8,454	8,454	8,454

4. Details of Project Cost Estimate (\$K)

5. Schedule of Appropriations Requests (\$K)

Request Year	Туре	Prior Years	FY 2025	FY 2026	Out Years	Total
FV	TEC	0	0	75,000	0	75,000
2026	OPC	1,266	224	2,196	827	4,513
2020	TPC	1,266	224	77,196	827	79,513

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy	3Q FY 2029
Expected Useful Life (number of years)	40 Years
Expected Future Start of D&D of this capital asset (fiscal quarter)	3Q FY 2069

^a Contingency estimated for TEC Construction activities includes TEC design contingency. Because the project acquisition approach is design-build, TEC contingency is pooled.

Related Funding Requirements (\$K)					
Funding Requirements	Annua	l Costs	Life Cycle	Costs ^a	
Estimate Totals	Previous Estimate	Current Estimate	Previous Estimate	Current Estimate	
Operations and Maintenance	\$602	\$602	\$24,100	\$24,100	

7. D&D Information

The new area being constructed is replacing existing facilities, however, the costs of D&D of the facilities that are being replaced are not included in the costs of this construction project.

	Square Feet
New area being constructed by this project at	84,000
Area of D&D in this project at site	0
Area at site to be transferred, sold, and/or D&D outside the project including area previously "banked"	84,000
Area of D&D in this project at other sites	N/A
Area at other sites to be transferred, sold, and/or D&D outside the project including area previously "banked"	N/A
Total area eliminated	0

8. Acquisition Approach

The project delivery method is design-build. The Naval Reactors prime contractor will administer the contract.

^a Life cycle costs are current year values Naval Reactors/Construction Construction/26-D-530, KL East Side Office Building (ESOB) KAPL, NY

25-D-530, Naval Examination Acquisition Project Naval Reactors Facility, Idaho Project is for Design and Construction

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

Summary

The FY 2026 request for 25-D-530, Naval Examination Acquisition Project (NEAP), is \$60,000,000 to progress the detailed (preliminary & final) design phase. Critical Decision (CD)-0, *Approve Mission Need*, was approved on January 3, 2018, and CD-1, *Approve Alternative Selection and Cost Range*, was approved on May 23, 2025 with a preferred alternative to build a new facility. The cost range approved with CD-1 is \$1,630,000,000 to \$5,000,000 (then-year dollars). The point estimate associated with the current stage of the project (conceptual design) is \$3,228,500,000 (then-year dollars). The management reserve and government contingency included in the cost estimate provides approximately 80% confidence in the project cost. The cost and schedule will be baselined with CD-2/3, *Performance Baseline and Start of Construction*.

Significant Changes

This Construction Project Data Sheet (CPDS) is an update of the FY 2025 CPDS and does not include a new start for the budget year. The FY 2025 funding in this CPDS was updated to reflect internal prioritization decisions stemming from the full-year continuing resolution and supports requirements to maintain the schedule for completing all critical project milestones. The construction duration has been extended from four to five years to reflect internal prioritization decisions and mitigate constructability concerns. The \$5.0B high end of the CD-1 cost range reflects a scenario with higher escalation, an additional year of construction delays, a 90% confidence level based on risks and uncertainty, and additional cost impacts due to a low competition construction environment beyond that which is accounted for in the point estimate. Updates have also been made to the planned spending profile based on progression of the conceptual design and approval of CD-1. Other Project Costs (OPCs) are funded out of the Naval Reactors Development funding.

A Federal Project Manager (FPM) has been assigned to this project.

Critical Milestone History

The schedule below represents an estimate and not a performance baseline, which will be developed in support of CD-2.

		Conceptual						
Fiscal		Design			Final Design		D&D	
Year	CD-0	Complete	CD-1	CD-3A	Complete	CD-2/3	Complete ^a	CD-4
FY 2025	01/03/2018	2Q FY 2024	2Q FY 2025	3Q FY 2028	4Q FY 2029	2Q FY 2030	n/a	4Q FY 2035
FY 2026	01/03/2018	09/30/2024	5/23/2025	3Q FY 2028	4Q FY 2029	2Q FY 2030	n/a	4Q FY 2036

CD-0 – Approve Mission Need

Conceptual Design Complete – Actual date the conceptual design was completed

CD-1 – Approve Alternate Selection and Cost Range

Final Design Complete – Actual date the facility design was completed

CD-3A – Approve Long Lead Procurement and Site Preparation

CD-2/3 – Approve Performance Baseline and Start of Construction

CD-4 – Approve Project Completion

Naval Reactors/Construction

25-D-530, Naval Examination Acquisition Project Naval Reactors Facility, ID

^a D&D of the Expended Core Facility is not within the scope of this project.

