DOE/CF-0225
Volume 3

Department of Energy

FY 2027

Congressional Justification

Cybersecurity, Energy Security, and Emergency Response
Hydrocarbons and Geothermal Energy
Office Petroleum Reserves Accounts
Nuclear Energy
Nuclear Waste Disposal
Electricity
Baseload Power
Energy Dominance Financing
Indian Energy Policy and Programs
Power Marketing Administrations

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DEPARTMENT OF ENERGY
Appropriation Summary
FY 2027
($K)

	FY 2025 Enacted[1]	FY 2026 Enacted[2,3]	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Department of Energy Budget by Appropriation					
Critical Minerals and Energy Innovation	3,098,341	1,883,250	1,121,742	-761,508	-40 %
Electricity	339,750	259,750	203,477	-56,273	-22 %
Baseload Power[4]	—	—	3,500,000	+3,500,000	N/A
Cybersecurity, Energy Security and Emergency Response	200,000	190,000	160,173	-29,827	-16%
Nuclear Energy (270)	1,525,000	1,525,000	1,373,735	-151,265	-10%
Hydrocarbons and Geothermal Energy Office	1,226,909	647,000	676,042	+29,042	+4%
Strategic Petroleum Reserve	213,390	206,325	295,102	+88,777	+43%
Naval Petroleum and Oil Shale Reserves	13,010	13,000	13,000	—	-
SPR Petroleum Account	100	100	100	—	-
Northeast Home Heating Oil Reserve	7,150	7,150	3,575	-3,575	-50%
Total, Petroleum Reserve Accounts	**233,650**	**226,575**	**311,777**	**+85,202**	**+38%**
Uranium Enrichment Decontamination and Decommissioning (UED&D)	855,000	865,000	854,583	-10,417	-1%
Energy Information Administration	135,000	135,000	135,370	+370	-
Non-Defense Environmental Cleanup	342,000	322,371	338,490	+16,119	+5 %
Science	8,240,000	8,250,000	7,138,815	-1,111,185	-13 %
Artificial Intelligence and Quantum[5]	—	—	1,200,000	+1,200,000	N/A
Office of Fusion	—	—	10,000	+10,000	N/A
Office of Technology Commercialization	20,000	—	26,555	+26,555	N/A
Office of Clean Energy Demonstrations	50,000	—	—	—	N/A
Advanced Research Projects Agency - Energy	460,000	350,000	200,292	-149,708	-43%
Nuclear Waste Disposal Fund	12,040	12,040	12,040	—	-
Departmental Administration	286,500	200,000	288,889	+88,889	+44%
Indian Energy Policy and Programs	70,000	75,000	50,038	-24,962	-33%
Inspector General	86,000	90,000	77,400	-12,600	-14%

[1] Funding does not reflect the mandated transfer of $92.8 million in FY 2025 to the Office of Nuclear Energy for operation of the Advanced Test Reactor. Comparisons throughout the document also exclude the mandated transfer.
[2] Funding does not reflect the mandated transfer of $96.7 million in FY 2026 to the Office Nuclear Energy for operation of the Advanced Test Reactor. Comparisons throughout the document also exclude the mandated transfer.
[3] Funding does not reflect the estimated $20 million in FY 2026 collections to the American Energy Independence Fund. Comparisons throughout the document also exclude these collections.
[4] The FY 2027 Request for Baseload Power repurposes prior year unobligated IIJA funding.
[5] The FY 2027 Request for AIQ repurposes prior year unobligated IIJA funding.

($K)

	FY 2025 Enacted[1]	FY 2026 Enacted[2,3]	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Title 17 Innovative Technology Loan Guarantee Program	-29,140	-56,753	179,588	+236,341	+416%
Advanced Technology Vehicles Manufacturing Loan Program	13,000	9,500	9,500	—	-
Tribal Energy Loan Guarantee Program	6,300	6,300	2,000	-4,300	-68%
Total, Energy Dominance Financing	**-9,840**	**-40,953**	**191,088**	**+232,041**	**+567%**
Energy Projects	—	97,557	—	-97,557	-100%
Office of Strategy & Technology Roadmaps	—	—	3,000	+3,000	N/A
Total, Energy Programs	**17,170,350**	**15,087,590**	**17,873,506**	**+2,785,916**	**+18%**
Weapons Activities[1]	19,293,000	20,378,000	27,441,159	+7,063,159	+35%
Defense Nuclear Nonproliferation	2,396,000	2,367,000	2,389,595	+22,595	+1%
Naval Reactors	1,946,000	2,134,000	2,393,692	+259,692	+12%
Federal Salaries and Expenses	500,000	525,000	577,097	+52,097	+10%
Total, National Nuclear Security Administration	**24,135,000**	**25,404,000**	**32,801,543**	**+7,397,543**	**+29%**
Defense Environmental Cleanup	7,285,000	7,375,000	6,983,318	-391,682	-5%
Other Defense Activities	1,107,000	1,170,000	1,184,721	+14,721	+1%
Defense Uranium Enrichment D&D	285,000	—	253,000	+253,000	N/A
Total, Environmental and Other Defense Activities	**8,677,000**	**8,545,000**	**8,421,039**	**-123,961**	**-1%**
Nuclear Energy (050)	160,000	160,000	160,000	—	-
Total, Atomic Energy Defense Activities	**32,972,000**	**34,109,000**	**41,382,582**	**+7,273,582**	**+21%**
Southeastern Power Administration	—	—	—	—	N/A
Southwestern Power Administration	11,440	10,400	10,400	—	-
Western Area Power Administration	99,872	63,372	63,388	+16	-
Falcon and Amistad Operating and Maintenance Fund	228	228	228	—	-
Total, Power Marketing Administrations	**111,540**	**74,000**	**74,016**	**+16**	**-**
Federal Energy Regulatory Commission	—	—	—	—	N/A
Total, Energy and Water Development and Related Agencies	**50,253,890**	**49,270,590**	**59,330,104**	**+10,059,514**	**+20%**
Excess Fees and Recoveries, FERC	-9,000	-9,000	-9,000	—	-
Title XVII Loan Guar. Prog Section 1703 Negative Credit Subsidy Receipt	-15,739	-157,063	-355,127	-198,064	-126%
UED&D Fund Offset	-285,000	—	-253,000	-253,000	N/A
Sale of Northeast Home Heating Oil Reserve	—	—	-100,000	-100,000	N/A
Repurposed IIJA Funding	—	—	-4,700,000	-4,700,000	N/A
Total Funding by Appropriation	**49,944,151**	**49,104,527**	**53,912,977**	**+4,808,450**	**+10%**
Total Discretionary Funding	*49,944,151*	*49,104,527*	*53,912,977*	*+4,808,450*	*+10%*

[1] P.L. 119-21 (Working Families Tax Cut Act, or WFTC) provided $3,885,000,000 in funding to DOE/NNSA.

($K)

	FY 2025 Enacted[1]	FY 2026 Enacted[2,3]	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
DOE Budget Function	**49,944,151**	**49,104,527**	**53,912,977**	**+4,808,450**	**+10%**
NNSA Defense (050) Total	24,135,000	25,404,000	32,801,543	+7,397,543	+29 %
Non-NNSA Defense (050) Total	8,837,000	8,705,000	8,581,039	-123,961	-1 %
Defense (050)	**32,972,000**	**34,109,000**	**41,382,582**	**+7,273,582**	**+21%**
Science (250)	8,240,000	8,250,000	8,348,815	+98,815	+1 %
Energy (270)	8,732,151	6,745,527	4,181,580	-2,563,947	-38 %
Non-Defense (Non-050)	**16,972,151**	**14,995,527**	**12,530,395**	**-2,465,132**	**-16%**

Cybersecurity, Energy Security, and Emergency Response

Cybersecurity, Energy Security, and Emergency Response
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
200,000	190,000	160,173	-29,827

Proposed Appropriation Language

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for energy sector cybersecurity, energy security, and emergency response 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, $160,173,000, to remain available until expended: Provided, that of such amount, $24,173,000 shall be available until September 30, 2029, for program direction.

Mission

The security and resilience of the energy sector is essential to America's energy dominance and national security. While the federal government has designated energy as one of sixteen critical infrastructure sectors, the energy sector is unique in it enables every other critical infrastructure sector, including the defense industrial base. The energy sector is confronted with a continuously evolving threat landscape, growing energy demand, and rapid technological advancements. The security of our energy systems is not only vital to our national economic security and military readiness, but also crucial for United States. competitiveness in emerging fields such as artificial intelligence (AI), which require energy infrastructure that must be resilient and secure. The U.S. Department of Energy (DOE) Office of Cybersecurity, Energy Security, and Emergency Response (CESER) strengthens the security and resilience of America's energy sector by detecting, identifying, analyzing, mitigating, countering, and responding to U.S. energy sector threats and emergencies through wide-ranging programs, activities, and collaborations with industry and state, local, tribal, and territorial (SLTT) entities.

The Secretary of Energy delegated CESER the statutory authority to represent the U.S. government (USG) and act on behalf of DOE as the Sector Risk Management Agency (SRMA), formerly the Sector Specific Agency, for the energy sector per the 2015 Fixing America's Surface Transportation Act and the 2002 Homeland Security Act (as amended). CESER also fulfills the Department's responsibilities as the lead agency for Emergency Support Function #12 (Energy), or ESF #12, under the National Response Framework.

Accordingly, CESER is responsible for enabling U.S. energy critical infrastructure protection through threat analysis, incident response, infrastructure hardening, and technology development. CESER also exercises delegated authority for energy sector emergency preparedness, response, and recovery under the Stafford Act, for energy national security under the Defense Production Act (as amended), and for emergency relief orders under the Federal Power Act (as amended), among other delegations. Through integrated planning, CESER has also developed a comprehensive set of federal programs and deploys subject matter experts to assess and manage critical events caused by severe weather, wildfires, earthquakes, cyber and physical security breaches, electromagnetic interference, and supply chain interruptions.

Overview

CESER is at the forefront of transformations shaping the energy sector, including growing energy demand, the rapid construction of data centers, and the evolution of AI technologies. To build the energy infrastructure necessary to support the growing energy demand, resilience and security must be prioritized. Likewise, CESER

will develop an overarching program called Project ARMOR (Advanced Resilience Measures for Operational Readiness) to harden and secure energy infrastructure servicing critical defense facilities. Given the rapidly evolving threat and technology landscape, CESER programs adapt to ever more sophisticated threats affecting critical infrastructure and supply chains. For example, CESER experts advise and assist industry and SLTTs in replacing outmoded systems and aging architectures with practical, advanced technologies and security measures. Consistent with delegated authorities, CESER conducts energy sector risk analysis relevant to owners and operators; provides technical assistance to federal and SLTT partners on security, risk management, and resilience plans; performs wide-ranging exercises and training; and supports cybersecurity and energy resilience workforce development.

In collaboration with DOE National Laboratories and industry experts, CESER designs and deploys new technologies and engages with USG-industry energy sector councils on electricity, as well as oil and natural gas, to ensure the security of new systems, applications, and components. CESER executes on all facets of its mission through enduring constructive partnerships with industry owners and operators, SLTT entities, USG agencies, U.S. manufacturers, academic institutions, and international counterparts.

Accordingly, the FY 2027 budget request for CESER focuses on the following priorities:

- **Harden and Secure Defense Critical Energy Infrastructure (DCEI) through Project ARMOR**: Activities include conducting vulnerability assessments, implementing security upgrades, and enhancing measures to protect civilian energy assets and systems from a range of advanced threats. Project ARMOR accelerates resilience improvements to maintain energy availability from civilian energy infrastructure for identified critical defense facilities nation-wide.
- **Bolster Energy Dominance through Energy Infrastructure Security and Resilience:** These investments at DOE's National Laboratories, private sector research partners, and others are in alignment with administration efforts to build a resilient and secure energy sector. Activities support the development of AI tools and ensure the secure and resilient grid integration of large electric loads, which include data centers. CESER will prioritize projects that implement Cyber-Informed Engineering principles to integrate security considerations into the concept, design, development, and operation of cyber-physical systems.
- **Mature the Energy Threat Analysis Center (ETAC):** The ETAC will continue to mature its capabilities, focused on leveraging insights from energy sector owners and operators, the DOE National Laboratories, and the Intelligence Community. The partners share knowledge and best practices, identify risks and threats to critical energy infrastructure, and develop mitigation strategies and technical advisories that help energy owners and operators protect their systems from adversaries. As foreign adversaries increasingly view energy infrastructure as a strategic target, ETAC plays a pivotal role in national security by providing near real-time intelligence and predictive threat analysis.
- **Counter Cyber Threats to Energy Systems and Build AI-FORTS:** Continue enhancing efforts to detect, respond, recover, and mitigate cyber threats from nation-state adversaries and cyber criminals targeting U.S. energy infrastructure. Strengthen partnerships with the intelligence community and private sector to share risk information and develop proactive defense strategies. Support the AI-FORTS program (Artificial Intelligence for Operationally Resilient Technologies and Systems), which will use AI to develop defensive cyber technologies, implement active defense measures to disrupt, deter, and recover from cyber attacks, and characterize and counter AI-enabled offensive cyber capabilities from threat actors.
- **Secure the Energy Supply Chain from Foreign Adversaries:** Implement measures to secure the energy supply chain from foreign adversaries and mitigate vulnerabilities to supply chain security. This includes screening domestic and foreign equipment used in U.S. energy infrastructure, with an emphasis on equipment from countries that pose a national security risk. The goal is to ensure that the energy supply chain is resilient and secure against potential disruptions.

- **Enhance Emergency Response Capabilities for Energy Disruptions:** Strengthen CESER's ability to respond to hazards impacting the energy sector, including natural disasters, cyber attacks, and physical threats. Enhance coordination with SLTT entities and industry partners to ensure a swift and effective response to energy disruptions. This includes developing operate-through-compromise plans for various energy emergencies.

Cybersecurity, Energy Security, and Emergency Response
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Policy, Preparedness, and Risk Analysis	26,500	26,500	-	-26,500	-100%
Risk Management Technology and Tools	113,000	109,500	-	-109,500	-100%
Response and Restoration	32,500	30,000	-	-30,000	-100%
Threat Analysis and Incident Response	-	-	39,000	+39,000	+100%
Infrastructure Hardening and Technology Development	-	-	97,000	+97,000	+100%
Program Direction	28,000	24,000	24,173	+173	+1%
Total, Cybersecurity, Energy Security, and Emergency Response	**200,000**	**190,000**	**160,173**	**-29,827**	**-16%**

FY 2026 Enacted Comparability Matrix ($K)

	FY 2027 Budget Structure			
	Threat Analysis and Incident Response	**Infrastructure Hardening and Technology Development**	**Program Direction**	**Total**
FY 2026 Budget Structure				
Policy, Preparedness, and Risk Analysis	4,862	21,638	-	26,500
Risk Management Technology and Tools	3,120	106,380	-	109,500
Response and Restoration	30,000		-	30,000
Program Direction	-	-	24,000	24,000
Total, Cybersecurity, Energy Security, and Emergency Response	**37,982**	**128,018**	**24,000**	**190,000**

FY 2027 Request Comparability Matrix ($K)

	FY 2027 Budget Structure			
	Threat Analysis and Incident Response	**Infrastructure Hardening and Technology Development**	**Program Direction**	**Total**
FY 2026 Budget Structure				
Policy, Preparedness, and Risk Analysis	8,000	20,000	-	28,000
Risk Management Technology and Tools	7,000	77,000	-	84,000
Response and Restoration	24,000	-	-	24,000
Program Direction	-	-	24,173	24,173
Total, Cybersecurity, Energy Security, and Emergency Response	**39,000**	**97,000**	**24,173**	**160,173**

Infrastructure Hardening and Technology Development

Overview

The Infrastructure Hardening and Technology Development program develops cutting edge technologies to mitigate all-hazard threats and deploy them to harden critical energy infrastructure. Infrastructure Hardening focuses on assessing and fortifying critical energy infrastructure against cyber, physical, natural, and supply chain threats. Technology Development focuses on research and development (R&D) to address the most pressing cybersecurity, physical, natural. and supply chain threats in the energy sector, through collaboration with industry, DOE National Laboratories, academia, and other federal agencies.

IHTD focuses on:

- Enhancing the physical security, cybersecurity, and operational resilience of energy asset owners and operators critical to energy and national security. These organizations often face heightened risk because their customer base includes military, defense industrial base, and national security-related facilities.
- Providing direct support to energy asset owners and operators of critical energy infrastructure that have elevated security needs and must be equipped to address sophisticated threat profiles. Ultimately Project ARMOR aims to reduce the "negative externality" of increased risk from sophisticated threats.
- Mitigating supply chain risks to U.S. energy systems through the CyTRICS program by identifying high-priority ICS/OT components or systems and conducting cyber vulnerability and forensic analyses.
- Preparing the current and future energy sector workforce to counter sophisticated, all-hazards threats through specialized training.
- Ensuring the resilience of critical energy infrastructure by identifying vital functions and using an intelligence-driven approach to engineer out the most severe consequences of potential cyber incidents.
- Leveraging AI to significantly enhance the security and resilience of U.S. energy systems.
- Conducting cutting edge research into managing the risks from natural hazards and physical threats.

Infrastructure Hardening leads CESER's effort to harden the U.S. energy infrastructure against cyber, physical, natural, and supply chain threats. The FY 2027 budget request will advance infrastructure hardening activities by investing in resilience at energy utilities (electricity and oil and natural gas) that support critical national security facilities. Project ARMOR will execute targeted site assessments and hardening projects for critical energy partners whose customer bases include national-security organizations and civilians. Beyond the Department of War's (DOW's) traditional installation energy planning activities, and in coordination with the Department of Homeland Security (DHS) and DOW, CESER is performing comprehensive evaluations (outside fenceline) of energy security and resilience parameters to evaluate operational resilience under a variety of operational and national security conditions. Additionally, CESER's supply chain programs will proactively test and mitigate vulnerabilities in operational technology, conduct rapid OT risk assessments, and work directly with utilities and manufactures of OT equipment to advance the practice of supply chain risk management across the energy sector. These efforts are reinforced by advanced training and workforce development programs like CyberForce, which ensure the future energy sector has skilled personnel to defend against sophisticated cyber and physical threats.

Technology Development deploys innovative approaches and technologies to enhance the security and resilience of energy infrastructure. Working closely with the energy sector, academia, and National Laboratories, the FY 2027 request supports an economically competitive, secure, and resilient U.S. energy system. This funding streamlines research and development efforts to focus on enhancing critical infrastructure cybersecurity through AI-driven solutions and addressing the risks posed by natural and manmade hazards. This includes AI-FORTS (Artificial Intelligence for Operationally Resilient Technologies and Systems), an overarching program which uses AI to develop defensive cyber tools, characterize and counter AI-enabled offensive cyber capabilities from threat actors, and ensure the security of AI-based systems used in U.S. energy systems. The FY 2027 budget request furthers CESER's shift from more traditional cybersecurity R&D to

focused research on AI dominance and develop technologies and frameworks to enable energy companies to "operate through compromise" and maintain delivery of services. "Operate through compromise" in the energy sector acknowledges that despite robust security measures, a persistent adversary may eventually breach defenses, requiring organizations to develop strategies to maintain essential functions and resilience even when systems are partially or fully compromised. The FY 2027 budget request also continues critical research into natural and manmade hazards with an emphasis on cutting edge tools to support industry partners in addressing threats such as from wildfire and physical attacks on energy infrastructure.

Highlights of the FY 2027 Budget Request

Infrastructure Hardening ($70 million)
IH leads efforts to harden critical U.S. energy infrastructure against cyber, physical, natural, and supply chain threats.

In FY 2027, IH will concentrate on:

- Conducting 3-7 specialized site assessments for energy sector owners and operators that provide service to facilities that enable energy and national security missions. DOE performs these assessments in coordination with DHS and the DOW, as well as, the energy sector stakeholder.
- Enhancing the physical security, cybersecurity and operational resilience of energy asset owners and operators of critical energy infrastructure, vital to energy and national security mission. These organizations often face heightened security risks as a direct consequence of their national security role yet may lack the resources or capacity to address these risks independently. Providing hardening support to at least two energy asset owners and utility operators responsible for critical energy infrastructure.
- Providing tailored technical assistance and training to 30-40 critical utilities, including incident response exercises and enhanced threat information sharing, ensuring sustained defense against evolving cyber risks.
- Increasing testing capacity in the CyTRICS (Cybersecurity Testing for Resilient Industrial Control Systems) program by 10% annually, measured by a year-over-year increase in the number of critical equipment systems tested, through new partnerships and expanded engagement with industry and university research partners. Expanding partnerships with equipment manufacturers and asset owners/operators to support prioritization and provision of critical systems for testing, while maintaining DOE's ability to procure high-risk components as needed and leveraging these engagements to enhance industry supply chain risk management practices through improved data and insights.
- Enumerating and analyzing critical grid components to identify potential supply chain attack vectors that could manifest as system vulnerabilities and working directly with manufacturers and impacted stakeholders to develop and deploy rapid mitigations.
- Prioritizing new equipment manufacture and asset owner and operator partnerships to expand the range of equipment examined in CyTRICS with a greater focus on systems used in oil and natural gas and nuclear industries.
- Develop standardized frameworks that empower partners to make coordinated, risk-informed investments in grid resilience.
- Enhance the abilities of the energy sector workforce to prepare for cyber incidents impacting operational technology through the delivery of CyberStrike training; Train at least 200 public and private sector partners, develop and incorporate new training modules on defending against AI-enabled offensive cyber capabilities.
- Continue the OT Defender Fellowship program and expand the partnership with graduating Fellows by enhancing engagement with applicable CESER programs.
- Advance the awareness of the energy sector's need for a skilled cybersecurity workforce by conducting the CyberForce Program, to include an in-person cyber defense competition.

- Performing on-site risk assessments essential for fuel and electricity supply at DCEI, evaluating personnel, processes, and technologies to significantly reduce compromise consequences.
- Continuing collaboration with standards organizations to build CIE into the standards that guide the development and deployment of secure energy infrastructure.

Technology Development ($27 million)

TD investigates and develops technologies that make U.S. energy systems more resilient and secure.

In FY 2027, TD will concentrate on:

- Enhancing the AI-FORTS program to advance the development of next-generation artificial intelligence solutions.
- Leveraging the physics of energy delivery and applying advanced AI analytics to operational data to develop tools to detect and respond to anomalous cyber activities within industrial control systems and networks.
- Refining and pilot AI-powered tools that enable operation through compromise to ensure essential energy functions can continue—even in the presence of active cyber intrusions from Advanced Persistent Threats.
- Furthering development of cybersecurity AI testbeds, coupled with additional industry engagement to leverage the testbeds, to rigorously assess the security of AI deployments.
- Ensuring the security of AI-based systems used to operate, control or defend US energy systems.
- Advancing technology to manage risks from Natural Hazards, Physical Threats, and EMP/GMD.
- Developing technology to help identify, characterize, detect, and mitigate risks to energy infrastructure from extreme winter weather, seismic events, and hurricanes, allowing industry to more effectively prepare for and respond to incidents.
- Continuing research that enables the prevention, detection, and dynamic mitigation of growing wildfire risks, with a focus on developing and validating technologies that utilize real-life information to more accurately determine probable equipment and infrastructure failures.
- Advancing technologies to address physical attacks on energy infrastructure, such as substation shootings and the use of unmanned aerial systems (UAS).
- Conducting modeling studies to understand these hazards and developing innovative cost-effective mitigation options to mitigate risks from electromagnetic pulse (EMP) and geomagnetic disturbances (GMD).

Infrastructure Hardening and Technology Development (IHTD)
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
IHTD – Infrastructure Hardening			70,000
IHTD – Technology Development			27,000
Total, Infrastructure Hardening and Technology Development			**97,000**

Explanation of Changes for Infrastructure Hardening and Technology Development

The Infrastructure Hardening and Technology Development (IHTD) program incorporates programs from the Risk Management Technology and Tools Division and strategically aligns defense critical energy infrastructure and workforce development programs from the division formerly named Preparedness, Policy, and Risk Analysis. This change streamlines the CESER budget to align with the administration's priorities.

Infrastructure Hardening

- Increases hardening efforts to secure critical energy infrastructure against sophisticated threats and build system-wide resilience to ensure continuous energy availability for national defense missions.
- Advances the readiness of the energy sector's cybersecurity workforce through bespoke training programs informed by emerging risks and threats and brings awareness to build a pipeline for the future of the energy sector's cybersecurity workforce.
- Maintain emphasis on the mitigation of supply chain risks to high-priority ICS/OT systems by conducting cyber vulnerability and forensic analyses, and engineering out cyber risk by informing improvements in component design, manufacturing, and procurement practices.

Technology Development

- Refocuses research, development, and demonstration of multi-hazard risk mitigation tools to enhance the security and resilience of energy infrastructure and focus on critical risks and priorities.
- Streamlines resource allocation towards advancing AI, natural hazard, and physical security research, development, and implementation to bolster the resilience of owners and operators of critical energy assets.

Threat Analysis and Incident Response (TAIR)

Overview

The Threat Analysis and Incident Response (TAIR) program leverages insights from energy sector owners and operators, the Intelligence Community, and knowledge of the DOE National Laboratories to identify, characterize, and mitigate risks and threats to critical energy infrastructure. TAIR leads CESER's efforts to respond to incidents impacting the U.S. energy sector. The program delivers a range of capabilities to ensure effective restoration of energy systems, this includes leveraging information sharing platforms to provide near real-time situational awareness, facilitating waivers to accelerate restoration, enabling impact assessments, and deploying critical assets during a crisis to Federal, state, and private sector partners. Additionally, TAIR analyzes risks to develop mitigation strategies, issuing technical advisories to energy sector partners to protect their systems, builds capacity through technical assistance, and disseminate security best practices. TAIR strengthens critical energy infrastructure and community resilience by developing comprehensive, threat-informed exercises focusing on preparedness, resilience, and emergency response. These events focus on testing response plans by validating the entities' preparedness and readiness to respond to all risks, threats, and hazards. Overall, TAIR helps reduce the impact of current and future risks, thereby strengthening the energy sector security and resilience through threat analysis, risk assessments, proactive information sharing, and targeted exercises focused on increasing response efficiency and effectiveness.

TAIR focuses on:

- Leading the coordination of national efforts to restore U.S. energy infrastructure following disruptions (from cyber, physical, and natural), addressing impacts efficiently, and assisting industry and government partners with response, recovery and restoration activities.
- Continuing collaborative risk management activities with sector stakeholders to enable real, tangible risk reduction outcomes.
- Delivering timely and actionable analysis, recommendations, and mitigation strategies that address risks and threats to the energy sector.
- Strengthening threat information sharing mechanisms and advancing the sector's ability to proactively detect threat.
- Operationally collaborate with industry to deliver a common operating picture of threats.
- Supporting CESER's Sector Risk Management Agency (SRMA) mission by providing dedicated program management, logistical support, and targeted technical assistance to Electricity, Oil & Natural Gas Subsector.
- Conducting incident response exercises to strengthen the sector's capabilities and CESER's response and restoration capacity.
- Ensuring the effective restoration of energy systems from all-hazards through a range of capabilities.
- Executing DOE's emergency authorities for the energy sector.

Threat Analysis ($18.5 million) identifies, analyzes, and enables mitigation of threats to America's critical energy infrastructure through a variety of processes, procedures, and capabilities. Threat Analysis operates the Energy Threat Analysis Center (ETAC), an operational collaborative that convenes experts from DOE, and industry to collectively identify, analyze, and mitigate threats to energy infrastructure. ETAC integrates industry data, context, and expertise with government intelligence to enable timely and actionable information sharing to disrupt threats to the energy sector. CESER delivers threat information sharing technologies, such as Cybersecurity Risk Information Sharing Program (CRISP), ensuring that the energy sector remains resilient against evolving cyber threats by deploying sensors that monitor Information Technology (IT) networks. This program identifies, quantifies, and analyzes risks to develop mitigation strategies and issues technical advisories to energy sector partners to protect their systems. Threat Analysis also supports CESER's SRMA mission through dedicated program management and logistical support for seamless public-private coordination within

the Electricity and Oil and Natural Gas sectors to advance the security of our nation's energy infrastructure.

Incident Response ($20.5 million) develops plans and deploys to help respond to and recover from incidents that cause a significant energy sector disruption. CESER prepares for and responds to disruptive incidents to include both Stafford Act and non-Stafford Act disasters. In addition to responding to incidents in the sector, CESER supports preparation and safety around National Special Security Events, as well as contributes manpower to the FEMA Surge Capacity Force. DOE's Energy Response Organization (ERO), led and managed by CESER, activates energy sector response efforts, shares critical information, provides subject matter expertise and technical assistance to Federal and SLTT government partners and industry stakeholders. When deployed, DOE's responder cadre conducts damage assessments, assists with restoration planning, and provides technical assistance to states and industry partners. Additionally, this division also carries out DOE's emergency authorities for the energy sector. These authorities include Federal Power Act section 202(c), as well as Grid Security Emergency under Federal Power Act section 215(a). CESER's exercises program creates real world scenarios to test an entity's response to emerging threats and risks, leveraging testbeds to closely resemble real world environments and complexity; therefore, enhancing the sector's response capabilities and capacity.
In FY 2027, CESER will continue to refine tools for the rapid analysis of novel threats and focused technical assistance for industry partners, designed to address the unique complexities of the energy sector. CESER will maintain its situational awareness, analysis, and technical capabilities to provide near continuous monitoring and analysis of incidents impacting, or potentially impacting, the U.S. energy sector. This includes but is not limited to maintaining the EAGLE-I platform. In FY 2027, EAGLE-I will be focused on expanding the eligible user base, refining data sources and improving data quality.

Highlights of the FY 2027 Budget Request

Threat Analysis ($18.5 million)
Threat Analysis (TA) identifies, analyzes, and enables mitigation of threats to America's critical energy infrastructure through a variety of processes, procedures, and capabilities. In FY 2027, TA will concentrate on:

- Continuing to modernize the Cyber Risk Information Sharing Program (CRISP) sensors and architecture, enabling the collection of a wider range of data types, including cloud telemetry, as well as improving automated reporting capabilities.
- Continuing to conduct high-quality analysis of complex risks and cyber threats to critical energy infrastructure and disseminating effective mitigations through a portfolio of analytic products tailored to the unique needs of the energy sector.
- Developing and deploying analytic tools to improve the detection of malicious cyber activity in energy networks.
- Tracking and mitigating a broad spectrum of AI-enabled cyber-attacks.
- Continuing to refine tools and capabilities for the rapid analysis of novel threats and focused technical assistance for industry partners, designed to address the unique complexities of the energy sector.
- Outfitting the ETAC facility with secure information technology connections to protect government data holdings and enable robust, collaborative analysis across government and industry ETAC partners.
- Supporting CESER's SRMA mission by providing dedicated program management and logistical support to the Electricity and Oil and Natural gas sectors for seamless public-private coordination on energy security and resilience policy
- Developing and finalizing a comprehensive National Energy Sector Risk Register to systematically catalog and grade all-hazard threats across the energy sector, including supply chain vulnerabilities, interdependencies, and AI-enabled adversaries.
- Providing strategic risk insights and illumination of threats that could have impacts to all stakeholders by developing and disseminating a portfolio of analytical products through the Analysis of Risk in the Energy Sector (ARES) activity.

Incident Response ($20.5 million)

Incident Response (IR) coordinates federal response to restore energy during disruptions, deploys responders and technical experts to disaster sites, coordinates restoration efforts, and manages exercises to evaluate response, recovery and emergency procedures.

In FY 2027, IR will concentrate on:

- Delivering risk-informed, regionally focused support to help states and industry better prepare for and respond to region-specific threats.
- Continuing to train and coordinate a DOE responder cadre of volunteer responders from across DOE to deploy virtually or physically to affected regions during disasters.
- Modernize training methods for the DOE Responder cadre, Catastrophic Incident Response Team though self-paced online training accompanied with hands-on exercises and technical instructor lead courses.
- Continue efforts to increase efficiencies to support energy sector emergency response and essential logistics, finance, and administration activities.
- Building regional capabilities and teams that will work directly with states and regions delivering subject matter expertise on emergency response, to participate in and conduct joint exercises and training with the SLTT and industry stakeholders as Regional Energy Advisors with the support of regional coordinators to strengthen DOE's partnerships with the energy sector.
- Delivering readiness exercises (Clear Path, Liberty Eclipse, Rogue Intrusion) that focus on the response and restoration missions leveraging realistic and complex scenarios, influenced by trusted classified and unclassified reports and sources, that include emerging physical security, cybersecurity, supply chain integrity, and defense critical electric infrastructure threats and risks.
- Maintaining situational awareness, analysis, and technical capabilities efforts to provide near continuous monitoring and analysis of incidents impacting, or potentially impacting, the U.S. energy sector.
- Continuing vulnerability analysis of key infrastructure and locations to support rapid response, contingency planning, and coordination with partners, including the industry and the Department of War.
- Enhancing CESER's incident and emergency response capabilities within the sector, while simultaneously addressing resource adequacy and energy emergency directives as outlined in Executive Order 14156 by leveraging the Federal Power Act.
- Utilizing and maintaining the EAGLE-I platform, expanding the eligible user base, refining data sources and improving data quality.

CESER will continue to administer delegated DOE emergency authorities, including the Federal Power Act, Defense Production Act, Jones Act, and concurrence on energy-related actions managed by other Departments and Agencies, such as the Environmental Protection Agency, Department of Transportation, and Department of Homeland Security.

Threat Analysis and Incident Response (TAIR)
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
TAIR - Threat Analysis	-	-	18,500
TAIR - Incident Response	-	-	20,500
Total, Threat Analysis and Incident Response			**39,000**

Explanation of Changes for Threat Analysis and Incident Response

The Threat Analysis and Incident Response (TAIR) program incorporates programs from the Response and Restoration Division and strategically aligns preparedness and risk analysis activities from the divisions formerly named Preparedness, Policy, and Risk Analysis. This change streamlines the CESER budget to align with the administration's strategic priorities, consolidates similar readiness programs, demonstrating a logical progression from identified and analyzed risk to the development of tailored readiness efforts and the deployment of prepared response personnel.

Threat Analysis

- Continues support to Energy Threat Analysis Center to support administration priorities and focus on maximizing existing tools and equipment, with limited development of new tools.

Incident Response

- Operations will enhance training delivery methods to ensure courses are both effective and efficient, with a focus on prioritized risks.
- Expand the EAGLE-I eligible user base, refine data sources and improve data quality to further support Federal and state stakeholders.
- Enhances CESER's incident and emergency response capabilities within the sector, while simultaneously addressing resource adequacy and energy emergency directives as outlined in Executive Order 14156 by leveraging the Federal Power Act.

Program Direction (PD)

Overview

Salaries and Benefits support federal employees who provide executive management, programmatic oversight, and analysis for the effective implementation of the CESER program. This includes personnel at Headquarters in the National Capital Region and the National Energy Technology Laboratory (NETL) in West Virginia. While CESER funds NETL technical personnel within this budget, the salaries and benefits of NETL Federal employees are included within the full-time equivalent (FTE) total of the DOE Fossil Energy Research and Development account.

CESER's staffing efforts continue to focus on building core capabilities and partnerships with industry. As the energy sector SRMA, CESER continues to focus on infrastructure hardening, training, technical assistance, workforce development, SLTT support, risk analysis of cybersecurity, physical, and natural hazard risks, emergency response activities, long-term recovery efforts across the department and interagency.

Travel includes transportation, per diem, and incidental expenses allowing CESER to effectively deliver on its mission.

Support Services include contractor support to perform administrative and analytical tasks in support of CESER's mission. In addition, support services include assistance with communications and outreach to enhance external communications and engagement with the energy sector and other CESER stakeholders.

Other Related Expenses include DOE's Working Capital Fund support, Energy Information Technology Services (EITS), minor construction, equipment purchases, upgrades, and replacements, office furniture, commercial credit card purchases, general and advanced training, security clearances, and other miscellaneous expenditures.

Highlights of the FY 2027 Budget Request

This budget request accounts for essential personnel needed to execute CESER's national security and energy security mission that is focused on significant and increasing cyber, physical, and weather-based threats that face the U.S. energy system. The FY 2027 request ensures the Department has a strong federal team to manage these threats, and working in partnership with electricity, oil, and natural gas owners and operators, SLTT community, interagency partners, and other federal agencies to provide a secure and resilient energy sector for Americans.

Program Direction
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Salaries and Benefits	17,045	15,037	15,037
Travel	400	380	380
Support Services	4,016	3,168	3,168
Other Related Expenses	2,739	2,603	2,762
Total, Washington Headquarters	**24,200**	**21,188**	**21,347**
Salaries and Benefits	2,000	1,468	1,468
Travel	115	20	20
Support Services	450	349	349
Other Related Expenses	1,235	975	989
Total, National Energy Technology Laboratory	**3,800**	**2,812**	**2,826**
Salaries and Benefits	19,045	16,505	16,505
Travel	515	400	400
Support Services	4,466	3,517	3,517
Other Related Expenses	3,974	3,578	3,751
Total, Program Direction	**28,000**	**24,000**	**24,173**
Technical Support	3,828	2,749	2,749
Management Support	638	768	768
Total, Support Services	**4,466**	**3,517**	**3,517**
Other Services	200	159	159
EITS Desktop Services	866	1,000	1,000
WCF	2,908	2,419	2,592
Total, Other Related Expenses	**3,974**	**3,578**	**3,751**
Federal FTEs	62	58	58
Additional HGEO FTEs at NETL supporting CESER[1]	11	9	9
Total CESER-funded FTEs	**73**	**67**	**67**

[1] CESER funds FTEs at Hydrocarbon and Geothermal Energy Office (HGEO)'s National Energy Technology Laboratory who support CESER activities. These 9 FTEs are in HGEO's FTE totals and are not included in the CESER FTE totals shown on the "Federal FTEs" line.

Program Direction
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Program Direction		
24,000	**24,173**	**+173**
Salaries and Benefits		
16,505	*16,505*	-
Supports 58 FTEs at HQ and 9 FTEs at NETL that provide executive management, programmatic oversight, and analysis for the effective implementation of CESER programs.	Supports 58 FTEs at HQ and 9 FTEs at NETL that provide executive management, programmatic oversight, and analysis for the effective implementation of CESER programs.	Maintains steady rate of FTEs at HQ and NETL in alignment with the program activities.
Travel		
400	*400*	-
Includes transportation, subsistence, and incidental expenses that allow CESER staff to effectively facilitate its mission and oversee the portfolio.	Includes transportation, subsistence, and incidental expenses that allow CESER staff to effectively facilitate its mission and oversee the portfolio.	Increased technological capabilities and decreased capacity in recent years have reduced travel needs slightly. Expect net zero change due to decreased travel but increasing travel expenses.
Support Services		
3,517	*3,517*	-
Support Services includes contractor support directed by the federal staff to provide analysis to management.	Support budget, acquisition, human resources, communications, business systems, and administrative support needs.	Maintaining federal staff is the priority. Any increases in support service rates would be offset by decreased scope, resulting in net zero change.
Other Related Expenses		
3,578	*3,751*	*+173*
Includes equipment upgrades and replacements, office furniture, minor construction, commercial credit card purchases using simplified acquisition procedures when possible, and miscellaneous expenditures.	Includes equipment upgrades and replacements, office furniture, minor construction, commercial credit card purchases using simplified acquisition procedures when possible, and miscellaneous expenditures.	Increased WCF and EITS costs.

DEPARTMENT OF ENERGY
Funding by Site Detail
Cybersecurity, Energy Security and Emergency Response (CESER) - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Argonne National Laboratory			
Risk Management Tools and Technologies (270)	700	2,355	1,163
Response and Restoration (270)	500	350	325
Preparedness, Policy, and Risk Analysis (270)	2,362	2,000	2,305
Total Argonne National Laboratory	**3,562**	**4,705**	**3,793**
Idaho National Laboratory			
Risk Management Tools and Technologies (270)	19,054	15,620	13,073
Response and Restoration (270)	1,900	1,100	1,141
Preparedness, Policy, and Risk Analysis (270)	3,130	3,800	3,661
Total Idaho National Laboratory	**24,084**	**20,520**	**17,875**
Lawrence Berkeley National Laboratory			
Risk Management Tools and Technologies (270)	400	1,500	724
Total Lawrence Berkeley National Laboratory	**400**	**1,500**	**724**
Lawrence Livermore National Laboratory			
Risk Management Tools and Technologies (270)	33,720	14,500	18,095
Response and Restoration (270)	4,610	3,240	2,998
Preparedness, Policy, and Risk Analysis (270)	4,424	5,050	5,005
Total Lawrence Livermore National Laboratory	**42,754**	**22,790**	**26,098**
Los Alamos National Laboratory			
Risk Management Tools and Technologies (270)	800	1,000	681
Total Los Alamos National Laboratory	**800**	**1,000**	**681**
National Energy Technology Lab			
Risk Management Tools and Technologies (270)	10,938	11,475	8,467
Response and Restoration (270)	3,123	1,952	1,934
Preparedness, Policy, and Risk Analysis (270)	1,161	2,000	1,670
Program Direction - CESER (270)	4,621	500	2,247
Total National Energy Technology Lab	**19,843**	**15,927**	**14,318**
National Laboratory of the Rockies			
Risk Management Tools and Technologies (270)	3,650	5,150	3,332
Response and Restoration (270)	1,528	608	807
Preparedness, Policy, and Risk Analysis (270)	1,015	1,200	1,170
Total National Laboratory of the Rockies	**6,193**	**6,958**	**5,309**
Oak Ridge National Laboratory			
Risk Management Tools and Technologies (270)	3,080	9,930	4,954
Response and Restoration (270)	9,500	12,210	8,392
Total Oak Ridge National Laboratory	**12,580**	**22,140**	**13,346**

DEPARTMENT OF ENERGY
Funding by Site Detail
Cybersecurity, Energy Security and Emergency Response (CESER) - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Pacific Northwest National Laboratory			
Risk Management Tools and Technologies (270)	11,835	14,450	9,941
Response and Restoration (270)	3,125	2,000	1,954
Preparedness, Policy, and Risk Analysis (270)	315	-	166
Total Pacific Northwest National Laboratory	**15,275**	**16,450**	**12,061**
Richland Operations Office			
Response and Restoration (270)	3,057	5,100	3,169
Preparedness, Policy, and Risk Analysis (270)	75	-	40
Total Richland Operations Office	**3,132**	**5,100**	**3,209**
Sandia National Laboratories			
Risk Management Tools and Technologies (270)	14,730	16,020	11,620
Response and Restoration (270)	-	530	212
Total Sandia National Laboratories	**14,730**	**16,550**	**11,832**
Washington Headquarters			
Risk Management Tools and Technologies (270)	14,093	17,500	11,950
Response and Restoration (270)	5,157	2,910	3,068
Preparedness, Policy, and Risk Analysis (270)	14,018	12,450	13,983
Program Direction - CESER (270)	23,379	23,500	21,926
Total Washington Headquarters	**56,647**	**56,360**	**50,927**
Total Funding by Site for TAS_2250 - Cybersecurity, Energy Security and Emergency Response (CESER)	**200,000**	**190,000**	**160,173**

Hydrocarbons and Geothermal Energy Office

Hydrocarbons and Geothermal Energy Office
(formerly Fossil Energy and Carbon Management (FECM))
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
1,226,909	787,000*	676,042	-110,958

Proposed Appropriation language:

For Department of Energy (DOE) expenses necessary in carrying out hydrocarbons and geothermal energy research and development activities, under the authority of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition of interest, including defeasible and equitable interests in any real property or any facility or for plant or facility acquisition or expansion, and for conducting inquiries, technological investigations and research concerning the extraction, processing, use, and disposal of mineral substances without objectionable social and environmental costs (30 U.S.C. 3, 1602, and 1603), $676,042,000, to remain available until expended: Provided, That of such amount $73,042,000 shall be available until September 30, 2028, for program direction.