Project Cost History (\$K)

Fiscal Year	TEC,	TEC,	TEC,	OPC,	OPC,	OPC,	TPC
	Design	Construction	Total	Except D&D	D&D	Total	
FY 2025	524,200	2,351,160	2,875,360	143,500	n/a	143,500	3,018,860
FY 2026	520,562	2,564,752	3,085,314	143,186	n/a	143,186	3,228,500

2. Project Scope and Justification

<u>Scope</u>

The Naval Examination Acquisition Project will recapitalize the capabilities for examining spent nuclear fuel that currently exists in the Expended Core Facility and its support facilities. The Project considered alternatives, including constructing a new facility on the Idaho National Laboratory and refurbishing the existing Naval Reactors examination infrastructure at the Expended Core Facility. The preferred alternative selected with CD-1 is to construct a new facility.

The following represents the general scope of the Naval Examination Acquisition Project:

- Design and construct a facility and facility systems to examine naval spent nuclear fuel, poison, and structural materials, including the capability to receive, unload, prepare, and package examination specimens.
- Design and construct infrastructure needed to support examination of naval spent nuclear fuel, poison, and structural material.
- Design and procure equipment to make the facility ready for use to receive, unload, prepare, and package examination specimens of naval spent nuclear fuel, poison, and structural material.
- Prepare testing, operating, and preventive maintenance procedures and drawings, where appropriate, for the naval spent nuclear fuel examination process systems, equipment, facilities, and facility systems.
- Develop training programs and conduct personnel training, where appropriate.
- Develop project management procedures and manage Project activities.
- Provide support services needed for the Project.
- Manage subcontracts supporting the design and construction or refurbishment.
- Prepare an Environmental Assessment in accordance with the National Environmental Policy Act.

Justification

Naval Reactors is responsible for providing the nation with safe, effective, and affordable naval nuclear propulsion plants and ensuring their continued safe and reliable operation through lifetime support, research and development, design, construction, specification, certification, testing, maintenance, and disposal. Naval Reactors maintains total responsibility for all aspects of the U.S. Navy's nuclear propulsion systems. To support the continued operation of nuclear-powered vessels, it is critical that Naval Reactors maintain the capability to demonstrate acceptable operation of existing core designs, as well as to investigate and analyze unexpected conditions found during ship operation or upon refueling or defueling nuclear-powered vessels. To deliver cores with the capability required to support new weapons systems and operational capabilities in naval combatants, Naval Reactors must continue to design new and more capable reactors using the data obtained from examinations.

The Naval Reactors Facility, located on the Idaho National Laboratory, serves as the Naval Reactors focal point for the evaluation, preparation, and shipment of naval spent nuclear fuel. Operations in the Expended Core Facility include processing of highly radioactive naval spent nuclear fuel in water pools and non-destructive and destructive examinations of naval spent nuclear fuel samples in hot cells. Although the existing Expended Core Facility continues to be maintained and operated in a safe and environmentally responsible manner, the infrastructure is over 60 years old, does not meet current standards (i.e., requirements that were not applicable at the time of construction such as modern structural and seismic codes) and requires recapitalization.

The existing Expended Core Facility at the Naval Reactors Facility in Idaho is a single facility that is approximately 197,000 square feet. The Expended Core Facility has three major capabilities: (1) to receive, unload, prepare for packaging, and package naval spent nuclear fuel, (2) to prepare for examination and examine

Naval Reactors/Construction 25-D-530, Naval Examination Acquisition Project Naval Reactors Facility, ID

naval spent nuclear fuel, and (3) to prepare and examine irradiation test specimens from the Advanced Test Reactor. To cease operations in the aging Expended Core Facility, a three-part exit strategy is required to recapitalize the three distinct missions provided by the facility today. First, the Spent Fuel Handling Recapitalization Project (14-D-901) is constructing the Naval Spent Fuel Handling Facility to recapitalize the capabilities to receive, unload, prepare, and package naval spent nuclear fuel. Second, the Naval Examination Acquisition Project (25-D-530) is recapitalizing the capabilities to examine naval spent nuclear fuel. Lastly, the capability to prepare and examine irradiation test specimens will be recapitalized by separate efforts.

The Naval Examination Acquisition Project plans to conduct an Environmental Assessment to consider the environmental impacts of the proposed alternative in accordance with the National Environmental Policy Act. The NEAP environmental analysis will rely on analysis from the Final EIS for Recapitalization of Infrastructure Supporting Naval Spent Nuclear Fuel Handling at the Idaho National Laboratory to the extent the previous analysis remains current and is applicable to NEAP construction and operations.

Naval Reactors has an equivalency to the project management requirements in DOE Order 413.3, *Program and Project Management for the Acquisition of Capital Assets*. The Naval Examination Acquisition Project is being conducted in accordance with the Naval Reactors Implementation Bulletin for DOE O 413.3, and appropriate project management requirements have been met.

Key Performance Parameters (KPPs)

KPPs will be established as part of Critical Decision – 2/3, Performance Baseline and Start of Construction.