Overview

The Hydrocarbons and Geothermal Energy Office (HGEO) conducts research, development, demonstration, and deployment (RDD&D) to unleash the full potential of America's hydrocarbon and geothermal resources to provide affordable, reliable, and secure energy. Through applied innovation and U.S. energy leadership, HGEO develops and advances breakthrough technologies that lower costs and power American prosperity, freedom, and human flourishing. By leveraging America's hydrocarbon and geothermal resources, HGEO works to enhance reliable baseload power, strengthen grid reliability, and improve long-term energy security for communities nationwide. The Office will lead work on funding opportunities, and in-house lab research coordinated through the NETL Centers of Excellence. The Office also has oversight responsibilities over the Strategic Petroleum Reserves, Naval Petroleum and Oil Shale Reserves, and the Northeast Home Heating and Oil Reserve.

HGEO will work with a sense of urgency across offices and agencies as one team to advance the Administration's America-first energy agenda, working to eliminate and prevent fraud, waste and abuse of taxpayer funding. RDD&D initiatives will be grounded through science and economics, applying technology to work efficiently, and partnering with industry and leveraging national lab capabilities to solve challenges with commercial viability. Additionally, HGEO will work to efficiently approve new liquified natural gas (LNG) authorizations to meet global demand for American LNG. These efforts will leverage facts and data to reach sound, durable decisions and deliver results for the American people.

The FY 2027 Request for HGEO will extend the impact of the Department of Energy's (DOE) activities by leveraging creative funding mechanisms—such as prizes, competitions, technical assistance, and programs targeted at industry, academia and small businesses. The goal is to enable the commercialization of innovations that will reduce costs, accelerate deployment, and spur job creation. This request also includes funding for the basic operating costs of HGEO and investment at NETL.

Hydrocarbons and Geothermal Energy
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Power & Capture	*161,000*	*125,000*	*88,500*	*-36,500*	*-29%*
Mining & Processing[1]	*14,000*	*7,000*	*30,000*	*+23,000*	*+329%*
Conversion & Products	*52,500*	*95,000*	*28,000*	*-67,000*	*-71%*
Subtotal, Office of Coal	227,500	227,000	146,500	-80,500	-35%
Production Technologies	*80,500*	*55,000*	*54,000*	*-1,000*	*-2%*
Transportation and Storage	*170,000*	*101,500*	*82,000*	*-19,500*	*-19%*
Power, Fuels, and Chemicals	*30,000*	*30,000*	*24,500*	*-5,500*	*-18%*
Subtotal, Office of Oil and Gas	280,500	186,500	160,500	-26,000	-14%
Geothermal Energy[2]	487,909	150,000	150,000	-	-%
Subtotal, Subsurface Energy (Coal, Oil and Gas, and Geothermal)	995,909	563,500	457,000	-106,500	-19%
University Training, Research and Recruitment	12,000	7,000	8,000	+1,000	+14%
Program Direction	70,000	70,000	73,042	+3,042	+4%
NETL Infrastructure	55,000	57,000	58,000	+1,000	+2%
NETL Research and Operations	89,000	87,000	80,000	-7,000	-8%
Interagency Working Group	5,000	2,500	-	-2,500	-100%
Subtotal, Hydrocarbons and Geothermal Energy	**1,226,909**	**787,000**[4]	**676,042**	**-110,958**	**-14%**
Repurposed IIJA Funds	-	-140,000[3]	-	-	-
Total, Hydrocarbons and Geothermal Energy	**1,226,909**	**647,000**[4]	**676,042**	**29,042**	**4%**

[1] A portion of critical minerals work remains in the HGEO account, while the remainder has moved to the CMEI account in FY 27

[2] This account was funded in the EERE appropriation in FY 25 and FY 26 but was realigned to HGEO in FY 26. Funding shown for this activity in all 3 years for comparative budget display

[3] Per FY 26 Enacted, $140,000 was repurposed of IIJA funding provided by P.L. 117-58

[4] Includes appropriations for all programs realigned to HGEO

Office of Subsurface Energy

Overview

The Office of Subsurface Energy within HGEO aims to unleash the full potential of America's hydrocarbon and geothermal resources to ensure affordable, reliable, secure energy for the nation. Through targeted research and development efforts, the Office of Subsurface Energy will partner with industry and leverage national laboratory capabilities to tackle some of the most intractable technical challenges facing energy projects across the country.

The Office of Subsurface Energy is comprised of three research and development (R&D) offices:

- The Office of Coal, which aims to stabilize, optimize, and grow the American coal industry, restoring it as a cornerstone of the nation's energy mix;
- The Office of Oil and Gas, which ensures the resilience of U.S. oil and natural gas by increasing production and improving recovery factors through enhanced gas recovery (EGR) and enhanced oil recovery (EOR), especially CO_2 EOR, and infrastructure reliability; and
- The Office of Geothermal, which works to accelerate the discovery and development of gigawatt-scale geothermal energy and position geothermal as a competitive domestic source for reliable baseload electricity generation.

A description of each Office's activities is presented below:

Office of Coal

The Office of Coal will oversee all R&D related to coal mining and processing, power production, point-source capture, and conversion to products. The office will lead the HGEO's work on funding opportunities and in-house lab research for coal-related efforts. With the FY 2027 Budget Request, the Office of Coal invests in technologies that support and produce an abundance of domestic fossil energy, with a particular focus on transforming coal production and processing capabilities, modernizing and extending the life of our existing coal mines and coal-based power fleet, optimizing efficiencies across the extraction, processing, and power generation value chain, supporting the growth of coal-based power generation, exports, and product manufacturing, and prioritizing carbon dioxide capture and utilization for Enhanced Oil and Gas Recovery.

Office of Oil and Gas

The Office of Oil and Gas works to ensure American energy dominance through the development of our Nation's abundant domestic hydrocarbon resources. The Program's R&D will enable affordable, reliable and secure fossil energy resources throughout the upstream, midstream, and downstream sectors. The Office of Oil and Gas consists of three programs: Production Technologies (upstream); Transportation and Storage (midstream); and Power, Fuels, and Chemicals (downstream).

The Production Technologies program focuses on developing technologies and solutions that accelerate oil and natural gas exploration and production. The Transportation and Storage Program focuses on comprehensive solutions to improve reliability, safety, and security; and to minimize product loss across the hydrocarbon supply chain. The Power, Fuels, and Chemicals Program conducts research and development of technologies and solutions to enable 24/7 dispatchable advanced energy systems that provide low-cost baseload power and resilient flexible energy system services, as well as improves the flexibilities of domestic refineries to better utilize a broader base of domestic feedstocks with higher efficiency and lower cost.

Office of Geothermal

The Office of Geothermal (OG) plays a crucial role in advancing geothermal technology towards full commercialization by systematically addressing and overcoming technical deployment barriers. Through strategic RD&D initiatives, OG fosters innovation, promotes field-based "learning-by-doing," and standardizes technical approaches. This strategy effectively de-risks emerging geothermal technologies and efficiently moves these technologies towards commercialization.

In addition, the office assesses non-technical barriers limiting commercialization today and actively strategizes future opportunities across geothermal use cases. This involves robust grid analysis, thorough impact and market assessments, detailed techno-economic evaluations, and other proactive efforts to streamline the permitting process and increase awareness of the numerous economic and energy security benefits that geothermal technology offers.

The OG portfolio is organized into three critical pillars that address barriers across the entire geothermal development lifecycle, including innovation-focused lab and field-scale programs designed to meet the industry's most pressing needs and facilitate rapid technological advancements: Technology Research and Development, Pilots and Demonstrations, and Commercial Scale-Up.

Office of Subsurface Energy
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Office of Coal	227,500	227,000	146,500
Office of Oil and Gas	280,500	186,500	160,500
Office of Geothermal	487,909	150,000	150,000
Total, Office of Subsurface Energy	**995,909**	**563,500**	**457,000**

Explanation of Changes for Office of Subsurface Energy

Office of Coal: The FY 2027 Request re-focuses funding to support critical activities for modernizing and extending the operational life of coal mines and the coal-based power fleet, while also addressing energy demands from artificial intelligence and data centers. The Request also reflects a renewed emphasis on supporting transformational technologies to boost our coal mining and processing capabilities and consolidates all related R&D for coal conversion technologies into a single program office for more flexibility. The Request also supports carbon dioxide capture and utilization for Enhanced Oil and Gas Recovery initiatives within the Office of Coal.

Office of Oil and Gas: Focus areas shift to emphasize technologies that will develop the Nation's abundant oil and gas resources including research to enhance/increase production of existing unconventional oil and gas and to reduce the cost of produced water management and disposal. Funding reduces R&D efforts focused on basin-scale emissions reconciliation projects and other larger-scale methane emissions monitoring efforts and refocusing on activities that support processing and conversion solutions to fully recover the value of natural gas. In the downstream, the program redirects research from 100% hydrogen turbines to next generation gas turbines. Research will support increased efficiency, extreme temperature environments, materials development and cost reduction through AI/ML techniques, and advanced manufacturing development. The program will also conduct new research on improving domestic refining capabilities.

Office of Geothermal: The FY 2027 Request maintains focus on high impact R&D topics across Enhanced Geothermal Systems (EGS) and Hydrothermal sectors. This includes nationwide exploration programs and R&D to improve efficiency of power plants and reduce drilling costs. The FY 2027 budget will also maintain the office level focus on harsh environment materials needed to improve the robustness of subsurface drilling, stimulation, and evaluation tools to operate in high temperature and corrosive geothermal subsurface environments. Similarly, the FY 2027 Request looks to maintain momentum on EGS greenfield demonstrations, thermal energy pilots as applicable, and field campaigns to "modernize hydrothermal" by applying modern oil and gas drilling and stimulation techniques to marginal hydrothermal resources. Finally, the request will prioritize value and impact-related analyses for geothermal power and storage technologies; work to address critical geothermal project permitting challenges and to increase the awareness and acceptance of geothermal energy; and research focused on utilizing AI and machine learning techniques to integrate subsurface datasets into platforms suitable for advanced computational analysis and foundational AI model training.

Office of Coal

Overview

Coal is a valuable resource with national energy security and manufacturing importance. In FY 2027, the new Office of Coal will oversee initiatives that align with national priorities for energy security, economic competitiveness, and responsible resource management, while stabilizing, optimizing, and growing the American coal industry and restoring it as a cornerstone of our energy mix.

The Office of Coal will oversee all R&D related to coal mining and processing, power production, point-source capture, and conversion to products. The Office of Coal will leverage insights and recommendations from four regional coal workshops, scheduled for FY 2026, to inform and strategically shape the coal program. The office will also be informed by direct engagement with the National Coal Council and other industry stakeholders.

The Office of Coal will lead the HGEO's work on funding opportunities; in-house lab research coordinated through the NETL Center of Excellence for coal-related efforts. With the FY 2027 budget request, the Office of Coal invests in technologies that support and produce an abundance of domestic fossil energy, with a particular focus on the following key priorities:

- **Transforming coal production and processing capabilities to reduce breakeven costs** by reimagining mining operations using AI and automation, enhancing processing efficiencies, and integrating innovative energy extraction methods like Enhanced Coal Bed Methane (ECBM) recovery and Underground Coal Gasification (UCG).
- **Modernizing and extending the life of our existing coal mines and coal-based power fleet** by identifying aging and retired coal power generation assets for opportunities to upgrade/re-power, and/or carbon dioxide utilization for Enhanced Oil and Gas Recovery.
- **Optimizing efficiencies across the extraction, processing, and power generation value chain** by developing and demonstrating technologies and processes to improve mine and combustion waste management, that advance combustion and power generation techniques and provide methods to decrease excessive power generation ramping caused by intermittent sources.
- **Supporting the growth of coal-based power generation, exports, and product manufacturing** by expanding the current coal fleet through efforts to recommission or reclassify new coal plants as well as increasing the capacity factor through energy storage techniques, pursuing opportunities to decrease logistical costs and constraints of exporting coal, and supporting technology development for expanding coal-to-products viability, while recognizing the unprecedented growth in energy demand from data centers and AI.

The Office of Coal's programs will pursue the following major activities in FY 2027:

<u>Power and Capture ($88.5 million)</u>

The Power and Capture program provides a platform for developing technologies that stabilize, optimize and grow the American coal industry. The program will focus on (i) modernizing and extending the life of U.S. existing coal-based power fleet, (ii) developing advanced coal electric generation technologies (e.g., oxy-combustion, chemical looping, flexible operation), and (iii) capturing and converting plant waste streams (CO_2, SO_2, wastewater, coal combustion residuals (CCRs)) into co-products (e.g., gypsum, hydrocarbon recovery through CO_2 EOR and EGR) to improve the economic competitiveness of coal-fired power plants. Improvements to new and existing plants may allow these assets to provide low-cost baseload power and resilient flexible grid services. These activities support the Administration's priority of increasing American energy production.

Mining and Processing ($30 million)
The Mining and Processing program is a brand-new program focused on developing transformational technologies and applies science and technology to address challenges with domestic mining and processing of coal. The new program will focus on mining and processing innovations, investigating challenges and opportunities in exports, logistics, and markets, and boosting energy production by finding ways to extract hard-to-reach coal through novel approaches. The program will be responsible for conducting economic analysis to support optimization of logistics to enable exports.

Conversion and Products ($28 million)
The Conversion and Products program will bolster domestic energy security and resilience via coal -derived fuels and chemicals, while also generating opportunities for new export markets for coal-derived products. The request will support research, development, and demonstration to identify critical technical challenges associated with the cost-effective and selective upgrading of coal by-products and conversion of waste gas to products, as well as efforts related to coal gasification, and finding methods to utilize unused generation capacity.

Office of Coal
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Power and Capture	161,000	125,000	88,500
Mining and Processing	14,000	7,000	30,000
Conversion and Products	52,500	95,000	28,000
Total, Office of Coal	**227,500**	**227,000**	**146,500**

Explanation of Change for Office of Coal

Power and Capture: The reduced overall Budget Request reflects two primary factors: the transfer of Advanced Turbines' activities to the Office of Oil and Gas, and a strategic refocusing on Administration priorities. This refocusing aims to appropriately fund initiatives critical for modernizing and extending the operational life of coal mines and the coal-based power fleet, while also addressing energy demands from artificial intelligence and data centers.

Mining and Processing: The increased funding reflects a renewed emphasis on mining and processing initiatives within the Office of Coal. This program's funding is reallocated from the former Office of Resource Sustainability to support the development of transformative technologies for coal extraction and processing, concurrently enhancing analysis aimed at increasing exports and boosting energy production.

Conversion and Products: Funding indicates a strategic shift from carbon dioxide (CO_2) conversion research to efforts focused on converting coal into marketable products. This reduction also optimizes the program, by consolidating all related R&D for coal conversion technologies under a single program office.

Office of Coal
Power and Capture

Overview

The Power and Capture program provides a platform for developing technologies that stabilize, optimize and grow the American coal industry restoring it as a cornerstone of our energy mix. The focus will be on (i) modernizing and extending the life of U.S. existing coal-based power fleet through efforts to recommission or reclassify, (ii) developing advanced coal electric generation technologies (e.g., oxy-combustion, chemical looping, flexible operation), and (iii) capturing and converting plant waste streams (CO_2, SO_2, wastewater, coal combustion residuals (CCRs)) into co-products (e.g., gypsum, hydrocarbon recovery through CO_2 Enhanced Oil Recovery (EOR) and Enhanced Gas Recovery (EGR)) to improve the economic competitiveness of coal-fired power plants. Improvements to new and existing plants may allow assets to provide low-cost baseload power and resilient flexible grid services. These activities support the Administration's priority of increasing American energy production. This program is comprised of several activities that include Gasification Systems, Advanced Energy Materials, Sensors, Controls and Other Innovative Concepts, Simulation-Based Engineering and Point Source Capture.

Highlights of the FY 2027 Budget Request

In FY 2027, the Request of $88.5 million will support R&D efforts to advance coal-based energy systems at existing facilities which employ advanced combustion approaches and materials, artificial intelligence and machine learning (AI/ML) integration, and advanced manufacturing. Supported R&D projects will: (i) test and validate sensors, diagnostic approaches, and develop digital twin models that can improve the efficiency, reliability, and/or flexibility of existing plant operations, (ii) validate technologies aimed at improving efficiency, reliability, or flexibility of individual components at coal-fired power plants. These projects aim to enable commercial deployment in the next three to five years, to improve efficiency, reliability, and flexibility of existing coal-based power plants, extending the economic life of coal plants.

The Request will also support developing and testing novel designs for coal electric generation, including oxygen-driven combustion technologies (e.g., chemical looping, oxy-combustion) and highly efficient processes integrated with hybrid/thermal energy storage systems for improved operational flexibility. RD&D activities will also focus on integrating coal electric power generation behind the meter loads, providing reliable and flexible behind-the-meter generation while maintaining performance, reliability, and affordability.

In FY 2027, the Request will also support RD&D efforts to optimize cost, performance, and reliability of capture technologies to provide economical sources of CO_2. This aims to deliver CO_2 at less than $\$30/tCO_2$ within the next decade, to specific geographic regions where it is needed for boosting hydrocarbon extraction via EOR or EGR. Key RD&D elements include lab-scale approaches for cost-effective CO_2 purification methods and conceptual designs of CO_2 central processing facilities to enable low-cost CO_2 availability for EOR/EGR. The program will also focus RD&D for industrial applications on sectors with the potential to supply the greatest quantities of CO_2 at the lowest cost. Funding from the Budget Request will help develop carbon capture technologies based on pre-combustion, post-combustion, and oxy-combustion approaches. A key element of these efforts will be continued support and operation of carbon capture testing centers that can provide real-world environments to validate and prove these transformational technologies. Furthermore, activities will investigate approaches to optimize the capture process for coal-based load-following/demand-responsive electricity generators.

Power and Capture
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Total, Power and Capture	**161,000**	**125,000**	**88,500**

Explanation of Changes for Power and Capture

The proposed FY 2027 Budget Request reduces funding for the Power and Capture program to refocus efforts on advancing coal-based energy systems, supporting and testing novel concepts for coal electric generation, and supporting efforts to optimize cost, performance, and reliability of capture technologies. The Request also shifts funding from our previously named Advanced Energy Systems program for Advanced Turbines to the Office of Oil and Gas to align with Administration priorities**.**

Office of Coal
Mining and Processing

Overview

The FY 2027 Budget Request for the Mining and Processing program of $30 million will allow the Office of Coal to undertake research and development (R&D) to modernize coal mining and processing, extend the life of existing mines, and grow the industry by enabling recovery of coal from seams previously considered un-mineable. The program will encompass efforts for advancing mining research and development by leveraging technologies such as robotics, automation, and artificial intelligence (AI) to enhance mining safety and operational efficiency. The program will also advance technologies that aim to innovate processing techniques, including recovering fines and utilizing methods such as plasma and biomimicry.

The program will investigate current challenges and opportunities in domestic transport and export infrastructure and provide insight into opportunities to improve coal preparation, beneficiation during transport, and identify U.S. coal export opportunities. The program will build upon knowledge gained from regional coal workshops planned in FY 2026 and will leverage insights from industry stakeholders to stabilize and grow U.S. coal export capacities in vital transportation corridors while supporting the development of new, secure, and reliable markets for U.S. coal production. The program will also seek to boost production by identifying new opportunities for innovative energy extraction methods for otherwise unrecoverable coal reserves that include enhanced coalbed methane recovery and underground gasification. This program includes the Carbon Ore Processing program.

By investing in innovative technologies, the Mining and Processing program seeks to transform technical and operational challenges within coal mining, processing, domestic transport, and exports into opportunities for economic growth, improved resource stewardship, and increased market competitiveness. This focused R&D supports the role of coal resources in delivering energy security, reliability, and affordability.

Highlights of the FY 2027 Budget Request

The FY 2027 Budget Request provides $30 million to focus on the following priority R&D areas:

- **Mining and Processing Innovation**: develop and use AI tools, robotics and automation, digital twins, and other technologies capable of improving cost-effective and efficient mining techniques for coal and coal-based processing streams, including coal as well as mine waste products from existing and prior mining.
- **Boosting production**: advance in-situ extraction and use of energy while minimizing waste through subsurface wells and autonomous mining systems. Also, aims to increase production by finding new ways to extract energy from hard-to-reach coal, such as coalbed methane recovery and underground gasification.
- **Exports, Logistics, and Markets**: develop novel beneficiation technologies and separation techniques to enhance monetization and efficiency during coal preparation and transport processes. Analysis will also be conducted to support optimization of logistics to enable exports.

Mining and Processing
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Total, Mining and Processing	**14,000**	**7,000**	**30,000**

Explanation of Changes for Mining and Processing

The increased funding will allow for transformational R&D efforts to modernize coal mining and processing, to align with Administration priorities. This program's funding is reallocated from previous Carbon Ore Processing efforts that were consolidated into the Mining and Processing program. The increased funding will also allow for analysis efforts to boost production.

Office of Coal
Conversion and Products

Overview

The FY 2027 Budget Request of $28 million for the Conversion and Products program will bolster domestic energy security, resilience, and production via coal-derived fuels and chemicals, while also generating opportunities for new export markets for coal-derived products. The Request will support RD&D to identify critical technical challenges associated with the cost-effective and selective upgrading of coal by-products and conversion of waste to products. For most conversion pathways, these feedstocks require a significant amount of energy to be converted into a product. The program will address challenges with materials and catalyst durability, pathway selectivity, product acceptance in markets, and limited field trials and demonstrations in real-world environments. RD&D in these areas is needed to validate the technical feasibility of coal-based products, enable economic viability, and prove coal-based products can compete on performance in real-world environments.

The Conversion and Products program will be inclusive of RD&D related to coal gasification, which has the potential to play a key role in ensuring American energy dominance and domestic resource security by offering feedstock flexibility to produce fuels and other chemicals. This program includes the Carbon Utilization program. Gasification technologies can turn any carbonaceous feedstock into syngas and other chemical building blocks such as liquid fuels, chemicals (e.g., ammonia), and carbon products. This area of research is needed to lower costs and improve gasifier availability/reduce downtime, both of which remain major barriers to wider adoption. Better understanding of various feedstock behavior during the gasification process will help to improve product valorization, and methods for syngas cleanup, that in turn will enable coal gasification technologies to be more widely adopted and develop additional markets for coal and derived products.

In FY 2027, the Conversion and Products program will also develop technologies to produce high value carbon-based materials from coal and conversion of waste gas to products. Materials like graphite, carbon fibers, and pitch are necessary precursors for many of the most important technologies in modern life. By focusing on technologies that produce these materials, the program will secure material supplies from domestic sources at competitive market prices that are otherwise imported. The program will explore opportunities for converting or upgrading existing industrial facilities to use coal or waste gas feedstocks in their processes, including engagement with industry.

The Conversion and Products program will focus on products that include: high-value carbon products, especially those needed for the industrial economy, such as pharmaceutical precursors, graphite electrodes, battery anodes, and supercapacitor materials from carbon ore, as well as graphene, quantum dots, activated carbon, and conductive inks; universal infrastructure components (e.g., components and building materials for mass transit, sewers and tunnels, roads and bridges); and continuous process improvements to reduce capital and operating costs for future carbon products and conversion processes.

Conversion and Products
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Conversion and Products	**52,500**	**95,000**	**28,000**	**-67,000**	**-71%**

Explanation of Changes for Conversion and Value-Added Products

The FY 2027 Budget Request prioritizes funding to enhance alignment with Administration objectives and accelerate the conversion of coal into value-added products. This reduced allocation specifically directs new R&D towards coal gasification and the identification of existing resources for energy demands, while also consolidating coal conversion R&D efforts into a single program office, and no longer funding Carbon Dioxide Removal.

Office of Oil and Gas
(formerly Resource Sustainability)

Overview

The Office of Oil and Gas works to ensure American energy dominance through the development of our Nation's abundant domestic hydrocarbon resources. The program's R&D will enable affordable, reliable and secure fossil energy resources throughout the upstream, midstream, and downstream sectors. The Office of Oil and Gas consists of three programs: Production Technologies (upstream); Transportation and Storage (midstream); and Power, Fuels, and Chemicals (downstream). The Office will lead the HGEO's work on funding opportunities, and in-house lab research coordinated through the NETL Center of Excellence for oil and gas-related efforts.

The Office of Oil and Gas will pursue the following major activities in FY 2027:

Production Technologies ($54 million) (formerly Advanced Remediation Technologies)
The Production Technologies program focuses on developing technologies and solutions that accelerate oil and natural gas exploration and production. The program will conduct R&D to increase oil and natural gas production, water management, and offshore efficiency, safety, and spill prevention. In addition, the Program will conduct research using Field Laboratories to explore enhanced gas recovery (EGR) and carbon dioxide enhanced oil recovery (CO_2-EOR) in unconventional reservoirs.

Transportation and Storage ($82 million) (formerly (1) Methane Mitigation Technologies, (2) Natural Gas Decarbonization and Hydrogen Technologies, (3) Carbon Transport and Storage, and (4) Advanced Storage Research and Development)
The Transportation and Storage Program focuses on comprehensive solutions to improve reliability, efficiency, safety, and security; and to minimize product loss across the hydrocarbon supply chain. The program focuses on improving the operational throughput, resiliency, and efficiency of oil and natural gas infrastructure and associated waste streams through advanced technology development and field validation. The program will also leverage energy infrastructure in the development of hydrogen production, transport, and storage and the cost-effective utilization of waste stream CO_2 to strengthen the U.S. energy landscape.

Power, Fuels, and Chemicals ($24.5 million) (formerly Hydrogen with Carbon Management)
The Power, Fuels, and Chemicals Program conducts research and development of technologies and solutions to enable 24/7 dispatchable advanced energy systems that provide low-cost baseload power and resilient flexible energy system services, as well as improves the flexibilities of domestic refineries to better utilize a broader base of domestic feedstocks with higher efficiency and lower cost.

Office of Oil and Gas
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Production Technologies	80,500	55,000	54,000
Transportation & Storage	170,000	101,500	82,000
Power, Fuels, and Chemicals	30,000	30,000	24,500
Total, Office of Oil and Gas	**280,500**	**186,500**	**160,500**

Explanation of Change for Office of Oil and Gas

Production Technologies: The decrease in the overall request reflects a $1 million reduction in the Gas Hydrates activity due to the completion of the field work for the Alaska North Slope Methane Hydrates Production Test, and a reduction in the Field Test Site effort that reflects the on-going level of effort needed after the higher levels of effort that were required to reinvigorate this activity in FY 2025 and FY 2026.

Transportation and Storage: Funding decrease reduces R&D efforts focused on basin-scale emissions reconciliation projects and other larger-scale methane emissions monitoring efforts, while expanding activities that support processing and conversion solutions to fully recover the value of natural gas liquids and technologies to enable efficient, low-cost treatment of sour hydrocarbon streams. Funding decrease also reduces R&D efforts that do not emphasize reliability, increased storage potential and security, or improved hydrocarbon system resiliency and throughput. While some hydrogen production pathways will be rescoped or downscaled, research related to geologic hydrogen resource characterization and development will be enhanced to demonstrate global leadership of this domestic resource opportunity in addition to existing blue and gray hydrogen R&D.

Power, Fuels, and Chemicals: Funding decrease reflects a shift in focus from 100% hydrogen turbines to next generation gas turbines. Research will support increased efficiency, extreme temperature environments, new materials and sensors, and simulations and artificial intelligence. The program will also support new research into advanced refining technologies.

Office of Oil and Gas
Production Technologies
(formerly Advanced Remediation Technologies)

Overview

Fossil fuels are critical to unleashing American energy and creating an affordable, secure, and reliable energy sector. Oil and natural gas provide fuel for vehicles, heat for homes, chemicals, industrial goods, plastics, and other important products. The Oil and Gas Production Program conducts research and development of technologies and solutions to responsibly increase oil and natural gas production with a particular focus on unconventional reservoirs. Research areas include increasing recovery factors, enhanced oil recovery, production efficiency, water management, and offshore safety.

In the FY 2027 Budget Request:

HGEO has set a goal of doubling ultimate recovery in unconventional reservoirs. To accomplish this, the program will conduct R&D to increase production in oil and gas wells, develop new technologies and solutions, and lower the cost of recovery. The program will conduct research in lab and field environments (Field Laboratories/Test Sites) to increase production of unconventional onshore and offshore oil and gas resources (e.g., carbon dioxide enhanced oil recovery [CO_2-EOR], optimized hydraulic fracturing design), and will include AI/ML efforts in support of these objectives.

The program will conduct R&D to improve produced water management, aimed at reducing demands on freshwater resources and reducing the costs of disposal. This R&D will include produced water management options, treatment and reuse, and characterization for critical minerals and rare earth elements. This program is comprised of two sub-program activities, which include Advanced Production Technologies and Water Management.

A description of each activity is presented below:

<u>Advanced Production Technologies:</u>

The program will focus on advanced oil and gas production research, including unconventional oil and gas development, and testing technology and solutions in field environments. The program continues to build on previous research conducted by, and data collected from, the DOE's original 17 Field Laboratory projects, which resulted in a substantial body of knowledge about the geochemistry, geomechanics, and geophysics of oil and gas reservoirs.

The Field Test Sites program will focus on 1) research to enhance/increase production of existing unconventional oil and gas resources (e.g. CO_2-EOR, EGR, optimized hydraulic fracturing design); and 2) support research to understand the potential to develop new and emerging oil and gas plays. This will include AI/ML efforts in support of Field Test Sites objectives.

The program's offshore safety and spill prevention research will focus on identifying and mitigating risks from ocean currents and seafloor hazards, such as landslides; reducing risks associated with infrastructure used to deliver chemicals to the well and to bring produced fluids to the platform; and assessing, predicting, and mitigating the risks associated with an aging offshore infrastructure.

Water Management:

The program's water management effort will focus on the characterization, treatment and management of produced water to increase both recycling of produced water for oilfield activities (e.g. hydraulic fracture), and beneficial reuse of treated produced water for uses outside of the oilfield. Research will also characterize produced water for critical minerals and rare earth elements and evaluate the potential for extraction. Improved produced water management will reduce demand on freshwater resources and indirectly address induced seismicity issues by providing options for disposal.

No funding is requested for Gas Hydrates in FY 2027.

Production Technologies
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Total, Production Technologies	**80,500**	**55,000**	**54,000**

Explanation of Changes for Production Technologies

The decrease in the overall request reflects a reduction in the Gas Hydrates activity due to the completion of the Alaska North Slope Methane Hydrates Production Test. The increase in the request for Advanced Production Technologies reflects a higher level of effort in the Field Test Site effort to develop technologies that increase domestic oil and gas production from unconventional reservoirs, including CO_2 EOR and EGR.

Office of Oil and Gas
Transportation and Storage
(formerly (1) Methane Mitigation Technologies, (2) Natural Gas Decarbonization and Hydrogen Technologies, (3) Carbon Transport and Storage, and (4) Advanced Storage Research and Development)

Overview

Hydrocarbon fuel infrastructure is critical to providing affordable, reliable, and secure energy for American consumers and industry. The Transportation and Storage Program focuses on comprehensive solutions to improve reliability, safety, and security. The program focuses on improving the operational throughput, resiliency, and efficiency of oil and natural gas infrastructure and associated waste streams through advanced technology development and field validation. The program will also leverage energy infrastructure in the development of hydrogen production, transport, and storage and the cost-effective utilization of CO_2 to strengthen the U.S. energy landscape.

The Transportation and Storage Program combines the former Methane Mitigation Technologies, Natural Gas Decarbonization and Hydrogen Technologies, Carbon Transport and Storage, and Advanced Storage Research and Development programs to better align resources and expertise focused on hydrocarbon infrastructure.

The Transportation and Storage Program's activities for FY 2027 are presented below:

The Transportation and Storage Program focuses on cost-effective and scalable technologies that improve efficiency, integrity, and reliability associated with the production, processing, transportation, storage, and export of domestic oil and natural gas resources and associated waste streams. This program is comprised of several sub programmatic activities, which include Natural Gas Infrastructure, Natural Gas-Hydrogen Technologies, Carbon Transport and Storage, and Advanced Storage Research and Development.

Natural Gas Infrastructure

The Program supports R&D on advanced materials; innovative sensors; and more efficient natural gas compressors, drive engines, and other infrastructure components, along with analytical technologies (including AI applications) that enable rapid detection and reduction of natural gas losses along the oil and natural gas value chain. The program also addresses utilization of natural gas that would otherwise be stranded through the development of field-deployable, modular technologies to capture and convert natural gas and natural gas liquids into high-value, readily transportable products. This research will improve the deliverability and reliability of natural gas production, transmission, distribution, storage, and export facilities. In addition, the program integrates technologies to improve supply chain resiliency and deliver safe, affordable energy products to industrial, commercial, and residential markets.

The program will pursue the following major activities in FY 2027:

- Developing technologies in advanced materials, pipeline sensors and systems, pipeline data management and computational tools, and in-pipe inspection and repair technologies.
- Developing advanced modular natural gas conversion technologies, capable of being deployed near wellheads, natural gas processing facilities, and transportation infrastructure.
- Developing, validating, and optimizing advanced monitoring technologies to detect natural gas losses from production fields, pipelines, infrastructure equipment, and both surface and subsurface storage facilities.

- Development and deployment of efficient solutions that economically reduce natural gas leakage from engine combustion slip, natural gas gathering and pressure boosting stations, storage tanks, pipeline blowdowns, subsurface natural gas storage, and other point sources.
- Development and deployment at scale of low-cost, modular and flexible upstream natural gas processing and conversion solutions to fully recover the value of natural gas liquids (NGLs), increasing the deliverability and affordability of hydrocarbon production and transportation.
- Develop new materials and separation technologies to enable efficient, low-cost treatment of sour or acidic hydrocarbon and gas streams.
- Application-specific development for pipeline materials and systems to safely deploy multi-fluid resilient transport and storage infrastructure in the United States.
- The demonstration of secure and cost-effective underground natural gas, natural gas liquids (NGLs), hydrogen, and CO_2 storage for EOR.
- Secure gas infrastructure development to improve efficiency within hydrocarbon networks.
- Novel product development and cost-effective management of hydrocarbon waste streams.

Natural Gas-Hydrogen Technologies

The Transportation and Storage Program will also develop technologies for the delivery of safe, reliable, and domestically derived, cost competitive hydrogen. The program will conduct research on utilizing infrastructure for high-volume hydrogen and blended fuels transport, demonstrate large-scale underground fluid energy carrier storage capabilities, and support R&D related to producing geologic hydrogen from the subsurface.

The program leverages domestic resources towards the development of technologies to produce, transport, store, and utilize cost competitive hydrogen and valorized solid carbon products. The FY 2027 Budget Request will focus on near-term R&D that emphasizes advancing technologies for:

- Low-cost hydrogen, fuels, and carbon production pathways derived from geologic and fossil energy resources.
- Resilient natural gas-hydrogen infrastructure development.
- Safe hydrogen utilization through advanced monitoring technologies within energy markets.

Programmatic activities will be conducted in support of and coordination within the Office of Hydrocarbons and Geothermal Energy and other offices in DOE in support of Administration goals.

Carbon Transport and Storage

The program will focus on the cost-effective utilization of CO2 to strengthen the U.S. energy landscape, bolstering the continued integration between potential carbon sources. Whether from industrial production or geologic hydrogen, efficient and cost-effective CO2 transport systems is a vital component to improve and expand upon Enhanced Oil Recovery (EOR) and Enhanced Gas Recovery (EGR) operations. Ongoing programs facilitate the identification and evaluation of future secondary or tertiary oil and gas field production networks. These efforts will facilitate regional carbon management team formation by allowing carbon producers, end-users, and other stakeholders to align potential needs in specific geographic areas within the U.S. This will support decision making by integrating applications in operations research, geographical information systems, pipeline infrastructure design, and geologic reservoir performance for more expansive EOR and EGR activities.

The FY 2027 Budget Request will support basins with multiple subsurface projects where knowledge gained will support enhanced oil and gas recovery activities, rapid development of capabilities to support data centers, and mining activities.

Advanced Storage Research and Development

The program will focus on advanced research and development activities. including artificial intelligence/machine learning tool and reservoir integrity and assurance. The FY 2027 Budget Request will focus on the study and use of carbon dioxide in enhancing oil and natural gas production in shale formations.

Additionally, the Budget Request includes R&D that will advance technologies targeting enhanced plume imaging/tracking, high-temporal and high-spatial resolution monitoring, improved geomechanical stress/strain characterization and measurement, high fidelity sensing, and automation and intelligent systems inclusive of AI-enabling/supporting technologies. Targeted research by national laboratories and other research institutions includes efficient utilization of oil and gas production infrastructure, intelligent monitoring systems, and developing approaches/methods for adaptive reservoir management.

Transportation and Storage
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Transportation and Storage	**170,000**	**101,500**	**82,000**

Explanation of Changes for Transportation and Storage Program

The FY 2027 funding decrease represents a shift in program focus for several research areas within the Transportation and Storage Program. Explanations of changes include the following:

A reduction in R&D efforts focused on basin-scale emissions reconciliation projects and other larger-scale methane emissions monitoring efforts, while expanding activities that support processing and conversion solutions to fully recover the value of natural gas liquids and technologies to enable efficient, low-cost treatment of sour gas streams.

A reduction in R&D efforts that do not emphasize enhanced recovery and reliability, increased storage potential and security, or improved hydrocarbon system resiliency and throughput. Further research focus will emphasize opportunities to employ artificial intelligence and machine learning to the benefit of the American public.

A slight funding increase for hydrogen production pathways utilizing energy resources from natural gas and petroleum systems. While some hydrogen production pathways will be rescoped or downscaled, research related to geologic hydrogen, in addition to existing blue and gray hydrogen resource characterization and development will be enhanced to demonstrate global leadership of this domestic resource opportunity.

Overview

Oil and gas are critical to unleashing American energy and creating an affordable, secure, and reliable energy sector. Oil and natural gas provide power for residential and commercial sectors, including the fast-growing data center and manufacturing sectors, as well as fuel for vehicles, heat for homes, industrial goods, plastics, and other important products. The Power, Fuels, and Chemicals Program conducts R&D of technologies and solutions to enable 24/7 dispatchable advanced energy systems that provide low-cost baseload power and resilient flexible energy system services, as well as improves the flexibilities of domestic refineries to better utilize a broader base of domestic feedstocks with higher efficiency and lower cost.

The Power, Fuels, and Chemicals program includes existing subprograms in Advanced Turbines, Advanced Energy Materials, and Solid Oxide Fuel Cells (SOFC), plus a new subprogram in Refining/Processing. The FY 2027 Power, Fuels and Chemicals Budget Request is presented below:

The Power, Fuels, and Chemicals program will develop technologies that accelerate the deployment of advanced, more efficient, and highly flexible gas turbines into the marketplace so that they can be ready for the expected increase in power generation needed for data centers and other high-tech industries and manufacturing. Natural gas turbines with embedded SOFC and pressure gain combustion are two R&D areas that would enable a step change increase in efficiency.

For materials, the program will support R&D to develop novel materials capable of extremely high temperatures. The program will continue to utilize DOE's high-performance computing and AI capabilities for advanced alloy design and cost reduction.

The program will also develop technologies that will improve the efficiency and flexibility of domestic petroleum refineries, including improved technology to enable more rapid fuel switching or blending with minimal or no down time, leading to greater use of the breadth of available domestic crude sources.

The program will focus on the following activities in FY 2027:

- Develop designs and operating systems that enable advance gas turbine efficiency and operational flexibility.
- Generate technologies to optimize advanced manufacturing methods for new materials.
- Develop new harsh service materials, suitable for high temperature/pressure to enable step change efficiency advances for power production.
- Apply high performance computing and AI to develop digital twins to support fuel flexibility and switching.
- Evaluate the effectiveness of smaller, modular fuel-flexible refinery technology for supporting the domestic industries of the future.

Power, Fuels, and Chemicals
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Power, Fuels, and Chemicals	**30,000**	**30,000**	**24,500**

Explanation of Changes for Power, Fuels, and Chemicals Program

The proposed FY 2027 program reduces R&D efforts focused on hydrogen turbines, and expands activities related to gas turbines, including increased efficiency, extreme temperatures, materials and sensors, and simulations and artificial intelligence. The funding also includes new R&D on advanced refinery technologies.

Office of Geothermal

Overview

America has abundant natural geothermal resources that, if developed, will lower energy costs, reduce dependencies on foreign materials and energy sources, make our energy systems more reliable, and help to meet the Nation's surging electricity grid demand. The mission of HGEO's Office of Geothermal (OG) is to is to accelerate the discovery and development of gigawatt-scale geothermal energy; the office aims to position geothermal as a competitive domestic source for reliable baseload electricity generation and energy storage through innovative and impactful RD&D, and analysis activities. The Office will lead the HGEO's work on funding opportunities, and in-house lab research coordinated through the NETL Center of Excellence for geothermal-related efforts.