3. Financial Schedule (\$K)

	Budget Authority (Appropriations)	Obligations ^a	Costs
Total Estimated Cost (TEC)			
Design			
FY 2025	20,000	20,000	17,596
FY 2026	60,000	60,000	45,318
Outyears	440,562	440,562	457,648
Total Design	520,562	520,562	520,562
Construction			
FY 2025	0	0	0
FY 2026	0	0	0
Outyears	2,564,752	2,264,752	2,264,752
Total Construction	2,564,752	2,264,752	2,264,752
TEC			
FY 2025	20,000	20,000	17,596
FY 2026	60,000	60,000	45,318
Outyears	3,005,314	2,705,314	2,722,400
Total TEC	3,085,314	2,785,314 ^ь	2,785,314
Other Project Costs (OPC)			
Prior Years	65,900	65,900	65,900
FY 2024	24,641	24,641	24,641
FY 2025	11,092	11,092	11,092
FY 2026	1,659	1,659	1,659
Outyears	39,894	39,894	39,894
Total, OPC	143,186	143,186	143,186
Total Project Costs (TPC)			
Prior Years	65,900	65,900	65,900
FY 2024	24,641	24,641	24,641
FY 2025	31,092	31,092	28,688
FY 2026	61,659	61,659	46,977
Outyears	3,045,209	2,745,209	2,762,294
Total TPC	3,228,500	2,928,500	2,928,500

Naval Reactors/Construction

25-D-530, Naval Examination Acquisition Project Naval Reactors Facility, ID

^a Totals may not add due to rounding.

^b Planned Obligations and Costs do not include \$300M in Government Contingency in Outyears.

4.	Details	of	Project	Cost	Estimate	(\$K)
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		Current Total Estimateª	Previous Total Estimate	Previous Validated Baseline
Total Estimated Cost (TEC)				
Design				
	Design	393,900	368,971	N/A
	Management Reserve	126,661	155,229	N/A
Total Design		520,562	524,200	N/A
Construction				
	Site Work	50,685	67,710	N/A
	Equipment	217,624	195,985	N/A
	Facility Construction	1,346,816	1,173,885	N/A
	Safety	12,337	10,894	
	Management Reserve	637,289	652,685	N/A
	Government Contingency	300,000	250,000	N/A
Total Construction		2,564,752	2,351,160	N/A
Total Estimated Cost (TEC)		3,085,314	2,875,360	N/A
Management Reserve & Cor	ntingency, TEC	1,063,951	1,057,914	N/A
Other Project Costs (OPC)				
OPC except D&D				
	Conceptual Design	95,133	96,335	N/A
	NEPA	7,834	7,944	N/A
	Start-up	28,410	27,220	N/A
	Closeout	4,092	3,840	N/A
	Management Reserve	7,717	8,161	N/A
Total OPC		143,186	143,500	N/A
Management Reserve, OPC		7,717	8,161	N/A
Total Project Cost		3,228,500	3,018,860	N/A
Total Management Reserve	& Contingency (TEC+OPC)	1,071,667	1,066,075	N/A

 ^a Totals may not add due to rounding.
 Naval Reactors/Construction
 25-D-530, Naval Examination Acquisition Project
 Naval Reactors Facility, ID

5. Schedule of Appropriation Requests (\$K)

Request Year	Туре	Prior Years	FY 2025	FY2026	Out Years	Total
	TEC	0	45,000	90,000	2,740,360	2,875,360
FY 2025	OPC	90,800	12,700	1,400	38,600	143,500
	TPC	90,800	57,700	91,400	2,778,960	3,018,860
	TEC	0	20,000	60,000	3,005,314	3,085,314
FY 2026	OPC	90,541	11,092	1,659	39,895	143,186
	TPC	90,541	31,092	61,659	3,045,209	3,228,500

6. Related Operations and Maintenance Funding Requirements

Start of Operation of Beneficial Occupancy	1Q FY 2037
Expected Useful Life	40 years
Expected Future Start of D&D	1Q FY 2077

Related Funding Requirements (Budget Authority in \$K)

	Annual Costs		Life Cycle Costs	
	Previous Total Current Total P		Previous Total	Current Total
	Estimate	Estimate	Estimate	Estimate
Operations and	n/a	45,592	n/a	3,397,326
Maintenance				
Future Installations and	n/a	n/a	n/a	1,021,638
Refurbishment				

7. D&D Information

The new area being constructed in this project is replacing existing facilities. However, preparation and examination of irradiation test specimens in the existing Expended Core Facility will continue until that capability is recapitalized; therefore, the costs associated with D&D of the Expended Core Facility are not included in the costs cited for the Naval Examination Acquisition Project.

	Square Feet
New area being constructed by this Project at the Naval Reactors Facility	94,800
Area of D&D in this Project at the Naval Reactors Facility	0
Area at the Naval Reactors Facility to be transferred, sold, and/or D&D outside the project including area previously "banked"	0
Area of D&D in this Project at other sites	0

8. Acquisition Approach

The integrated Management & Operating (M&O) prime partners will plan and execute the Naval Examination Acquisition Project in accordance with requirements. Naval spent nuclear fuel examination equipment will be procured through the procurement M&O partners as appropriate. An Architecture / Engineering firm was selected as the subcontracting strategy for development of a conceptual design. The M&O prime contractor will subcontract detailed design with an Architecture / Engineering firm and will subcontract construction to a construction manager via a Construction Manager at Risk arrangement.

14-D-901, Spent Fuel Handling Recapitalization Project Naval Reactors Facility, Idaho Project is for Design and Construction

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

Summary

The FY 2026 Request for 14-D-901, Spent Fuel Handling Recapitalization Project (SFHP) is \$526,000,000. The FY 2026 budget request will enable the project to continue permanent construction activities such as installation of the main process building siding and roofing, installation of the process and utility systems, and completion of the spent fuel pools. Critical Decision (CD)-2/3, *Performance Baseline and Start of Permanent Construction*, was approved on September 24, 2018, with a TPC of \$1,686,500,000 and a CD-4 of 3Q FY 2025. On October 31, 2019, a revision to the Performance Baseline was approved with a TPC of \$2,060,000,000 and a CD-4 date of 3Q FY 2026. On July 13, 2021, a second revision to the Performance Baseline was approved with a TPC of \$2,333,000,000 and a CD-4 date of 3Q FY 2026. On October 20, 2022, a third revision to the Performance Baseline was approved with a TPC of \$2,033,000,000 and a CD-4 date of 3Q FY 2026. On September 8, 2023, an interim revision to the Performance Baseline was approved to extend the CD-4 date by 1 year to 4Q FY 2029. On May 7, 2025, a fourth revision to the Performance Baseline was approved with a TPC of \$4,533,000,000 and a CD-4 date of 4Q FY 2031.

Funding within the project's line-item is controlled at the TPC level; funds are available to perform both TEC-type and OPC-type activities.

Significant Changes

This CPDS is an update of the FY 2025 CPDS and does not include a new start for the budget year.

The Project's last major construction contract will outfit the facility with process and utility systems required for operations. The procurement cycle for this contract was extended after insufficient competition resulted in the inability to award that contract in 2023 as planned. Planning and executing a re-procurement of the contract with a modified acquisition approach has resulted in a 2-year Project delay and additional costs due to a higher-than-expected award price. Execution issues with concrete placement including resolution of quality assurance deficiencies, staffing challenges, and safety issues have also contributed to the delay and resulted in some additional costs of the associated with the re-procurement of the facility outfitting contract and concrete placement delays. To improve confidence in the new schedule baseline, Naval Reactors approved an additional year of schedule margin in the CD-4 date. Naval Reactors will manage the Project to the more aggressive schedule (i.e., without the schedule margin), using the margin in the future only if necessary. This CPDS reflects the updated Total Project Cost and CD-4 date approved in the May 7, 2025, Performance Baseline revision, including the 1-year of schedule margin. The FY 2026 request of \$526,000,000 supports the Performance Baseline revision.

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	03/29/2008		1Q FY 2014	3Q FY 2015	4Q FY 2016	4Q FY 2016	N/A	4Q FY 2022
FY 2015	03/29/2008		1Q FY 2014	3Q FY 2015	4Q FY 2016	4Q FY 2016	N/A	4Q FY 2022
FY 2015 Rev	03/29/2008		1Q FY 2015	3Q FY 2017	4Q FY 2018	1Q FY 2018	N/A	4Q FY 2024
FY 2016	03/29/2008		2Q FY 2015	1Q FY 2018	4Q FY 2019	4Q FY 2018	N/A	3Q FY 2025
FY 2017	03/29/2008	03/19/2015	03/19/2015	1Q FY 2018	3Q FY 2020	4Q FY 2018	N/A	3Q FY 2025
FY 2018	03/29/2008	03/19/2015	03/19/2015	4Q FY 2018	3Q FY 2020	4Q FY 2018	N/A	3Q FY 2025

Naval Reactors/Construction 14-D-901, Spent Fuel Handling Recapitalization Project Naval Reactors Facility, Idaho

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	CD-2	Final Design Complete	CD-3	D&D Complete	CD-4
FY 2019	03/29/2008	03/19/2015	03/19/2015	4Q FY 2018	3Q FY 2020	4Q FY 2018	N/A	3Q FY 2025
FY 2020	03/29/2008	03/19/2015	03/19/2015	09/24/2018	3Q FY 2020	09/24/2018	N/A	3Q FY 2025
FY 2021	03/29/2008	03/19/2015	03/19/2015	09/24/2018	2Q FY 2021	09/24/2018	N/A	3Q FY 2026
FY 2022	03/29/2008	03/19/2015	03/19/2015	09/24/2018	03/04/2021	09/24/2018	N/A	3Q FY 2026
FY 2023	03/29/2008	03/19/2015	03/19/2015	09/24/2018	03/04/2021	09/24/2018	N/A	3Q FY 2026
FY 2024	03/29/2008	03/19/2015	03/19/2015	09/24/2018	03/04/2021	09/24/2018	N/A	4Q FY 2028
FY 2025	03/29/2008	03/19/2015	03/19/2015	09/24/2018	03/04/2021	09/24/2018	N/A	4Q FY 2029
FY 2026	03/29/2008	03/19/2015	03/19/2015	09/24/2018	03/04/2021	09/24/2018	N/A	4Q FY 2031