OG plays a crucial role in advancing geothermal technology towards full commercialization by systematically addressing and overcoming technical deployment barriers. Through strategic RD&D initiatives, OG fosters innovation, promotes field-based "learning-by-doing," and standardizes technical approaches. This strategy effectively de-risks emerging geothermal technologies and efficiently moves these technologies towards commercialization. OG collaborates extensively with a diverse range of partners, including the geothermal industry, U.S. National Laboratories, academic institutions, and state and local governments. These partnerships are instrumental in accelerating technological advancements, significantly reducing both development and operating costs, and ensuring the United States maintains a competitive edge in domestic and international energy markets.

Beyond the current state of geothermal energy, OG assesses non-technical barriers limiting commercialization today and actively strategizes future opportunities across geothermal use cases. This involves robust grid analysis, thorough impact and market assessments, detailed techno-economic evaluations, and other proactive efforts to streamline the permitting process and increase awareness of the numerous economic and energy security benefits that geothermal technology offers.

The OG portfolio is organized into three critical pillars that address barriers across the entire geothermal development lifecycle, including innovation-focused lab and field-scale programs designed to meet the industry's most pressing needs and facilitate rapid technological advancements: **Technology Research and Development** (R&D), **Pilots and Demonstrations**, and **Commercial Scale-Up**.

OG's organizational structure is designed to position the U.S. for rapid and full-scale deployment of geothermal energy, outlined in the following organizational goals:

- Expand and improve resource characterization and advance the most economic opportunities for development.
- Drive innovations that accelerate new geothermal development and optimization.
- Modernize and extend the life of existing geothermal production.
- Pursue methods to use and maximize the value of geothermal for storage and enhancing grid reliability.

Highlights of the FY 2027 Budget Request

The Department's FY 2027 Request for the Office of Geothermal supports programs in research, development, demonstration, and analysis efforts that will increase performance and decrease costs that help discover, access, and develop geothermal resources across the nation. Geothermal promises firm and flexible power with significant generation potential across the U.S. The FY 2027 Request prioritizes nationwide geothermal exploration campaigns, R&D to modernize and improve efficiency of existing geothermal operations, next-

generation pilot projects, and large-scale data collection and synthesis efforts to develop unified foundational models for subsurface modeling and prediction.

Geothermal Technologies
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Enhanced Geothermal Systems	268,144	92,000	-
Hydrothermal Resources	91,623	41,000	-
Low Temperature and Coproduced Resources	82,456	-	-
Data, Modeling, and Analysis	45,686	17,000	-
Pilots and Demonstrations	-	-	92,000
Technology Research and Development (R&D)	-	-	40,000
Commercial Scale-Up	-	-	18,000
Total, Geothermal Technologies	**487,909**	**150,000**	**150,000**

	Pilots and Demonstrations	Technology Research and Development (R&D)	Commercial Scale-Up	Total
Enhanced Geothermal Systems	92,000	-	-	92,000
Hydrothermal Resources	-	40,000	-	40,000
Low Temperature and Coproduced Resources	-	-	-	-
Data, Modeling, and Analysis	-	-	18,000	18,000
Total, Geothermal Technologies	**92,000**	**40,000**	**18,000**	**150,000**

Explanation of Change for Office of Geothermal

Technology Research and Development (R&D): Focuses on exploration and characterization of the subsurface. Beyond sensing and inversion methods, this team manages subsurface accessibility and drilling R&D to increase drilling speeds and reduce material costs, including costs for wellbore construction. Additional focus areas include improving power conversion efficiency for existing plants and identifying post- or co-generation opportunities to maximize the value of produced brine or heat.
The FY 2027 request maintains focus on high impact R&D topics across Enhanced Geothermal Systems (EGS) and Hydrothermal sectors. This includes Exploration and Characterization R&D and Subsurface Accessibility R&D, which will support nationwide exploration programs and R&D to improve efficiency of power plants and reduce drilling costs. The FY 2027 budget also prioritizes Resource Maximization R&D, to include advanced methods for Rare Earth Elements and critical materials identification and extraction from geothermal brines. The requested budget will defer additional funding in Subsurface Accessibility R&D for the Technology R&D aspects of the GEODE project to future FY requests pending an evaluation of overlap between GEODE roadmaps with OG's pre-existing Technology R&D portfolio. The FY 2027 budget will also maintain the office level focus on harsh environment materials needed to improve the robustness of subsurface drilling,

stimulation, and evaluation tools to operate in high temperature and corrosive geothermal subsurface environments.

Pilots and Demonstrations: Leads all field-based demonstrations, utilizing hypothesis testing and learning-by-doing to move power or storage concepts from initial concepts to field-proven operations. Key priorities also include improving and field-testing fracturing techniques for EGS, refining thermal cycling protocols for Thermal Energy Storage and using modern drilling capabilities developed in the oil and gas industry to commercialize marginal hydrothermal resources. This subprogram aims to validate novel pilot concepts in new geological environments in EGS, Hydrothermal, and Energy Storage while simultaneously identifying emerging R&D needs.

The FY 2027 request looks to maintain momentum on all activity areas outlined in FY 2026. This request will continue funding for EGS greenfield demonstrations, thermal energy pilots as applicable, and field campaigns to "modernize hydrothermal" by applying modern oil and gas drilling and stimulation techniques to marginal hydrothermal resources. These interdisciplinary demonstrations cut across all of this subprogram's activities. The FY 2027 budget also defers funding for an extension of the Utah FORGE project until FY 2028, when planned long-term circulation tests and data analysis will have concluded allowing DOE to assess impacts. The requested budget will continue funding for Exploration and Characterization Activities to maintain OG's long-term focus on building understanding, through fundamental R&D, and operationally managing, through in-field monitoring, the implications of induced seismicity.

Commercial Scale-Up: Identifies and addresses non-technical and data-related barriers to commercial geothermal development. The team uses a variety of modeling and analysis tools to identify and enact methods to streamline permitting, bolster geothermal power and storage representation in capacity planning and cost modeling activities, and assess the value of geothermal energy within the broader U.S. energy system. Additionally, they oversee data collection and dissemination of all OG portfolio research—utilizing AI and advanced data analysis—and targets increasing awareness and acceptance of geothermal as a critical source of baseload energy.

The FY 2027 request maintains funding for the Data Modeling & Analysis activity by leveraging core national laboratory capabilities to advance value and impact-related analyses for geothermal power and storage technologies and to increase the awareness and acceptance of geothermal energy. The funding request will continue to support work to address critical geothermal project permitting challenges. This work will leverage ongoing collaborative efforts with Federal and State partners and seek to develop new partnerships with private entities. These private partners can leverage their expertise and agility to creatively address access barriers that limit permitting processing speeds. The request also seeks new funding to apply large-scale data aggregation and analysis methods. These methods, utilizing AI and ML techniques, will integrate critical datasets, including OG-funded research, into platforms suitable for advanced computational analysis and foundational AI model training.

NETL Infrastructure

Overview

The NETL infrastructure program supports the fixed costs of NETL's laboratory footprint in three geographic locations: Morgantown, WV; Pittsburgh, PA; and Albany, OR. Table 1 provides information on the size of each site.

The NETL Infrastructure Program comprises of the following subprograms:

(1) **High-Performance Computer (Super Computer) ($6 million)** provides funding for the lease of Joule 3, NETL's Supercomputer. The FY 2027 Budget Request includes $6 million for the continuation of a 4-year lease.
(2) **Laboratory and Sitewide Facilities ($41 million)** include repairs to existing laboratory facilities, general-purpose buildings, and sitewide infrastructure and the continued management of deferred maintenance balances. Priorities for funding are established to ensure compliance with life safety standards, critical laboratory research facilities and infrastructure, and compliance with High Performance Sustainable Building (HPSB) goals.
(3) **Safeguards and Security ($8.5 million)** provides funds to ensure protection of workers (physical and cyber), the public, the environment, facilities, and operations in performing the DOE mission.
(4) **Environmental Restoration ($2.5 million)** supports NETL's obligations to the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) across all NETL sites and one off-site location in Wyoming.

Highlights of the FY 2027 Budget Request

The FY 2027 Budget Request for NETL Infrastructure is $58 million. The most significant component is Laboratory and Sitewide Facilities, as follows: (1) $17 million for Minor Construction Projects (MCP), prioritizing investments in infrastructure reliability and managing deferred maintenance balances; and (2) $24 million for fixed operational costs such as building and grounds maintenance, utilities, fleet management, and information technology (IT) licenses and agreements. In addition, $6 million is requested for NETL's high performance computer (HPC) lease. HPC is an essential element in more than 50% of NETL's research projects. The balance of the request is for safeguards and security, environmental compliance and remediation.

Funding supports:

- **Business Process Optimization**, reducing total cost of ownership by consolidating and modernizing IT systems;
- **Modernization of legacy infrastructure**, enabling agile, efficient operations and decreasing overall IT spend through enhanced integration;
- **Application and tools rationalization**, which directly reduces redundant expenditures and enhances consistency, leading to quantifiable efficiencies in training and support; and
- **Software License Optimization**, critically leveraging AI for service improvement and establishing foundational AI applications that yield substantial return on investment (ROI) by augmenting enterprise-wide efficiency and mission support.

This funding specifically targets both enterprise and R&D efforts with clear ROI potential, supporting the implementation of Zero Trust architectures, enhancing incident detection and response capabilities, mitigating supply chain risks, and increasing automation across IT infrastructure operations and maintenance (O&M), portfolio management, and cybersecurity risk management, all in adherence to federal guidance.

NETL Infrastructure
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
High-Performance Computer (Super Computer)	6,000	6,000	6,000
Laboratory and Sitewide Facilities	39,000	40,000	41,000
Safeguards and Security	8,000	8,500	8,500
Environmental Restoration	2,000	2,500	2,500
Total, NETL Infrastructure	**55,000**	**57,000**	**58,000**

Table 1, Comparison of Physical Footprint, Workforce, and Value of Assets by Campus and in Total, National Energy Technology Laboratory as of January 9, 2026.[1]

	Morgantown	Pittsburgh	Albany	Total NETL
Buildings	39	29	56	**124**
Sq. Ft. of Building Space (000s)	437	430	250	**1,117**
Acres	136.0	57.4	47.4	**240.8**
Assets Replacement Value	$426.5 million	$391.3 million	$289.7 million	**$1,107.5 million**

Explanation of Changes for NETL Infrastructure

NETL is investing more than $100 million in critical new research facilities to enable an expansion of capabilities to be able to continue to meet the department's advancing technology mission. These facilities include a new Computational Sciences and Engineering Center and an Advanced Alloy Development Center. When these facilities come online there will be increased costs for utilities, infrastructure maintenance, and information technology capabilities. These increases are planned to be partially offset by reductions in contractor support, the result of streamlining processes and requirements. In addition, NETL has a new Albany groundwater monitoring and remediation requirement, but this will not require additional budgetary resources.

[1] Table 1 compares physical footprint and value of assets as of January 9, 2026.

NETL Research and Operations

Overview

NETL is an integral part of the DOE national laboratory system. There are 17 National Laboratories in the DOE laboratory system; NETL is the only government-owned, government-operated (GOGO) laboratory. NETL supports the DOE mission by addressing energy and related challenges through transformative science and technology solutions. NETL is recognized for its capabilities in applied material science, computation science, chemical and systems engineering, subsurface science, decision science, and government contract and project management.

The NETL Research and Operations Program comprises the following subprograms:

(1) **Research, Development, Demonstration, and Deployment ($50 million)** supports Federal researcher salaries and benefits, travel, personal protective equipment, and other employee costs for the NETL staff of scientists and engineers who conduct research activities for HGEO RDD&D programs. This sub-program also funds the salaries, benefits, travel, and other employee costs for the NETL staff of engineers and technical professionals who conduct project management for HGEO RDD&D programs. This sub-program also funds partnership, technology transitions, and other collaborative research activities with industry, other National Laboratories, and state and local governments as well as strategic energy analysis and research data management.

(2) **Site Operations ($20 million)** includes funding for: (a) building operations and maintenance such as non-capital repairs and routine upkeep; (b) grounds maintenance including parking lot repair, lighting, groundskeeping, snow removal, etc.; and (c) information technology operations.

(3) **Program Oversight ($10 million)** includes funding for Federal employees and contractors performing research-enabling functions such as planning and managing financial assistance activities and providing oversight of research grants and awards.

The FY 2027 Budget request for NETL Research and Operations is $80 million. The most significant component is federal salaries and benefits at $70 million, the requested full-time equivalent (FTE) level of 337. An additional $6 million is for contractor support in the areas of information technology operations, technology transitions and business outreach, research data management, and strategic energy analysis. The balance of the request funds travel, training, material, supplies, and other employee costs for the federal staff and NETL's Laboratory-Directed Research and Development (LDRD) contribution.

As part of the DOE realignment, the Critical Minerals and Materials (CMM) R&D, formerly in HGEO, has transferred to the Office of Critical Minerals and Energy Innovation (CMEI). However, NETL federal researchers, engineers and scientists will continue to work on these initiatives, and continue to be paid for through this account, with some CMEI oversight.

NETL Research & Operations
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Total, NETL Research & Operations	**89,000**	**87,000**	**80,000**

Explanation of Changes for NETL Research and Operations

Reductions reflect lower staffing levels, the result of the Deferred Resignation Programs and the Executive Order limiting future staffing increases. In addition, the reductions reflect a lower level of contractor support, the result of streamlining processes and requirements.

Program Direction

Overview

Program Direction (PD) provides funding for salaries and benefits for federal staff and associated costs to support the overall direction and execution of HGEO including oversight and administration, monitoring activities for the HGEO's RDD&D portfolio. Funding also supports NETL technical staff who perform acquisition, finance and legal functions, and federal staff for management of the laboratory. PD also funds the contractor support for budget, communications, workforce management, IT and cybersecurity, and workforce Environment, Safety, Security and Health (ESS&H) activities. Federal NETL scientific researchers and project managers are not funded by Program Direction. They are funded through the NETL Research and Operations control point.

This account also funds the following:

- Operations, federal staff, and contractor support of the **Office of Strategic Resources – Office of Global Energy Security**. The Office is responsible for carrying out DOE's responsibilities over natural gas imports and exports under the Natural Gas Act and is also responsible for analyzing and developing policy recommendations affecting US equities in the global trade for oil and natural gas. HGEO program office contributions to the DOE Office of Human Resources, General Counsel and Undersecretary staff; and
- HGEO program office contributions to the DOE Working Capital Fund (WCF), Energy IT Services (EITS) and other related expenses across the Department.

The FY 2027 Program Direction Request of $73.042 million will provide support for the projected FY 2027 average federal salaries and benefits for the requested FTE level, travel, support services and other related expenses. This increase reflects changes in the organizational structure, based on the overall DOE realignment.

Program Direction
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Salaries and Benefits	26,162	26,162	28,100	+1,938	+7%
Travel	420	1,100	1,092	-8	-1%
Support Services	4,970	4,970	5,000	+30	+1%
Other Related Expenses	8,548	7,868	8,850	+982	+12%
Total, Washington Headquarters	**40,100**	**40,100**	**43,042**	**+2,942**	**+7%**
Salaries and Benefits	20,800	20,800	20,900	+100	-
Travel	400	400	400	-	-
Support Services	5,200	5,200	5,200	-	-
Other Related Expenses	3,500	3,500	3,500	-	-
Total, National Energy Technology Laboratory	**29,900**	**29,900**	**30,000**	**+100**	-
Salaries and Benefits	46,962	46,962	49,000	+2,038	+4%
Travel	820	1,500	1,492	-8	-1%
Support Services	10,170	10,170	10,200	+30	+23%
Other Related Expenses	12,048	11,368	12,350	+982	+9%
Total, Program Direction	**70,000**	**70,000**	**73,042**	**+3,042**	**+4%**
HQ FTEs	141	132	164	+32	+24%
NETL FTEs	130	112	120	+8	+7%
Total FTEs	**271**	**244**	**284**	**+40**	**+16%**

Explanation of Changes for Program Direction

The FY 2027 funding increase represents additional FTEs, as well as inflationary and cost of living increases.

University Training, Research, and Recruitment

Overview

The University Training, Research, and Recruitment (UTRR) program enables HGEO to execute workforce development, training, education, and recruitment programs to prepare the next generation of individuals to enter the energy workforce. HGEO will accomplish this objective by funding foundational R&D and training programs at U.S. institutions of higher education (IHEs) (e.g., colleges, universities and trade and vocational schools). Specifically, the University Training and Research (UTR) program focuses on introducing students to research topics pursued in support of the DOE mission through HGEO and NETL related activities, enhancing the research capacities at U.S. colleges and universities, and facilitating the enhancement and creation of training programs to prepare individuals for jobs in the coal, oil and gas, and geothermal energy industries.

These activities are authorized under PL 109-58, Energy Policy Act of 2005, as an extension of the University Coal Research (UCR) program that was incepted in 1979 under DOE authority to "make contracts, grants, and cooperative agreements for the conduct of basic or applied scientific research at nonprofit institutions of higher education" under Public Law 95-224, as amended by 97-258.

A portion of appropriated funds are allocated in accordance with Section 1105 of the Energy Policy Act of 2005 which amended the Department of Energy Science Education Enhancement Act (42 U.S.C. § 7381) and states, "The Secretary shall require the director of each National Laboratory, and may require the head of any science facility, to increase the participation of historically Black colleges or universities, Hispanic-serving institutions, or tribal colleges in any activity that increases the capacity of the historically Black colleges or universities, Hispanic-serving institutions, or tribal colleges to train personnel in science or engineering."

The funding also supports the execution of Special Recruitment initiatives, including the Mickey Leland Energy Fellowship (MLEF) Program and participation in other DOE educational programs in support of the HGEO mission. HGEO Special Recruitment initiatives educate students on the HGEO and DOE missions, expose them to the vast R&D performed within the Department, and provide experience and guidance that supports preparation for continued education and entrance into the workforce.

The UTRR funding facilitates education and training of the next generation of scientists, engineers, and skilled technicians and supports novel, early-stage R&D within the DOE to equip participants with cutting-edge, translatable skillsets that will enable them to enter the U.S. workforce and contribute to the greater economy.

The UTRR programs focus on opportunities to address national workforce and education priorities. They include funding R&D projects that access technical needs and provide training in HGEO mission priority areas. The programs enable HGEO to foster partnerships among IHEs for research and education; improve institutional capacity for competitive research; and broaden the coal, oil and gas, and geothermal energy workforce. The program also seeks to expand research and education opportunities at institutions that are non-traditional HGEO partners such as trade and vocational schools, historically black colleges and universities (HBCUs) and tribal colleges and universities (TCUs). The MLEF Program offers undergraduate and graduate students majoring in STEM disciplines opportunities to learn about programs, policies, and R&D. Students learn about the multiple challenges and opportunities in providing affordable, reliable and secure energy for future generations. Students perform research under the mentorship of DOE scientists and engineers and gain work experience to further their educational careers.

Highlights of the FY 2027 Budget Request

The focus for UTRR in FY 2027 will concentrate on:

- Funding new competitive funding opportunities via notice of funding opportunity (NOFO) or partnership agreement (PIA) that will support building R&D capacity in HGEO mission-related areas; fostering the completion of research in STEM disciplines that advance the HGEO mission; supporting educational fellowship opportunities within HGEO; and enhancing and establishing programs that foster workforce development and in HGEO mission-related fields.
- Recruiting and selecting highly qualified students at the undergraduate and graduate levels in STEM majors to participate in HGEO and DOE educational programs, including MLEF and other student programs. All participants in the MLEF or other DOE educational programs will complete challenging assignments supporting the DOE mission through hands-on R&D projects under the mentorship of a scientist, researcher, or program official.

University Training, Research, and Recruitment
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Total, University Training, Research, and Recruitment	**12,000**	**7,000**	**8,000**

Explanation of Changes

Funding will increase the number and/or size of awards to IHEs under the UTR program in support of R&D and workforce development relating to hydrocarbons and geothermal energy, resulting in the education of more students. The additional funds will work to support a new initiative within the UTR program that supports trade and technical school students in addition to traditional universities.