CD-0 – Approve Mission Need

Conceptual Design Complete – Actual date the conceptual design was completed

CD-1 – Approve Alternate Selection and Cost Range

CD-2 – Approve Performance Baseline

Final Design Complete – Actual date the facility design was completed

CD-3 – Approve Start of Construction/Execution

D&D Complete – Completion of D&D work (see Section 5)

CD-4 – Approve Start of Operations or Project Completion

Fiscal Year	CD-3A	CD-3B	CD-4A
FY 2017	2Q FY 2017	1Q FY2018	3Q FY 2024
FY 2018	12/7/2016	4Q FY 2017	3Q FY 2024
FY 2019	12/7/2016	6/14/2017	3Q FY 2024
FY 2020	12/7/2016	6/14/2017	3Q FY 2024
FY 2021	12/7/2016	6/14/2017	3Q FY 2025
FY 2022	12/7/2016	6/14/2017	3Q FY 2025
FY 2023	12/7/2016	6/14/2017	3Q FY 2025
FY 2024	12/7/2016	6/14/2017	2Q FY 2027
FY 2025	12/7/2016	6/14/2017	2Q FY 2028
FY 2026	12/7/2016	6/14/2017	4Q FY 2030

CD-3A – Start of Long Lead Material Procurement

CD-3B – Start of Early Site Preparation

CD-4A – Start of M-290 Shipping Container Unloading Operations

Project Cost History (\$K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Except D&D	OPC, D&D	OPC, Total	TPC
FY 2014	369,400	917,100	1,286,500	165,000	N/A	165,000	1,451,500
FY 2015	369,400	917,100	1,286,500	165,000	N/A	165,000	1,451,500
FY 2015 Rev	263,000	1,144,900	1,407,900	178,200	N/A	178,200	1,586,200
FY 2016	268,800	1,182,100	1,450,900	195,600	N/A	195,600	1,646,500
FY 2017	239,800	1,232,600	1,472,400	174,100	N/A	174,100	1,646,500
FY 2018	239,800	1,232,600	1,472,400	174,100	N/A	174,100	1,646,500
FY 2019	306,982	1,165,418	1,472,400	174,100	N/A	174,100	1,646,500
FY 2020	302,489	1,169,911	1,472,400	174,100	N/A	174,100	1,686,500
FY 2021	278,860	1,607,140	1,886,000	174,000	N/A	174,000	2,060,000
FY 2022	276,896	1,609,104	1,886,000	174,000	N/A	174,000	2,060,000
FY 2023	332,288	1,826,712	2,159,000	174,000	N/A	174,000	2,333,000
FY 2024	332,288	2,491,339	2,823,627	176,373	N/A	176,373	3,000,000
FY 2025	332,288	2,491,339	2,823,627	176,373	N/A	176,373	3,000,000
FY 2026	332,288	4,013,854	4,346,143	186,857	N/A	186,857	4,533,000

2. Project Scope and Justification

Scope

The Spent Fuel Handling Recapitalization Project will design and construct a new facility, the Naval Spent Fuel Handling Facility, to incorporate the capabilities for naval spent nuclear fuel handling that currently exist in the Expended Core Facility and its support facilities. Additionally, a major portion of this new facility is required to support additional capability, which does not exist in the Expended Core Facility, to handle full-length aircraft carrier naval spent nuclear fuel received in M-290 shipping containers. The Naval Spent Fuel Handling Facility footprint will be approximately 213,000 square feet. Of this, approximately 121,000 square feet is required for spent fuel shipping container and dry storage operations, which includes approximately 17,000 square feet for water pool spent fuel preparation and in-process storage. The remainder of the facility, approximately 92,000 square feet, is required for waste management, facility systems operations, staging, and administrative office space. The Spent Fuel Handling Recapitalization Project has completed final design and site preparation and is in the construction phase.

The following represents the general scope of the Spent Fuel Handling Recapitalization Project:

- Design and construct a facility and facility systems for naval spent nuclear fuel handling, including the capability to receive, unload, prepare, and package naval spent nuclear fuel.
- Design and construct infrastructure needed to support naval spent nuclear fuel handling operations.
- Design and procure equipment to make the facility ready for use to receive, unload, prepare, and package naval spent nuclear fuel, where appropriate.
- Provide the new capability to unload M-290 spent fuel shipping containers.
- Prepare testing, operating, and preventive maintenance procedures and drawings, where appropriate, for the naval spent nuclear fuel handling process systems, equipment, facilities, and facility systems.
- Develop training programs and conduct personnel training, where appropriate.
- Develop project management procedures and manage Project activities.
- Provide support services needed for the Project.
- Manage subcontracts supporting the design and construction.
- Prepare an Environmental Impact Statement in accordance with the National Environmental Policy Act.