DEPARTMENT OF ENERGY
Funding by Site Detail
Hydrocarbons and Geothermal Energy (HGE) - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Ames Laboratory			
Power and Capture (formerly Advanced Energy Systems)	306	238	168
Office of Coal (formerly Coal and Carbon Utilization)	306	238	168
Power, Fuels, and Chemicals (formerly Advanced Turbines)	141	141	115
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	141	141	115
Subsurface Energy (Coal + Oil and Gas + Geothermal)	447	379	283
Total Ames Laboratory	**447**	**379**	**283**
Argonne National Laboratory			
Power and Capture (formerly Advanced Energy Systems)	1,960	1,522	1,077
Office of Coal (formerly Coal and Carbon Utilization)	1,960	1,522	1,077
Power, Fuels, and Chemicals (formerly Advanced Turbines)	3,206	3,206	2,618
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	3,206	3,206	2,618
Subsurface Energy (Coal + Oil and Gas + Geothermal)	5,166	4,728	3,695
NETL Research and Operations (HGE)	48	47	43
Total Argonne National Laboratory	**5,214**	**4,775**	**3,738**
Brookhaven National Laboratory			
Geothermal Energy (HGE)	171	53	53
Subsurface Energy (Coal + Oil and Gas + Geothermal)	171	53	53
Total Brookhaven National Laboratory	**171**	**53**	**53**
Fermi National Accelerator Laboratory			
Power and Capture (formerly Advanced Energy Systems)	74	57	41
Office of Coal (formerly Coal and Carbon Utilization)	74	57	41
Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies)	1,363	814	658
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	1,363	814	658
Geothermal Energy (HGE)	64	20	20
Subsurface Energy (Coal + Oil and Gas + Geothermal)	1,501	891	719
Total Fermi National Accelerator Laboratory	**1,501**	**891**	**719**
Golden Field Office			
Geothermal Energy (HGE)	273,629	84,123	84,123
Subsurface Energy (Coal + Oil and Gas + Geothermal)	273,629	84,123	84,123
Total Golden Field Office	**273,629**	**84,123**	**84,123**

DEPARTMENT OF ENERGY
Funding by Site Detail
Hydrocarbons and Geothermal Energy (HGE) - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Idaho National Laboratory			
Power and Capture (formerly Advanced Energy Systems)	2,817	2,187	1,549
Office of Coal (formerly Coal and Carbon Utilization)	2,817	2,187	1,549
Geothermal Energy (HGE)	589	181	181
Subsurface Energy (Coal + Oil and Gas + Geothermal)	3,406	2,368	1,730
Total Idaho National Laboratory	**3,406**	**2,368**	**1,730**
Lawrence Berkeley National Laboratory			
Power and Capture (formerly Advanced Energy Systems)	1,868	1,450	1,027
Office of Coal (formerly Coal and Carbon Utilization)	1,868	1,450	1,027
Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies)	2,474	1,477	1,193
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	2,474	1,477	1,193
Geothermal Energy (HGE)	31,183	9,587	9,587
Subsurface Energy (Coal + Oil and Gas + Geothermal)	35,525	12,514	11,807
NETL Research and Operations (HGE)	450	440	404
Total Lawrence Berkeley National Laboratory	**35,975**	**12,954**	**12,211**
Lawrence Livermore National Laboratory			
Power and Capture (formerly Advanced Energy Systems)	1,041	808	572
Office of Coal (formerly Coal and Carbon Utilization)	1,041	808	572
Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies)	8,411	5,022	4,057
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	8,411	5,022	4,057
Geothermal Energy (HGE)	171	53	53
Subsurface Energy (Coal + Oil and Gas + Geothermal)	9,623	5,883	4,682
Total Lawrence Livermore National Laboratory	**9,623**	**5,883**	**4,682**
Los Alamos National Laboratory			
Power and Capture (formerly Advanced Energy Systems)	1,261	980	694
Conversion and Products (formerly Conversion and Value-Added Products)	1,433	2,593	764
Office of Coal (formerly Coal and Carbon Utilization)	2,694	3,573	1,458
Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies)	7,182	4,288	3,465
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	7,182	4,288	3,465
Geothermal Energy (HGE)	18,012	5,537	5,537
Subsurface Energy (Coal + Oil and Gas + Geothermal)	27,888	13,398	10,460

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Total Los Alamos National Laboratory	**27,888**	**13,398**	**10,460**
National Energy Technology Lab			
Power and Capture (formerly Advanced Energy Systems)	127,924	99,320	70,318
Mining and Processing (formerly Mineral Production and Processing Technologies)	13,903	6,952	29,792
Conversion and Products (formerly Conversion and Value-Added Products)	30,634	55,432	16,338
Office of Coal (formerly Coal and Carbon Utilization)	172,461	161,704	116,448
Production Technologies (formerly Advanced Production Technologies)	75,001	51,243	50,311
Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies)	128,908	76,966	62,179
Power, Fuels, and Chemicals (formerly Advanced Turbines)	24,097	24,097	19,679
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	228,006	152,306	132,169
Geothermal Energy (HGE)	1,165	358	358
Subsurface Energy (Coal + Oil and Gas + Geothermal)	401,632	314,368	248,975
University Training, Research, and Recruitment	158	92	105
Program Direction - Hydrocarbons and Geothermal Energy	27,077	27,077	28,254
NETL Infrastructure (HGE)	49,577	51,380	52,281
NETL Research and Operations (HGE)	85,677	83,751	77,013
NETL Interagency Working Group	4,319	2,160	-
Total National Energy Technology Lab	**568,440**	**478,828**	**406,628**
National Laboratory of the Rockies			
Power and Capture (formerly Advanced Energy Systems)	3,062	2,377	1,683
Conversion and Products (formerly Conversion and Value-Added Products)	1,588	2,874	847
Office of Coal (formerly Coal and Carbon Utilization)	4,650	5,251	2,530
Geothermal Energy (HGE)	32,907	10,117	10,117
Subsurface Energy (Coal + Oil and Gas + Geothermal)	37,557	15,368	12,647
Total National Laboratory of the Rockies	**37,557**	**15,368**	**12,647**
Nevada National Security Site			
NETL Infrastructure (HGE)	25	25	26
Total Nevada National Security Site	**25**	**25**	**26**
Oak Ridge Institute for Science and Education			
Power and Capture (formerly Advanced Energy Systems)	2,378	1,846	1,307

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Conversion and Products (formerly Conversion and Value-Added Products)	2,840	5,140	1,515
Office of Coal (formerly Coal and Carbon Utilization)	5,218	6,986	2,822
Production Technologies (formerly Advanced Production Technologies)	3,263	2,229	2,189
Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies)	2,988	1,784	1,441
Power, Fuels, and Chemicals (formerly Advanced Turbines)	393	393	321
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	6,644	4,406	3,951
Geothermal Energy (HGE)	1,515	466	466
Subsurface Energy (Coal + Oil and Gas + Geothermal)	13,377	11,858	7,239
University Training, Research, and Recruitment	852	497	568
Total Oak Ridge Institute for Science and Education	**14,229**	**12,355**	**7,807**
Oak Ridge National Laboratory			
Power and Capture (formerly Advanced Energy Systems)	4,311	3,347	2,370
Conversion and Products (formerly Conversion and Value-Added Products)	6,009	10,874	3,205
Office of Coal (formerly Coal and Carbon Utilization)	10,320	14,221	5,575
Power, Fuels, and Chemicals (formerly Advanced Turbines)	1,550	1,550	1,266
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	1,550	1,550	1,266
Geothermal Energy (HGE)	4,067	1,250	1,250
Subsurface Energy (Coal + Oil and Gas + Geothermal)	15,937	17,021	8,091
Program Direction - Hydrocarbons and Geothermal Energy	18	18	19
NETL Research and Operations (HGE)	5	5	5
Total Oak Ridge National Laboratory	**15,960**	**17,044**	**8,115**
Pacific Northwest National Laboratory			
Power and Capture (formerly Advanced Energy Systems)	772	599	424
Conversion and Products (formerly Conversion and Value-Added Products)	2,074	3,752	1,106
Office of Coal (formerly Coal and Carbon Utilization)	2,846	4,351	1,530
Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies)	5,690	3,397	2,744
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	5,690	3,397	2,744
Geothermal Energy (HGE)	4,217	1,296	1,296
Subsurface Energy (Coal + Oil and Gas + Geothermal)	12,753	9,044	5,570
Total Pacific Northwest National Laboratory	**12,753**	**9,044**	**5,570**

DEPARTMENT OF ENERGY
Funding by Site Detail
Hydrocarbons and Geothermal Energy (HGE) - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Sandia National Laboratories			
Power and Capture (formerly Advanced Energy Systems)	1,561	1,212	858
Conversion and Products (formerly Conversion and Value-Added Products)	679	1,228	362
Office of Coal (formerly Coal and Carbon Utilization)	2,240	2,440	1,220
Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies)	7,421	4,431	3,580
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	7,421	4,431	3,580
Geothermal Energy (HGE)	10,568	3,249	3,249
Subsurface Energy (Coal + Oil and Gas + Geothermal)	20,229	10,120	8,049
Total Sandia National Laboratories	**20,229**	**10,120**	**8,049**
Washington Headquarters			
Power and Capture (formerly Advanced Energy Systems)	11,665	9,057	6,412
Mining and Processing (formerly Mineral Production and Processing Technologies)	97	48	208
Conversion and Products (formerly Conversion and Value-Added Products)	7,243	13,107	3,863
Office of Coal (formerly Coal and Carbon Utilization)	19,005	22,212	10,483
Production Technologies (formerly Advanced Production Technologies)	2,236	1,528	1,500
Transportation and Storage (formerly Natural Gas Infra & Hydrogen Technologies)	5,563	3,321	2,683
Power, Fuels, and Chemicals (formerly Advanced Turbines)	613	613	501
Office of Oil and Gas (formerly Oil, Gas, and Critical Minerals)	8,412	5,462	4,684
Geothermal Energy (HGE)	109,651	33,710	33,710
Subsurface Energy (Coal + Oil and Gas + Geothermal)	137,068	61,384	48,877
University Training, Research, and Recruitment	10,990	6,411	7,327
Program Direction - Hydrocarbons and Geothermal Energy	42,905	42,905	44,769
NETL Infrastructure (HGE)	5,398	5,595	5,693
NETL Research and Operations (HGE)	2,820	2,757	2,535
NETL Interagency Working Group	681	340	-
Total Washington Headquarters	**199,862**	**119,392**	**109,201**
Total Funding by Site for TAS_NEW_HGE - Hydrocarbons and Geothermal Energy (HGE)	**1,226,909**	**787,000**	**676,042**

Petroleum Reserves Accounts

Strategic Petroleum Reserve
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
213,390	206,325	295,102	+88,777

Proposed Appropriation Language

For Department of Energy expenses necessary for Strategic Petroleum Reserve facility development and operations and program management activities pursuant to the Energy Policy and Conservation Act (42 U.S.C. 6201 et seq.), $295,102,000 to remain available until expended.

Mission

The Strategic Petroleum Reserve (SPR) protects the U.S. economy from disruptions in critical petroleum supplies and meets United States (U.S.) obligations under the International Energy Program (Energy Policy and Conservation Act, P.L. 94-163, as amended, Section 151). The SPR benefits the U.S. by providing an insurance policy against potential interruptions in U.S. petroleum supplies, whether originating from domestic or international supply disruptions, natural disasters, sabotage, or acts of terrorism. The SPR also provides limited capability to lease excess storage space to outside entities.

Overview

SPR's underground storage caverns, wells, and associated above-ground infrastructure require maintenance to assure their storage capability and integrity. Ongoing oil sale activities increased equipment usage and run times and require consistent preventive, predictive and corrective maintenance to prevent or address equipment or structural failures.

To accomplish its mission and address the challenges outlined above, the SPR program is organized into two subprograms: 1) Facilities Development and Operations and 2) Management. The Facilities Development and Operations subprogram funds all requirements associated with developing and maintaining facilities for the storage of petroleum, operations activities associated with placing petroleum into storage, and operational readiness initiatives associated with drawing down and distributing the inventory within 13 days' notice in the event of an emergency. The Management subprogram funds personnel and administrative expenses related to maintaining the Project Management Office (New Orleans, LA) and the Program Office (Washington, DC), as well as contract services required to support management and technical analysis of program initiatives and issues.

DOE Realignment

In November 2025, DOE stood up the Hydrocarbons & Geothermal Energy Office (HGEO) and functionally realigned the Office of Petroleum Reserves (OPR), including the SPR appropriation. In the FY 2027 Budget Request, the staff and programmatic work of the SPR have been incorporated within the HGEO organizational structure.

Strategic Petroleum Reserve
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Facilities Development & Operations	185,662	178,498	262,653	+84,155	+47%
Management	27,728	27,827	32,449	+4,622	+17%
Total, Strategic Petroleum Reserve	**213,390**	**206,325**	**295,102**	**+88,777**	**+43%**

Facilities Development and Operations

Overview

The Strategic Petroleum Reserve (SPR) protects the U.S. economy from disruptions in critical petroleum supplies and meets U.S. obligations under the International Energy Program (Energy Policy and Conservation Act, P.L. 94-163, as amended, Section 151). The SPR benefits the U.S. by providing an insurance policy against potential interruptions in U.S. petroleum supplies whether originating from domestic or international supply disruptions, natural disasters, sabotage, or acts of terrorism. By the end of 2025, the SPR had 413.5 million barrels of crude oil inventory stored in underground cavern storage, providing the U.S. with multiple geostrategic benefits, and bolstering the world's collective energy security system.

The SPR avails the U.S. with international emergency assistance through its participation in the International Energy Agency (IEA) energy supply security initiatives. IEA members are required to maintain 90 days' worth of net petroleum import protection in government-owned and/or commercial stocks and have a commitment to participate with other stockholding nations in a coordinated release of stocks in the event of a major supply disruption. While the U.S. is currently a net exporter of petroleum, as defined by the IEA, it remains a net importer of crude oil, and the inventory of 413.5 million barrels of crude oil would provide approximately 176 days of net crude oil import protection (based on net crude oil imports of 2.34 million barrels per day as reported in the U.S. Energy Information Administration's Petroleum Supply Monthly for the 12-month average covering FY 2025). SPR has a maximum drawdown capability of over 4 million barrels per day, which could be made available in the event of an IEA collective action. The United States percentage share of an IEA collective action release is 42.9% as of September 1, 2025.

The Facilities Development and Operations subprogram funds activities to maintain the SPR's operational readiness capability for successful drawdowns/fills and operates the sites in a safe, secure, and environmentally acceptable manner. Despite a significant reduction in U.S. reliance on imported petroleum, with significant global reserves in regions of the world subject to political unrest, the U.S. economy remains vulnerable to price increases/decreases related to petroleum supply/demand disruptions. The SPR's stockpile of petroleum products and spare capacity diminishes these vulnerabilities to the effects of supply disruptions.

The SPR's underground storage caverns require maintenance to assure their storage capability and integrity. Surface and sub-surface infrastructure and systems that must be maintained to meet operational readiness requirements have been identified and are funded in this subprogram.

Highlights of the FY 2027 Budget Request

Cavern Integrity: The Casing Inspection and Cavern Remediation Program was developed in 2010 to remediate the anomalies in cavern wellbore casings. This is necessary to maintain the required level of operational and drawdown/fill capability. Cavern remediation and diagnostic workovers anticipate and remediate cavern wellbore failures that cause caverns to be removed from service, and in preventing potential environmental releases.

Maintenance and Major Maintenance: Maintenance of SPR equipment and facilities supports drawdown/fill readiness in a safe and environmentally compliant manner. Increased infrastructure usage due to legislatively-directed, multi-year crude oil sales require additional Maintenance and Major Maintenance activities to sustain operational readiness. It includes the maintenance of infrastructure items that support Physical Security.

Facilities Development and Operations
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Casing Inspections and Remediations	38,212	36,535	71,898
Major Maintenance	7,202	2,691	32,710
Maintenance	30,200	27,916	38,230
Security	23,641	23,586	26,449
Other Related Expenses	86,407	87,770	93,366
Total, Facilities Development & Operations	**185,662**	**178,498**	**262,653**

Explanation of Change for Strategic Petroleum Reserve

For FY 2026, there is 1 Remediation planned with 8 Workovers, while in FY 2027, there are 12 Remediations and 8 Workovers planned based on the Cavern Integrity schedule. Additional Inventory and power requirements associated with the increase in cavern work.

In FY 2027, the increase in funding available will result in more Preventive & Corrective Maintenance, and Maintenance inventory requirements and Discrete Projects, such as replacement of aging valves and lining of deteriorated pipelines. Additionally, the requested increase in funding would cover IT life-cycle upgrades of in-field monitoring and control equipment and transition from bandwidth-constrained copper wire to fiber-optic and secure wi-fi communications, robust changes for support systems projects, and alignment of contractor service support. Furthermore, the Physical Security Program for SPR sites would see increases.

Management

Overview

Management provides funding for the salaries and related requirements of the Headquarters and Project Management Office (PMO) federal workforce. Headquarters is responsible for providing programmatic policy, planning and oversight, to include strategic project planning, budget formulation and financial management, operations, engineering, safety, security, and technical analysis of programmatic activity of the SPR. The federal workforce of the SPR PMO directs program execution and establishes technical performance standards as well as scope, cost, and schedule milestones for the Management and Operations contractor.

Highlights of the FY 2027 Budget Request

The Federal staff estimate is 126 FTEs in FY 2027. Headquarters support services estimates are based on expected contract expenses and include anticipation of a new contract award. Travel funds operational field support and oversight, including site and vendor visits. Other related expenses include building leases and telecommunications activities.

Management
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Salaries and Benefits	6,440	6,440	6,760
Travel	130	131	131
Support Services	1,900	1,360	1,845
Other Related Expenses	1,200	1,000	1,366
Total, Washington Headquarters	**9,670**	**8,931**	**10,102**
Salaries and Benefits	16,648	17,166	19,172
Travel	260	260	368
Other Related Expenses	1,150	1,470	2,807
Total, SPR – Project Management Office	**18,058**	**18,896**	**22,347**
Salaries and Benefits	23,088	23,606	25,932
Travel	390	391	499
Support Services	1,900	1,360	1,845
Other Related Expenses	2,350	2,470	4,173
Total, Management	**27,728**	**27,827**	**32,449**
Total Federal FTEs	**120**	**120**	**126**

Management
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Management		
27,827	**32,449**	**+$4,622**
Salaries and Benefits		
23,606	*25,932*	*+2,326*
Support 120 FTEs at Headquarters and SPR, providing executive management, programmatic oversight, and analysis for the effective implementation of the Reserves	Support 126 FTEs at Headquarters and SPR, providing executive management, programmatic oversight, and analysis for the effective implementation of the Reserves	Balancing operational imperatives such as critical maintenance needs, refilling the SPR, and drawdown readiness will require increased effort in oversight, management, and analysis of the SPR. This includes routine maintenance, integrity management of underground storage caverns, and the continuous refinement of draw down and distribution logistics. An increase in FTEs will allow for more rigorous and proactive management of these critical functions, reducing risks and improving operational efficiency. This includes specialized engineering and technical staff to oversee the aging infrastructure and implement preventative maintenance programs.
Travel		
391	*499*	*+108*
Funds transportation, subsistence, and incidental expenses allowing SPR to effectively facilitate its mission	Funds transportation, subsistence, and incidental expenses allowing SPR to effectively facilitate its mission	Increases cover growth in hotel rates and air fares.
Support Services		
1,360	*1,845*	*+485*
Includes contractor support directed by Federal staff to perform administrative tasks and provide analysis to management	Includes contractor support directed by Federal staff to perform administrative tasks and provide analysis to management	Reflects work scope adjustments due to Federal staffing changes.

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Other Related Expenses		
2,470	*4,173*	*+1,703*
Includes DOE's Energy IT Services (EITS) desktop services and equipment upgrades and replacements Working Capital Fund (WCF) expenses include rent, supplies, copying, graphics, mail, printing, and telephones Supports commercial credit card purchases using simplified acquisition procedures to the maximum extent possible, security clearances, and other needs	Includes EITS desktop services and equipment upgrades and replacements WCF expenses include rent, supplies, copying, graphics, mail, printing, and telephones Supports commercial credit card purchases using simplified acquisition procedures to the maximum extent possible, security clearances, and other needs	Increases for DOE's EITS, WCF, and other IT systems. EITS provides support services to OPR (computers, monitors, software, cyber security, etc.) The increase is based on inflationary increases which average 3-5% year over year.

SPR Petroleum Account
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
100	100	100	-

Proposed Appropriation Language

For the acquisition, transportation, and injection of petroleum products, and for other necessary expenses pursuant to the Energy Policy and Conservation Act of 1975, as amended (42 U.S.C. 6201 et seq.), sections 403 and 404 of the Bipartisan Budget Act of 2015 (42 U.S.C. 6241, 6239 note), section 32204 of the Fixing America's Surface Transportation Act (42 U.S.C. 6241 note), and section 30204 of the Bipartisan Budget Act of 2018 (42 U.S.C. 6241 note), $100,000, to remain available until expended.

Mission

Replenish crude oil from emergency drawdown and respond to emergency response directives as needed.

Overview

The SPR Petroleum Account funds activities related to the acquisition, transportation, and injection of petroleum products into the Strategic Petroleum Reserve; test sales of petroleum products from the Reserve; and the drawdown, sale, and delivery of petroleum products from the Reserve. Remaining funds in the Petroleum Account will be available to repurchase product as practicable.

DOE Realignment
In November 2025, DOE stood up the Hydrocarbons & Geothermal Energy Office (HGEO) and functionally realigned the Office of Petroleum Reserves (OPR), including the Naval Petroleum Reserve appropriation. In the FY 2027 Budget Request, the staff and programmatic work of the SPR have been reorganized within the HGEO budget request.

SPR Petroleum Account
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Petroleum Acquisition, Transportation and Drawdown	100	100	100	-	-
Total, SPR Petroleum Account	**100**	**100**	**100**	-	-

SPR Petroleum Account

Overview

The SPR Petroleum Account funds activities related to the acquisition, transportation, and injection of petroleum products into the Strategic Petroleum Reserve; test sales of petroleum products from the Reserve; and the drawdown, sale, and delivery of petroleum products from the Reserve. SPR Petroleum Account activities can include: 1) the incremental costs of withdrawing oil from the storage caverns and transporting it to the sales point where purchasers take title; 2) petroleum inventory acquisitions and associated transportation costs; 3) U.S. Customs duties; and 4) terminal throughput charges and other related miscellaneous costs.

SPR Oil Acquisition/Transportation/Drawdown

At the end of February 2026, the SPR crude oil inventory was 415.4 million barrels. As of March 2026, the Department is in the process of releasing 172 million barrels of crude oil onto the market through an exchange that will grow the SPR's inventory. This release is part of a 400 million barrel coordinated emergency drawdown in concert with the International Energy Agency.

Highlights of the FY 2027 Budget Request

Since 2015, Congress has enacted eight laws mandating the sale of 358.6 MMB from FY 2017 – FY 2031. To date, DOE has sold 119 MMB and Congress has cancelled 147 MMB of previously mandated sales, meaning DOE is required to sell 92.6 MMB by the end of FY 2031.

Specific details of remaining sales include:

- In FY 2028 sell 5 million barrels of crude oil. Proceeds will be deposited in the General Fund of the Treasury (America's Water Infrastructure Act of 2018, Section 3009).
- From FY 2028 through FY 2031 (four consecutive years) – sell 87.6 million barrels of crude oil as mandated in the Infrastructure Investment and Jobs Act, P.L. 117-58. Proceeds will be deposited in the General Fund of the Treasury, and the Secretary of the Treasury shall deposit in the SPR Petroleum Account established under section 167(a) of the Energy Policy and Conservation Act (42 U.S.C. 6247(a) $43,500,000, to be used to carry out the sale in accordance with section 167 of the Energy Policy and Conservation Act (42 U.S.C. 6247).

SPR Petroleum Account
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Petroleum Acquisition, Transportation & Drawdown	100	100	100
Total, SPR Petroleum Account	**100**	**100**	**100**

Explanation of Change for SPR Petroleum Account

No change. This account provides for the costs of certain statutorily mandated crude oil sales.

Naval Petroleum and Oil Shale Reserves
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
13,010	13,000	13,000	-

Proposed Appropriation Language

For Department of Energy expenses necessary to carry out naval petroleum and oil shale reserve activities, $13,000,000 to remain available until expended: *Provided,* That notwithstanding any other provision of law, unobligated funds remaining from prior years shall be available for all naval petroleum and oil shale reserve activities.

Mission

The Naval Petroleum and Oil Shale Reserves (NPR) program manages five legal agreements that were executed as part of the 1998 sale of Naval Petroleum Reserve 1 (NPR-1) in Elk Hills, California. The legal agreements direct post-sale work, including environmental restoration and remediation, contract closeout, and records disposition. Legal agreements also include payment for post-employment medical and dental benefits to former NPR-1 Management & Operating (M&O) contractor employees. The NPR-1 program continues to work towards closing out the remaining environmental findings at the site, as required by the 2008 agreement between the Department of Energy (DOE) and the California Department of Toxic Substances Control (DTSC).

DOE also operated Naval Petroleum Reserve 3 (NPR-3) and the Rocky Mountain Oilfield Testing Center (RMOTC), co-located near Casper, Wyoming, until its sale in January 2015. DOE retains responsibility for Industrial Landfill number 2 (IND-2) located at NPR-3 in Natrona County WY until a closure permit is issued by the Wyoming Department of Environmental Quality (WDEQ). No new FY 2027 budget authority is requested for NPR-3.

Overview

The program will continue the ongoing activities to attain release from the remaining environmental findings related to the sale of NPR-1. All 131 areas of concern (AOC) have undergone an initial investigation, and the program has made recommendations to California's DTSC for either no further action (NFA) required status, additional field work investigation, or remedial action.

DOE Realignment

In November 2025, DOE stood up the Hydrocarbons & Geothermal Energy Office (HGEO) and functionally realigned the Office of Petroleum Reserves (OPR), including the NPR appropriation. In the FY 2027 Budget Request, the staff and programmatic work of the SPR have been reorganized within the HGEO budget request.

Naval Petroleum and Oil Shale Reserves
Funding for Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Production Operations	11,010	11,000	11,000	-	-
Management	2,000	2,000	2,000	-	-
Total, Naval Petroleum and Oil Shale Reserves	**13,010**	**13,000**	**13,000**	**-**	-

Production Operations

Overview

Funding will be applied to continued environmental assessment and remediation activity.

Highlights of the FY 2027 Budget Request

The Department is requesting FY 2027 budget authority of $13 million to fund the remediation work at the NPR-1 site. The NPR-1 program continues to work towards closing out the remaining environmental restoration and remediation activities for 14 remaining AOCs, as required by the 2008 agreement between DOE and California's DTSC. DOE will continue the monitoring and oversight of environmental remediation of the Elk Hills site and the work on records disposition. The clean closure to residential standards of the arsenic contaminated well pad sites (AOC 130) will be supported with the remaining funds.

Production Operations Funding
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Production Operations	11,010	11,000	11,000
Total, Production Operations	**11,010**	**11,000**	**11,000**

Explanation of Changes for Transmission Reliability and Resilience

No change.

Management

Overview

Management provides funding for payments to former NPR-1 M&O contractor employees for post-medical and dental benefits, a legal requirement of the 1998 NPR-1 sales agreement. Management also provides the Federal staffing resources and associated costs required to provide overall direction and execution of the NPOSR. There are a variety of inherently governmental functions, such as program management, contract administration, and budget formulation and execution that require a dedicated Federal workforce. NPOSR uses contractor support services and other related expenses to support the field environmental assessment, remediation, and management of the program.

Highlights of the FY 2027 Budget Request

The NPR-1 funding supports Federal staff that provide oversight, monitor environmental clean-up, and manage disposition activities. The sales agreement also includes payments to former NPR-1 M&O contractor employees for post-employment medical and dental benefits.

Management Funding
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Salaries and Benefits	540	555	555
Travel	40	30	30
Support Services	420	415	415
Other Related Expenses	1,000	1,000	1,000
Subtotal, Washington Headquarters	2,000	2,000	2,000
Salaries and Benefits	-	-	-
Travel	-	-	-
Support Services	-	-	-
Other Related Expenses	-	-	-
Subtotal, NPR Wyoming	-	-	-
Total, Management	**2,000**	**2,000**	**2,000**
Total Federal FTEs	**4**	**4**	**4**

Explanation of Change for Management

No change.

Northeast Home Heating Oil Reserve
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
7,150	7,150	3,570	-3,570

Proposed Appropriation Language

For Department of Energy expenses necessary for Northeast Home Heating Oil Reserve storage, operation, and management activities pursuant to the Energy Policy and Conservation Act (42 U.S.C. 6201 et seq.), $3,575,000, to remain available until expended: Provided, That notwithstanding section 183 of the Energy Policy and Conservation Act (42 U.S.C. 6250b), the Secretary of Energy shall draw down and sell all barrels of petroleum distillate from the Northeast Home Heating Oil Reserve during fiscal year 2027: Provided, That notwithstanding section 184 of the Energy Policy and Conservation Act (42 U.S.C. 6250c), all proceeds collected from such sale shall be deposited into the general fund of the Treasury during fiscal year 2027: Provided further, That upon the completion of such sale, the Secretary shall carry out the closure of the Northeast Home Heating Oil Reserve.

Mission

The Northeast Home Heating Oil Reserve (NEHHOR) provides a short-term supplement to the Northeast systems' commercial supply of heating oil in the event of a supply interruption.

Overview

The FY 2027 funding will focus on sunsetting commercial leases, oversight, management, and quality analysis of the Reserve in preparation for its sale and closure in FY 2027, as the NEHHOR has never been used for its intended purpose – to provide emergency heating fuel in the Northeast US. The proceeds from such sale will be deposited in the general fund for deficit reduction.

DOE Realignment
In November 2025, DOE stood up the Hydrocarbons & Geothermal Energy Office (HGEO) and functionally realigned the Office of Petroleum Reserves (OPR), including the NEHHOR appropriation. In the FY 2027 Budget Request, the staff and programmatic work of the SPR have been reorganized within the HGEO budget request.

Northeast Home Heating Oil Reserve
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Northeast Home Heating Oil Reserve	7,150	7,150	3,575	-3,575	-50%
Total, Northeast Home Heating Oil Reserve	**7,150**	**7,150**	**3,575**	**-3,575**	**-50%**

Explanation of Changes for Northeast Home Heating Oil Reserve

Funding in this account is for NEHHOR operations up and until its closure, as proposed in FY 2027.

DEPARTMENT OF ENERGY
Funding by Site Detail
Strategic Petroleum Reserve - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
National Energy Technology Lab			
Strategic Petroleum Reserve (SPR)	300	300	300
Total National Energy Technology Lab	**300**	**300**	**300**
Oak Ridge National Laboratory			
Strategic Petroleum Reserve (SPR)	600	600	600
Total Oak Ridge National Laboratory	**600**	**600**	**600**
Sandia National Laboratories			
Strategic Petroleum Reserve (SPR)	4,092	4,092	3,956
Total Sandia National Laboratories	**4,092**	**4,092**	**3,956**
Strategic Petroleum Reserve - Bayou Choctow			
Strategic Petroleum Reserve (SPR)	14,606	16,295	20,226
Total Strategic Petroleum Reserve - Bayou Choctow	**14,606**	**16,295**	**20,226**
Strategic Petroleum Reserve - Big Hill			
Strategic Petroleum Reserve (SPR)	20,779	23,182	25,768
Total Strategic Petroleum Reserve - Big Hill	**20,779**	**23,182**	**25,768**
Strategic Petroleum Reserve - Bryan Mound			
Strategic Petroleum Reserve (SPR)	21,279	23,739	32,779
Total Strategic Petroleum Reserve - Bryan Mound	**21,279**	**23,739**	**32,779**
Strategic Petroleum Reserve - West Hackberry			
Strategic Petroleum Reserve (SPR)	26,344	29,390	34,890
Total Strategic Petroleum Reserve - West Hackberry	**26,344**	**29,390**	**34,890**
Strategic Petroleum Reserve Project Office			
Strategic Petroleum Reserve (SPR)	18,058	18,896	22,347
Total Strategic Petroleum Reserve Project Office	**18,058**	**18,896**	**22,347**
Washington Headquarters			
Strategic Petroleum Reserve (SPR)	107,332	89,831	154,236
Total Washington Headquarters	**107,332**	**89,831**	**154,236**
Total Funding by Site for TAS_0218 - Strategic Petroleum Reserve	**213,390**	**206,325**	**295,102**

DEPARTMENT OF ENERGY
Funding by Site Detail
Strategic Petroleum Reserve - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Strategic Petroleum Reserve Project Office			
SPR Petroleum Account	100	100	100
Total Strategic Petroleum Reserve Project Office	**100**	**100**	**100**
Total Funding by Site for TAS_0233 - Strategic Petroleum Reserve Petroleum Account	**100**	**100**	**100**

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Naval Petroleum Reserve No 1			
Total Naval Petroleum Reserve No 1	**11,010**	**11,010**	**11,000**
Washington Headquarters			
Total Washington Headquarters	**2,000**	**1,990**	**2,000**
Total Funding by Site for TAS_0219 - Naval Petroleum and Oil Shale Reserve	**13,010**	**13,000**	**13,000**

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Washington Headquarters			
Northeast Home Heating Oil Reserves	1,075	1,075	538
Total Washington Headquarters	**1,075**	**1,075**	**538**
Other			
Northeast Home Heating Oil Reserves	6,075	6,075	3,037
Total Other	**6,075**	**6,075**	**3,037**
Total Funding by Site for TAS_0316 - Northeast Home Heating Oil Reserve	**7,150**	**7,150**	**3,575**

Nuclear Energy

Nuclear Energy
($K)

FY 2025 Enacted[1,2]	FY 2026 Enacted[1,2,3]	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
1,685,000	1,685,000	1,533,735	-151,265

Proposed Appropriation Language for the Office of Nuclear Energy (NE)

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for nuclear energy 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, $1,533,735,000 to remain available until expended: Provided, That of such amount, $99,735,000 shall be available until September 30, 2028, for program direction.

Proposed Appropriation Language for the American Energy Independence Fund (AEIF)[4]

Collections credited to the American Energy Independence Fund as discretionary offsetting collections during this fiscal year, as authorized by section 312(a) of title III of division D of Public Law 118-42, shall be available until expended to carry out the purposes of the Fund.

Mission

The Office of Nuclear Energy (NE) works to advance nuclear energy science and technology to meet the nation's energy, environmental, and economic needs. The approach is enabled through the following facets:

- Enable continued operation of existing U.S. nuclear reactors.
- Enable deployment of advanced nuclear reactors
- Develop advanced nuclear fuel cycles.
- Maintain U.S. leadership in nuclear energy technology.

Executive Orders
In May of 2025, the Administration issued several Executive Orders (E.O.) to modernize nuclear regulation, streamline nuclear reactor testing, deploy nuclear reactors for national security, and reinvigorate the nuclear industrial base.

- E.O. 14299 Deploying Advanced Nuclear Technologies for National Security
- E.O. 14300 Ordering the Reform of the Nuclear Regulatory Commission
- E.O. 14301 Reforming Nuclear Reactor Testing at the Department of Energy
- E.O. 14302 Reinvigorating the Nuclear Industrial Base

[1] Funding includes SBIR/STTR funds to be transferred to the Office of Technology Commercialization.
[2] Funding does not reflect the FY 2025 transfer of $92.8M or the FY 2026 transfer of $96.7M from Naval Reactors for operation of the Advanced Test Reactor. Comparisons throughout the document also exclude these transfers.
[3] Includes Use of Prior Year balances
[4] The American Energy Independence Fund (AEIF), stewarded by the Office of Nuclear Energy, supports advanced nuclear fuel availability, including low-enriched uranium (LEU) and high-assay low-enriched uranium (HALEU). This appropriation language is necessary for DOE to be able to access funds collected in FY 2027 from the sale of uranium, so that the AEIF can function as a revolving fund as intended.

The executive orders seek to accelerate deployment of new nuclear reactor technologies and expand American nuclear energy capacity from around 100 GW in 2025 to 400 GW by 2050. To execute this vision, DOE is working with industry to facilitate 5 gigawatts of power uprates; leveraging the Department's Energy Dominance Financing Office to support reactor restarts and finish partially completed construction projects; improving nuclear supply chains; and supporting efforts to have 10 new large reactors with complete designs under construction by 2030. Additionally, the Department is evaluating reprocessing and recycling of used nuclear fuel from DOE- and DoW-managed reactors and recommending improvements to those processes to make efficient use of the recovered materials, including disposition of surplus plutonium by making it available for advanced reactor fuel fabrication.

In FY 2027, NE will continue its efforts to usher in a nuclear renaissance and expand America's energy dominance agenda including but not limited to:

- Generating data to accelerate nuclear reactor licensing;
- Facilitating activities to enable addition of new U.S. nuclear capacity;
- Complementing efforts to deploy U.S. reactors for national security applications;
- Funding near-term technologies to affect commercial plant safety and capacity enhancements in regards to Accident Tolerant Fuels;
- Engineering studies, targeted research, technology development, and program planning for the long-term disposition of UNF and HLW; and
- Increasing access to the national labs for nuclear energy students.

Overview

Nuclear energy is a critical part of unleashing energy dominance at home and abroad. With 95 licensed units in 28 states, the U.S. nuclear reactor fleet provides reliable, affordable, safe, and secure power to American families and businesses. Expanded deployment of advanced nuclear power promises to minimize land-use and transmission requirements while offering regional economic benefits, job opportunities, and unique capabilities for technological innovation. U.S. nuclear energy leadership also plays key national security and global strategic roles for the United States, including supporting the highest international standards for safety, security, and nonproliferation.

The United States pioneered the development and peaceful use of civil nuclear power and the nuclear fuel cycle to produce around-the-clock, reliable baseload electricity generation. The Office of Nuclear Energy now leads and supports research, development, and demonstration (RD&D) activities enabling (1) continued operation of existing reactors, (2) deployment of new reactors, and (3) a secure and sustainable nuclear fuel cycle. NE executes its mission through investments in RD&D that leverage the tremendous innovation capacity of the United States' national laboratories, universities, and advanced nuclear technology developers to transform the global energy landscape. NE is also responsible for ensuring the secure operational availability of Idaho National Laboratory (INL) as a national asset supporting a broad range of civilian and national security research.

The FY 2027 Request helps to advance U.S. leadership in critical technologies and upgrade America's research infrastructure. It supports the civilian nuclear energy programs of the U.S. Government to research and develop nuclear energy technologies, including generation, safety, and security technologies, to assist in unleashing America's energy dominance through strategic, innovative RD&D activities. The NE FY 2027 Request will expand the impact of our RD&D funding through innovative funding mechanisms - such as prizes, competitions, technical assistance, and programs targeted to small businesses.

Additionally, the FY 2027 Request strives to develop and demonstrate the advanced fuel cycle technologies needed to enhance U.S. global leadership in the nuclear industry by addressing gaps in the domestic nuclear fuel supply chain for both existing and advanced nuclear reactors to assure the supply of low enriched uranium (LEU), including high assay low enriched uranium (HALEU), needed by U.S. reactors and those of our allies. The FY 2027 Request also supports used nuclear fuel management activities.

Nuclear Energy
Funding by Congressional Control ($K)

	FY 2025 Enacted[5,6]	FY 2026 Enacted[5,6,7]	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
University and Competitive Research Programs	140,000	146,100	128,841	-17,259	-12%
Power Reactor Optimization	*44,500*	*37,000*	*35,000*	*-2,000*	*-5%*
Advanced Reactor Technologies	*73,800*	*78,800*	*92,059*	*+13,259*	*+17%*
Advanced Small Modular Reactor RD&D	*-*	*45,000*	*-*	*-45,000*	*-100%*
Integrated Energy Systems	*9,500*	*16,000*	*-*	*-16,000*	*-100%*
Total, Reactor Concepts RD&D	127,800	176,800	127,059	-49,741	-28%
Mining, Conversion and Transportation	*1,500*	*1,500*	*1,425*	*-75*	*-5%*
Materials Recovery and Waste Form Development	*33,000*	*57,000*	*52,375*	*-4,625*	*-8%*
Accident Tolerant Fuels	*97,900*	*98,000*	*87,400*	*-10,600*	*-11%*
Fuel Cycle Core R&D	*16,000*	*16,000*	*16,700*	*+700*	*+4%*
Next Generation Fuels	*65,500*	*92,000*	*60,600*	*-31,400*	*-34%*
Advanced Nuclear Fuel Availability	*126,500*	*123,500*		*-123,500*	*-100%*
Used Nuclear Fuel Disposition R&D	*47,000*	*47,000*	*-*[8]	*-47,000*	*-100%*
Integrated Waste Management System	*57,500*	*55,000*	*-*[9]	*-55,000*	*-100%*
Total, Fuel Cycle R&D	444,900	490,000	218,500	-271,500	-55%
Total, Used Nuclear Fuel and High-Level Waste Disposition	-	-	102,000	+102,000	+100%
Advanced Materials and Manufacturing Technologies	*14,082*	*24,000*	*14,000*	*-10,000*	*-42%*
Advanced Sensors and Instrumentation	*5,682*	*5,000*	*5,000*	*-*	*-*
Nuclear Energy Advanced Modeling and Simulation	*28,500*	*28,600*	*28,600*	*-*	*-*
Nuclear Science User Facilities	*34,500*	*45,500*	*36,000*	*-9,500*	*-21%*

[5] Funding includes SBIR/STTR funds to be transferred to the Office of Technology Commercialization.
[6] Funding does not reflect the FY 2025 transfer of $92.8M or the FY 2026 transfer of $96.7M from Naval Reactors for operation of the Advanced Test Reactor. Comparisons throughout the document also exclude these transfers.
[7] Includes Use of Prior Year balances
[8] The budget decrease from FY 2026 reflects subprogram activities previously associated with Integrated Waste Management System and Used Nuclear Fuels Disposition R&D now being funded under the new, combined control point in a separate congressional request titled "Used Nuclear Fuel and High-Level Waste Disposition."
[9] The budget decrease from FY 2026 reflects subprogram activities previously associated with Integrated Waste Management System and Used Nuclear Fuels Disposition R&D now being funded under the new, combined control point in a separate congressional request titled "Used Nuclear Fuel and High-Level Waste Disposition."

	FY 2025 Enacted[5,6]	FY 2026 Enacted[5,6,7]	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Gateway for Accelerated Innovation In Nuclear	*11,000*	*10,000*	*10,000*	-	-
Total, Nuclear Energy Enabling Technologies	93,764	113,100	93,600	-19,500	-17%
National Reactor Innovation Center	*63,000*	*65,000*	*51,214*	*-13,786*	*-21%*
Demonstration 1	*30,000*	*5,000*	*10,000*	*+5,000*	*+100%*
Demonstration 2	*30,000*	*5,000*	*10,000*	*+5,000*	*+100%*
Risk Reduction for Future Demonstrations	*137,222*	*130,000[10]*	*115,000*	*-15,000*	*-12%*
Regulatory Development	*17,030*	*25,000*	*18,000*	*-7,000*	*-28%*
Advanced Reactor Safeguards and Security	*9,172*	*9,000*	*12,000*	*+3,000*	*+33%*
23-E-200, LOTUS	*16,112*	*30,000*	*9,786*	*-20,214*	*-67%*
Total, Advanced Reactors Demonstration Program	302,536	269,000	226,000	-43,000	-16%
INL Facilities Operations & Maintenance	*326,000*	*342,000*	*378,000*	*+36,000*	*+11%*
Total, Infrastructure	326,000	342,000	378,000	+36,000	+11%
Idaho Sitewide Safeguards and Security	160,000	160,000	160,000	-	-
Program Direction	90,000	88,000	99,735	+11,735	+13%
Use of Prior Year Balance		-100,000			
Total, Nuclear Energy	**1,685,000**	**1,685,000**	**1,533,735**	**-151,265**	**-9%**

[10] Risk Reduction for Future Demonstration FY 2026 amount includes the Use of Prior Year Balances in the amount of $100M.