Justification

Naval Reactors/Construction 14-D-901, Spent Fuel Handling Recapitalization Project Naval Reactors Facility, Idaho The mission of Naval Reactors is to provide the nation with militarily effective nuclear propulsion plants and to ensure their safe, reliable, long-lived, and affordable operation. Naval Reactors maintains total responsibility for all aspects of the U.S. Navy's nuclear propulsion systems, including research, design, construction, testing, operation, maintenance, and disposal. At the end of reactor service life, Naval Reactors transports naval spent nuclear fuel from its origin (e.g., servicing shipyards and naval training platforms) to the Naval Reactors Facility at the Idaho National Laboratory.

The Expended Core Facility, located at the Naval Reactors Facility in Idaho, is the only facility with the capabilities to receive naval spent nuclear fuel shipping containers and process naval spent nuclear fuel. Although the existing Expended Core Facility continues to be maintained and operated in a safe and environmentally responsible manner, the infrastructure is over 60 years old, does not meet current standards (i.e., requirements that were not applicable at the time of construction), and requires recapitalization. The Expended Core Facility is also incapable of receiving full-length aircraft carrier naval spent nuclear fuel, which is required to support aircraft carrier refuelings. The magnitude of required sustainment efforts and incremental infrastructure upgrades within the Expended Core Facility pose substantial risk to the continued preparation of naval spent nuclear fuel for long term storage. Specifically, sustainment efforts could require delays to naval spent nuclear fuel shipping container unloading operations, which would interrupt refueling and defueling schedules for nuclear-powered vessels and would adversely affect the operational availability of the nuclear fleet. If this interruption were to extend over long periods of time, the ability to sustain fleet operations would be impacted, resulting ultimately in a significant decrement to the Navy's responsiveness and agility to fulfill military missions worldwide.

The existing Expended Core Facility at the Naval Reactors Facility in Idaho is a single facility that is approximately 197,000 square feet. The Expended Core Facility has three major capabilities: (1) to receive, unload, prepare for packaging, and package naval spent nuclear fuel, (2) to prepare for examination and examine naval spent nuclear fuel, and (3) to prepare and examine irradiation test specimens from the Advanced Test Reactor. To cease operations in the aging Expended Core Facility today. First, the Spent Fuel Handling Recapitalization Project (14-D-901) is constructing the Naval Spent Fuel Handling Facility to recapitalize the capabilities to receive, unload, prepare, and package naval spent nuclear fuel. Second, the Naval Examination Acquisition Project (25-D-530) is recapitalizing the capabilities to examine naval spent nuclear fuel. Lastly, the capability to prepare and examine irradiation test specimens will be recapitalized by separate efforts.

Actions necessary to continue Naval Reactors' ability to support naval spent nuclear fuel handling were the subject of an Environmental Impact Statement. The Final Environmental Impact Statement for recapitalization of the infrastructure supporting naval spent nuclear fuel was published on September 30, 2016, and included an assessment of the environmental impacts associated with handling of naval spent nuclear fuel for the following alternatives:

- (1) No Action Alternative Maintain the naval spent nuclear fuel handling capabilities of the existing Expended Core Facility by continuing to use the existing infrastructure while performing corrective maintenance and repairs.
- (2) Overhaul Alternative Recapitalize the naval spent nuclear fuel handling capabilities of the Expended Core Facility by overhauling the existing facility with major refurbishment projects for the infrastructure and water pools.
- (3) New Facility Alternative, including the Spent Fuel Handling Recapitalization Project Recapitalize the naval spent nuclear fuel handling capabilities of the Expended Core Facility by constructing and operating a new facility at one of two potential locations at the Naval Reactors Facility in Idaho.

The National Environmental Policy Act Record of Decision, which identified the New Facility Alternative as the preferred method to recapitalize the naval spent nuclear fuel handling capabilities of the Expended Core Facility, was published on December 5, 2016.

Naval Reactors has an equivalency to the project management requirements in DOE Order 413.3, *Program and Project Management for the Acquisition of Capital Assets*. The Project is being conducted in accordance with the Naval Reactors Implementation Bulletin for DOE O 413.3, and appropriate project management requirements have been met.

Prior to CD-2/3 approval, an independent cost estimate was completed by the Department of Defense Office of Cost Assessment and Program Evaluation.

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 KPPs were formally established as part of the Performance Baseline and approval of CD-2/3. The current SFHP Performance Baseline supports exceeding the Threshold KPPs.

Performance Measure	Threshold	Objective
Provide the facility (infrastructure) to	An approximately 185,000	An approximately 245,000
receive, unload, prepare, and package	square foot facility, which	square foot facility, which
full-length aircraft carrier and	includes an approximate	includes an approximate 20,000
submarine naval spent nuclear fuel.	15,000 square foot water pool.	square foot water pool.
		Receive and unload 9 M-290 and
Provide equipment to receive and	Receive and unload 7 M-290	12 M-140 shipping containers per
unload naval spent nuclear fuel.	shipping containers per year.	year.
	Initially inspect and prepare 62	Initially inspect and prepare 96
Provide equipment to initially inspect	full-length NIMITZ Class	full-length aircraft carrier and 64
and prepare naval spent nuclear fuel for	aircraft carrier spent nuclear	submarine spent nuclear fuel
ultimate disposal.	fuel modules per year.	modules per year.
Provide equipment to package naval		
spent nuclear fuel into canisters for dry	Package 6 naval spent fuel	Package 10 naval spent fuel
storage.	canisters per year.	canisters per year.
Provide equipment to temporarily store	Storage for 126 full-length	Storage for 408 aircraft carrier
naval spent nuclear fuel in the water	NIMITZ Class aircraft carrier	and submarine spent nuclear fuel
pool.	spent nuclear fuel modules.	modules.
Provide equipment to manage remote-		
handled low-level waste generated	Package and ship 9 remote-	Package and ship 20 remote-
from receiving, unloading, preparing,	handled low level waste	handled low level waste canisters
and packaging spent nuclear fuel.	canisters per year.	per year.

3. Financial	Schedule	(\$K) ab
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	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
Prior Years	N/A	N/A	332,288
Total, Design	N/A	N/A	332,288
Construction			
Prior Years	N/A	N/A	786,231
FY 2024	N/A	N/A	298,692
FY 2025	N/A	N/A	579,930
FY 2026	N/A	N/A	926,383
Outyears	N/A	N/A	1,422,619
Total, Construction	N/A	N/A	4,013,854
Total Estimated Costs (TEC)			
Prior Years	N/A	N/A	1,118,519
FY 2024	N/A	N/A	298,692
FY 2025	N/A	N/A	579,930
FY 2026	N/A	N/A	926,383
Outyears	N/A	N/A	1,422,619
Total, TEC	N/A	N/A	4,346,143
Other Project Cost (OPC)			
Prior Years	N/A	N/A	149,982
FY 2024	N/A	N/A	1,791
FY 2025	N/A	N/A	3,016
FY 2026	N/A	N/A	3,991
Outyears	N/A	N/A	28,077
Total, OPC	N/A	N/A	186,857

^a Due to the Consolidated and Further Continuing Appropriations Act, 2015, the TEC and OPC appropriations/obligations for FY 2015 and beyond are combined into the TPC appropriations/obligations. ^b Totals may not add due to rounding.

Naval Reactors/Construction

	Budget Authority (Appropriations)	Obligations	Costs
Total Project Costs (TPC)			
Prior Years	2,307,098	2,307,098	1,268,501
FY 2024	199,300	199,300	300,483
FY 2025	199,300	199,300	582,945
FY 2026	526,000	526,000	930,375
Outyears	1,301,302	1,301,302	1,450,696
Total, TPC	4,533,000	4,533,000	4,533,000

4. Details of Project Cost Estimate (\$K)

	Current Total Estimateª	Previous Total Estimateª	Original Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	332,288	332,288	300,789
Contingency	0	0	1,700
Total, Design	332,288	332,288	302,489
Construction			
Long Lead Material and Site			
Preparation	57,010	57,010	41,148
Spent Fuel Handling Equipment	288,599	263,052	215,454
Facility Construction	3,385,539	1,994,826	845,841
Contingency	282,707	176,450	107,468
Total, Construction ^a	4,013,854	2,491,339	1,209,911
Total Estimated Cost	4,346,143	2,823,627	1,512,400
Contingency, TEC	282,707	176,450	109,168
Other Project Cost (OPC)			
Conceptual Planning	37,540	37,540	37,540
Conceptual Design	99,427	99,427	99,427
Start-up	28,445	19,561	26,273
Other (e.g., EIS, Project Reviews)	17,445	19,645	7,301
Contingency	4,000	200	3,559
Total, OPC	186,857	176,373	174,100
Contingency, OPC	4,000	200	3,559
Total Project Cost	4,533,000	3,000,000	1,686,500
Total, Contingency (TEC+OPC)	286,707	176,650	112,727

^a Totals may not add due to rounding.

Naval Reactors/Construction 14-D-901, Spent Fuel Handling Recapitalization Project Naval Reactors Facility, Idaho

5. <u>Schedule of Appropriation Requests (\$K)</u>

Request Year	Туре	Prior Years	FY 2025	FY 2026	Outyears	Total
	TEC	1,286,500	0	0	0	1,286,500
FY 2014	OPC	165,000	0	0	0	165,000
	TPC	1,451,500	0	0	0	1,451,500
	TEC	1,286,500	0	0	0	1,286,500
FY 2015	OPC	165,000	0	0	0	165,000
	TPC	1,451,500	0	0	0	1,451,500
=) (0.0 / 5	TEC	1,407,900	0	0	0	1,407,900
FY 2015 Rev	OPC	174,600	3,600	0	0	178,200
i i i i i i i i i i i i i i i i i i i	TPC	1,582,500	3,600	0	0	1,586,100
	TEC	1,431,200	19,700	0	0	1,450,900
FY 2016	OPC	181,300	10,300	4,000	0	195,600
	TPC	1,612,500	30,000	4,000	0	1,646,500
	TEC	1,448,800	23,600	0	0	1,472,400
FY 2017	OPC	164,100	6,200	3,800	0	174,100
	TPC	1,580,000	29,800	3,800	0	1,646,500
	TEC	1,448,800	23,600	0	0	1,472,400
FY 2018	OPC	164,100	6,200	3,800	0	174,100
	TPC	1,612,900	29,800	3,800	0	1,646,500
	TEC	N/A	N/A	N/A	N/A	1,472,400
FY 2019	OPC	N/A	N/A	N/A	N/A	174,100
	TPC	1,612,900	29,800	3,800	0	1,646,500
51	TEC	N/A	N/A	N/A	N/A	1,472,000
FY 2020	OPC	N/A	N/A	N/A	N/A	174,100
2020	TPC	1,612,900	29,800	3,800	0	1,686,500
	TEC	N/A	N/A	N/A	N/A	1,886,000
FY 2021	OPC	N/A	N/A	N/A	N/A	174,000
	TPC	1,720,600	13,100	3,800	0	2,060,000
	TEC	N/A	N/A	N/A	N/A	1,886,000
FY 2022	OPC	N/A	N/A	N/A	N/A	174,000
	TPC	2,043,100	16,900	0	0	2,060,000
	TEC	N/A	N/A	N/A	N/A	2,159,000
FY 2023	OPC	N/A	N/A	N/A	N/A	174,000
	TPC	2,367,395	16,900	0	0	2,333,000
	TEC	N/A	N/A	N/A	N/A	2,823,627
FY 2024	OPC	N/A	N/A	N/A	N/A	176,373
	TPC	2,506,398	292,002	176,000	25,600	3,000,000
FY 2025	TEC	N/A	N/A	N/A	N/A	2,823,627

Naval Reactors/Construction 14-D-901, Spent Fuel Handling Recapitalization Project Naval Reactors Facility, Idaho

Request Year	Туре	Prior Years	FY 2025	FY 2026	Outyears	Total
	OPC	N/A	N/A	N/A	N/A	176,373
	TPC	2,506,398	292,002	280,968	432,676	3,000,000ª
	TEC	N/A	N/A	N/A	N/A	4,346,143
FY 2026	OPC	N/A	N/A	N/A	N/A	186,857
	TPC	2,506,398	199,300	526,000	1,301,302	4,533,000

6. Related Operations and Maintenance Funding Requirements

Start of Operation of Beneficial Occupancy	
Expected Useful Life	
Expected Future Start of D&D	

Related Funding Requirements^b

(Budget Authority in \$K)					
	Annual Costs		Life Cycle Costs		
	Previous Total	Current Total	Previous Total	Current Total	
	Estimate	Estimate	Estimate	Estimate	
Operations and Maintenance	166	114,642	6,656	4,585,687	
Transition to Operations and Future	n/a	n/a	n/a	532,038	
Installation					

The Operations and Maintenance costs include the recurring costs to operate the Naval Spent Fuel Handling Facility, including the costs to receive, unload, prepare, and package naval spent nuclear fuel and the costs to maintain and refurbish facility systems. The Transition to Operations and Future Installation costs include one-time costs to expand the capabilities of the facility and to transition the facility to a fully operational status including checkout, training, and qualification of work teams.

7. D&D Information

The new area being constructed in this project is replacing existing facilities. However, spent fuel handling operations in the existing Expended Core Facility will overlap with operations in the new Naval Spent Fuel Handling Facility for a period of 5 to 12 years, and examination operations in the existing Expended Core Facility will continue for the foreseeable future; therefore, the costs associated with D&D of the Expended Core Facility are not included in the costs cited for the Spent Fuel Handling Recapitalization Project.

Naval Reactors/Construction

14-D-901, Spent Fuel Handling Recapitalization Project

Naval Reactors Facility, Idaho

1Q FY 2031 40 years 1Q FY 2071

^a Outyears included preliminary budget increases in anticipation of Performance Baseline Revision 4, but the TPC remained at \$3B. Accordingly, the FY totals do not sum to the TPC.

^b The previous operations and maintenance estimates did not reflect all operational costs for the facility. The total operations and maintenance estimates have been reconstructed to be comprehensive and in line with best practices, consistent with long range budget predictions for facility costs.

	Square Feet
New area being constructed by this Project at the Naval Reactors Facility	213,000
Area of D&D in this Project at the Naval Reactors Facility	0
Area at the Naval Reactors Facility to be transferred, sold, and/or D&D outside the project including area previously "banked"	0
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	0

8. Acquisition Approach

The integrated Management & Operating (M&O) prime partners will plan and execute the Spent Fuel Handling Recapitalization Project in accordance with requirements. Naval spent nuclear fuel handling equipment will be procured through the procurement M&O partners. An Engineering, Procurement, and Construction Management (EPCM) firm was selected as the subcontracting strategy for design and construction management of the facility and facility systems. A 2019 amendment to the EPCM's contract changed the contract type from cost plus fixed fee to cost plus fixed fee—completion, reflecting the maturing design and the improved certainty in Project costs and schedules. Long-lead materials were purchased, and site preparation work was performed ahead of CD-2/3.