Nuclear Energy
Minor Construction Activities ($K)

	Total	Prior Years	FY 2025 Enacted	FY 2026 Request	FY 2027 Request	FY 2027 Request vs FY 2026 Request
Minor Construction Projects (Total Project Cost (TPC)<$30M), Idaho National Laboratory (Direct Funded)						
Fuel Conditioning Facility Hot Repair Area Reactivation (IFM)	7,000	-	-	-	1,500	+1,500
Facility Cooling Water System (IFM)	7,000	-	-	-	-	-
Interfacility Pneumatic Shuttle Transfer System Refurbishment (IFM)	10,000	-	-	-	-	-
Fuels Synthesis Project	15,000	-	-	-	2,000	+2,000
Carbon-based fuels and products synthesis testing capability (IFM)	23,600	-	-	7,600	16,000	+8,400
HALEU Polishing Capability (IRA)	19,397	28,000	-	-	-	-
MFC Mockup Shop Machining Relocation (IRA)	13,500	13,500	-	-	-	-
FCF Criticality Alarm System (IRA)	5,000	5,000	-	-	-	-
System Physics Advanced Reactor Critical (SPARC) Facility	27,500	-	2,500	11,000	12,000	+1,000
NRIC Advanced Reactor Cooldown Pad	15,000	-	-	3,000	12,000	+9,000
NRIC Advanced Reactor Fueling Capability	5,000	-	-	-	5,000	+5,000
Open Architecture Catalyst Test Bed	20,000	-	-	-	20,000	+20,000
Thermal Energy Storage and Management System	20,000	-	-	-	20,000	+20,000
Thermal Island Component Test Bed	32,000	-	-	-	4,000	+4,000
MFC Analytical Laboratory Multi-Zone System Overhaul	5,000	-	-	-	-	-
MFC Private Facility Control Network Infrastructure Upgrades	10,000	-	-	-	-	-
FCF Convert Steam Heat to Electric	5,000	-	-	-	-	-
Total Direct Funded	**239,997**	**46,500**	**2,500**	**21,600**	**92,500**	**+70,900**

	Total	Prior Years	FY 2025 Enacted	FY 2026 Request	FY 2027 Request	FY 2027 Request vs FY 2026 Request
Minor Construction Projects (Total Project Cost (TPC)<$30M), Idaho National Laboratory (Indirect Funded)						
MFC East Corridor Electrical Upgrade	20,000	-	-	-	-	-
MFC Office Building	34,000	-	-	-	2,000	+2,000
Fuel Conditioning Facility Special Nuclear Material Melter	6,539	464	1,585	1,000	3,490	+2,490
Scoville Substation Transformer Replacements and Reliability Upgrades	12,340	-	-	650	6,400	+5,750
CFA Data Center/Dial Room	29,900	-	-	-	3,000	+3,000
CITRC Multi-Purpose Facility	24,900	-	-	-	-	-
CFA Admin Building	30,900	-	-	-	-	-
MFC-786 Substation Repair/Replacement	24,800	-	-	-	-	-
CFA Craft Shop #1	23,900	-	-	-	-	-
ATR General Office Building	24,000	-	-	-	8,000	+8,000
NQA-1 Storage Facility	9,600	-	-	-	-	-
Outer West Loop	22,667	-	-	-	3,307	+3,307
MFC Experimental Development Laboratory	15,000	-	-	-	1,000	+1,000
TRA-653/662 Remodel	21,900	-	-	-	-	-
New ATR Dial Room	16,400	-	3,400	-	7,000	+7,000
CNOH Replacement Glovebox	5,000	-	-	2,800	2,200	-600
Waste Volume Reduction Hot Cell	6,000	-	-	500	3,500	+3,000
HALEU Elution and Reguli Bundling Glovebox	7,750	-	-	500	3,000	+2,500
SMC Sewer Lagoon Upgrade	3,660	-	-	-	500	+500
MFC Flexible R&D Facility	30,000	-	-	-	1,500	+1,500
Development of High Bay Facilities within the Proving Ground	11,350	-	-	-	350	+350
Development of Laboratory Space within the Proving Ground	3,950	-	-	-	350	+350
Thermal Energy Facility	30,000	-	-	-	6,000	+6,000
CFA Substation #7	25,000	-	-	-	3,600	+3,600
NRIC Launch Pad	9,900	-	-	-	1,500	+1,500
MFC Substation #13	25,000	-	-	-	3,600	+3,600

	Total	Prior Years	FY 2025 Enacted	FY 2026 Request	FY 2027 Request	FY 2027 Request vs FY 2026 Request
Switching Substation #111	19,300	-	-	-	1,608	+1,608
Synthetic Fuels and Chemical Facility formerly "CF-686 Buildout"	13,900	5,700	3,000	5,200	-	-5,200
ATR Warm Water Waste Pond	15,200	-	-	8,000	7,200	-800
TTAF Expansion Project	13,000	-	-	-	-	-
CFA Utility Tunnel	9,300	-	-	-	2,500	+2,500
MFC-752 Substation Repair/Replacement	14,750	-	-	-	-	-
Total, Indirect Minor Construction Projects	**559,906**	**6,164**	**7,985**	**18,650**	**71,605**	**+52,955**
Total, Minor Construction Project	**799,903**	**52,664**	**10,485**	**40,250**	**164,105**	**+123,855**

University and Competitive Research Programs

Overview

The University and Competitive Research Programs budget request consolidates and focuses support to universities and small businesses in areas relevant to the Office of Nuclear Energy's (NE) mission. This program funds university-led research, university infrastructure support and revitalization, and technology commercialization efforts for nuclear energy. Efforts are largely awarded through competitive opportunities for researchers, faculty, and small businesses. Additionally, the program provides fuel services, maintenance support, reactor sharing opportunities, and upgrades for U.S. university research reactors and scientific infrastructure. This budget request is organized into three subprograms: (1) Nuclear Energy University Program (NEUP), Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR) programs, and the Technology Commercialization Fund (TCF), (2) National Nuclear Talent Development Program (NNTDP), and (3) University Fuel Services (UFS).

Highlights of the FY 2027 Budget Request

- Under the Consolidated Innovative Nuclear Research (CINR) funding opportunity, NE will develop and execute a national laboratory internship opportunity that aims to expand university-national laboratory collaboration and strengthen the U.S. nuclear energy workforce. This addition directly supports Section 5(d) of Executive Order 14302, Reinvigorating the Nuclear Industrial Base, to increase access to the national labs for nuclear energy students.
- Under the NNTDP, NE will expand its support of students at technical colleges, trade schools, and community colleges and their essential role in building the construction, operations, and maintenance workforce required for nuclear deployment at scale.
- University Fuel Services (UFS) will procure fresh fuel elements for universities and ship used nuclear fuel elements to a DOE receipt facility. Notably, some FY 2027 funding will be used to continue fabrication of new fuel assemblies for the North Carolina State University PULSTAR reactor.

NEUP, SBIR/STTR and TCF ($92,237,000)

The NEUP, SBIR/STTR, and TCF subprogram includes competitively awarded opportunities for universities, small businesses, and national laboratories, respectively. The university program seeks to support cutting-edge, innovative research at U.S. universities. Having a single program funding line provides more flexibility to NE's competitive award process; streamlines program execution; and provides enhanced transparency for small businesses, universities, and other stakeholders.

The principal focus areas for FY 2027 include four elements: (1) Small Business Innovation Research and Small Business Technology Transfer (SBIR/STTR); (2) Technology Commercialization Fund (TCF); (3) University-led Research and Development; and (4) University Infrastructure.

- SBIR/STTR ($25,010,000) – The SBIR/STTR authorization expired on September 30, 2025. Should the program be reauthorized, NE would support small businesses through the Department's SBIR/STTR program. Participating agencies spend a percentage of the department's extramural research and development (R&D) budget on awards to small businesses. NE's contribution supports scope relevant to NE's R&D mission, for example technologies for improvements of existing reactors, advanced reactors, and fuel cycle systems.
- TCF ($6,257,000) – NE supports the transfer of promising nuclear energy technologies developed at the Department's national laboratories to the nuclear industry for commercialization through TCF. The TCF was established under 42 U.S. Code § 16391, which directed the Secretary to "establish an Energy

Technology Commercialization Fund, using 0.9 percent of the amount made available to the Department for applied energy research, development, demonstration, and commercial application for each fiscal year based on future planned activities and the amount of the appropriations for the fiscal year, to be used to provide matching funds with private sector partners to promote promising energy technologies for commercial purposes."

- University-led Research and Development ($48,970,000) – NE supports nuclear energy research and development being conducted at U.S. colleges and universities through yearly competitive solicitations. The program's goal is to support outstanding, cutting-edge, and innovative research at U.S. universities in the areas of nuclear energy science and technology through the following funding opportunities:
    - Consolidated Innovative Nuclear Research (CINR): NE will utilize the CINR funding opportunity to align nuclear energy research with NE's mission, focusing on strategic needs and priorities including fuel cycle, reactor concepts, and used nuclear fuel management research. The effort will include a new national laboratory internship opportunity that aims to expand university-national laboratory collaboration and strengthen the U.S. nuclear energy workforce. The funding opportunity also offers Integrated Research Projects (IRPs), which are multi-disciplinary and multi-institutional projects that address near-term nuclear energy research challenges, technology innovation needs, or capability gaps. IRPs are intended to integrate across disciplines to achieve solutions to complex research challenges that cannot be addressed by a less comprehensive team.
    - Distinguished Early Career Program (DECP): NE will continue to utilize its most prestigious opportunity for faculty members, DECP. This program will focus on early career faculty conducting transformative research and leadership aligned with NE's mission.
    - CINR Phase II Continuation: NE will utilize the CINR Phase II Continuation Notice of Funding Opportunity (NOFO) to provide support for teams that have performed high quality work through the Nuclear Energy University Program (NEUP) to propose new projects that complement and enhance ongoing NEUP research through a competitive application and review process.
- University Infrastructure ($12,000,000) – NE supports the infrastructure needed at universities to conduct cutting-edge research. NE provides competitively awarded funding to universities through solicitations that will include the following elements to revitalize the existing university nuclear research infrastructure.
    - Scientific Infrastructure Support for CINR
        - *General Scientific Infrastructure:* to focus on equipment, instrumentation, and associated non-reactor upgrades that significantly improve or expand research, instruction, and training capabilities at individual universities and colleges.
        - *Reactor Upgrades:* to improve existing nuclear research and training reactors at individual universities and colleges. It includes the purchase and maintenance of equipment to enhance the safety, security, performance, control, or operational reliability of the research reactor.
    - Reactor Sharing & Outreach: to provide a competitive opportunity to increase the use of university research reactors through support of expanded partnering and public outreach.
    - Infrastructure Revitalization: to competitively award consortium-led efforts to establish and/or enhance nuclear research infrastructure capabilities at U.S. universities. They may include enhancements to existing reactors and the addition of related capabilities such as simulators. This support will help U.S. universities (1) offer hands-on experience with commercially relevant advanced reactor concepts, reflective of those being deployed by industry; and (2) offer research capabilities that address emerging technical challenges. These activities are expected to be led by one or more university-led consortia with appropriate expertise to ensure that the new capabilities will support these goals.

National Nuclear Talent Development Program ($6,962,000) (formerly known as the University Nuclear Leadership Program)

The National Nuclear Talent Development Program (NNTDP) (formerly known as the University Nuclear Leadership Program (UNLP)) provides undergraduate scholarships and graduate fellowships to students attending two and four-year institutions of higher education. In line with Executive Order 14302, Reinvigorating the Nuclear Industrial Base, NNTDP will help build the construction, operations, and maintenance workforce by expanding training opportunities for technical college, trade school, and community college students through industry and society partnerships, utilizing existing networks to develop this essential workforce for nuclear deployment at scale.

University Fuel Services (UFS) ($29,642,000)

University Fuel Services (UFS) supports the continued operation of U.S. university research reactors for the successful execution of the nuclear energy research mission. The program ensures university research reactor fuel is handled in accordance with U.S. and Department of Energy non-proliferation and national security objectives. The primary roles of UFS are focused on the following areas:

- Providing new fuel and removing used fuel from 25 operating research reactors at 24 universities.
- Procuring new university research reactor fuel (e.g. plate, TRIGA, and PULSTAR fuel) from commercial vendors.
- Shipping used nuclear fuel to DOE used fuel receipt facilities and lightly irradiated used TRIGA fuel to universities as needed.

University and Competitive Research Programs
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
NEUP, SBIR/STTR, and TCF	105,140	111,240	92,237
National Nuclear Talent Development Program	6,630	6,630	6,962
University Fuel Services	28,230	28,230	29,642
Total, University and Competitive Research Programs	**140,000**	**146,100**	**128,841**

Explanation of Changes for University and Competitive Research Programs

NEUP, SBIR/STTR, and TCF

The reduction from $111,240,000 to $92,237,000 supports the NEUP programs focus on critical Nuclear Energy (NE) mission objectives by addressing strategic needs and priorities, introducing a new national laboratory internship opportunity to cultivate future talent, continuing essential support for the SBIR and STTR programs to commercialize innovative contributions from small businesses, and maintaining the vital role of the TCF in accelerating the transition of promising nuclear energy technologies from national laboratories to industry.

National Nuclear Talent Development Program (NNTDP) (formerly known as the University Nuclear Leadership Program)

The increase from $6,630,000 to $6,962,000 supports the expansion of training opportunities for students attending community colleges and trade schools through partnerships with industry and societies to leverage existing networks.

University Fuel Services (UFS)

The increase from $28,230,000 to $29,642,000 supports the accelerated procurement and processing of used Training, Research, Isotopes, General Atomics (TRIGA) fuel associated with 12 university research reactors.

Reactor Concepts Research, Development, and Demonstration

Overview

The Reactor Concepts Research, Development, and Demonstration (RD&D) program supports conducting RD&D on existing and advanced reactor designs and technologies to achieve national dominance in nuclear technology. This RD&D enables industry to address technical and regulatory challenges associated with maintaining the existing fleet of nuclear reactors; promoting the development of a robust pipeline of advanced reactor designs, technologies, and associated supply chains; developing technologies for producing fuels and chemicals; delivering process heat and electricity directly to industries; and progressing these advanced reactor designs and technologies towards demonstration when appropriate. Program activities support the May 2025 Executive Orders by addressing technical, economic, safety, and security enhancement challenges associated with the existing commercial light water reactor fleet and advanced reactor technologies, covering large, small, and micro-sized designs across an array of reactor types including light water, fast reactors using liquid metal coolants, and high temperature reactors using gas or molten salt coolants. Pursuant to these Executive Orders, the RD&D program will help usher in a nuclear renaissance and expand America's energy dominance agenda by generating data to accelerate nuclear reactor licensing, facilitating activities to enable addition of new U.S. nuclear capacity, and complementing efforts to deploy U.S. reactors for national security applications.

To maximize the benefits of nuclear power, the following challenges must be addressed:

- Improving economic competitiveness of nuclear energy technologies
- Enhancing safety and reducing technical and regulatory risk
- Managing potential proliferation risks of nuclear materials
- Establishing required supply chain
- Expanding applications and markets of nuclear energy
- Improving the economic outlook for the U.S. nuclear industry

Reactor Concepts RD&D is key to enabling the industry to expand the domestic nuclear energy capacity by regaining a technological and market leadership role. Through cost-shared RD&D activities, related technical assistance, and cross-cutting innovative research and development (R&D), the Department will enable industry to accelerate the timeline for commercialization of new, advanced, and more economical reactor technologies that will expand the domestic nuclear industry and advance America's leadership role in the global nuclear sector.

The Reactor Concepts RD&D program continues to support RD&D efforts focused on advanced reactors and the existing fleet in FY 2027. The Power Reactor Optimization (formerly Light Water Reactor Sustainability) subprogram conducts research in support of existing commercial nuclear power plants to provide affordable, safe, and reliable energy. The goal is to enable industry to enhance the energy supply from the existing nuclear power plant infrastructure through capacity expansion, power uprates, restart of closed plants, and enabling new reactor deployment at existing nuclear sites. The subprogram also promotes the efficient and economic performance of current nuclear power plants while enabling their extended operation. A critical element of the subprogram is the development of advanced methodologies and tools for industry use in resolving highest priority and highest uncertainty technical issues.

The Integrated Energy System (IES) subprogram conducts R&D on nuclear energy pathways for transportation, industrial, and commercial sectors through electrical, thermal, and chemical energy forms. This subprogram focuses on developing technologies that provide multiple nuclear energy products including fuels, processing heat, electricity, and chemicals. These technologies broaden the market and improve long-term economics of nuclear power plants.

The Advanced Reactor Technologies (ART) subprogram conducts targeted R&D on advanced reactor technologies, including molten salt reactors, liquid metal-cooled reactors, high temperature gas-cooled reactors, and microreactors. The subprogram also supports work on cross-cutting R&D applicable to multiple advanced reactor concepts, including non-light water reactor small modular reactors (SMRs). Focus areas of this subprogram include fundamental technologies and design methods for advanced reactors, interactions of diverse reactor coolants with materials and components, advanced energy conversion, research to enhance safety and reduce regulatory risk, experimental validation of models, advanced materials qualification, and continued international collaborations. The ART subprogram will also support competitively awarded projects to aid the progression of emerging advanced reactor designs and technologies.

With the November 2023 cancellation of the Carbon Free Power Project, no funding is requested to continue the Advanced SMR RD&D subprogram in FY 2027.

Highlights of the FY 2027 Budget Request

In FY 2027, the Microreactor Applications, Research, Validation and Evaluation (MARVEL) microreactor will achieve dry criticality at the Idaho National Laboratory. MARVEL will serve as a nuclear test bed to de-risk microreactor operations and demonstrate end-use applications. The FY 2027 Budget Request supports activities to complete the design and assembly of the Bearing Test Article for future testing in the Mechanisms Engineering Test Loop, to enable use of compact in-vessel fuel handling machines that will reduce capital costs. Additionally, the High Dose Graphite-2 experiment irradiation is expected to begin to generate material qualification data supporting licensing of high temperature reactors. The Advanced Reactor Concepts, LLC Advanced Reactor Concepts 2020 (ARC-20) award will be complete in FY 2027, resulting in a preliminary design of the ARC-100 concept. This marks the completion of the ARC-20 program which significantly reduced technical and regulatory risks for advanced reactor designs that could have a significant impact on energy markets as soon as the mid-2030s.

Advanced Small Modular Reactor (SMR) Research, Development, and Demonstration (RD&D) provided support to help re-establish U.S. leadership in nuclear energy by maturing SMR concepts toward commercial readiness. A range of significant technological accomplishments were achieved in developing advanced SMR designs. No funding is requested in the FY 2027 budget for the Advanced SMR RD&D subprogram.

Power Reactor Optimization (PRO), formerly Light Water Reactor Sustainability, conducts R&D on technologies and other solutions that can improve economics, increase energy production, sustain safety, and maintain the technical reliability of the current domestic fleet of commercial nuclear power plants. The focus of the subprogram is on conducting R&D that addresses the nuclear industry's economic challenges, promoting domestic nuclear energy expansion through restarts of closed plants, greater energy production of operational plants, and continued long-term operation to meet domestic energy demands. PRO directs national laboratory research and collaborates with nuclear power plant owner-operators, vendors, suppliers, industry support organizations, other research organizations, and the Nuclear Regulatory Commission (NRC) to closely coordinate research that both supports industry needs and maximizes taxpayer benefits.

The Power Reactor Optimization subprogram consists of the following R&D areas:

1. **Plant Optimization:** R&D to address nuclear power plant economic viability and optimize plant performance in current and future energy markets by increasing efficiency through the implementation of digital technologies, machine learning, and Artificial Intelligence (AI). The products will enable modernization of plant systems and processes across the industry by enabling a shift from a labor-centric to a technology-centric business model that supports improved performance at a lower cost.

2. **Capacity Expansion:** R&D to expand nuclear energy production and use, accelerate near-term capacity expansion opportunities, and extend nuclear power applications beyond the traditional electricity markets. This area will focus on increasing plant uprates, improving plant capacity factors, restarting closed plants, and enabling the deployment of new plants at existing nuclear sites.
3. **Protection and Assurance:** R&D that will develop and deploy advanced methods and tools to be used to implement cost-effective nuclear power plant security regimes. This R&D enables companies across industry to reduce excessive conservatism in security modeling, leverage automation as force multipliers, optimize security postures, enhance efficiency, and develop additional means to risk-inform approaches in evaluating security changes.
4. **Long-term Performance:** R&D to ensure the performance of vital systems, structures, and components (SSC) in their in-service environments and develop techniques and methods for long-term management. The R&D products will be used to define operational limits and aging mitigation approaches for materials in nuclear power plant SSCs, providing key input to both regulators and industry, and develop novel approaches for continued maintenance and operation of the plants.

In FY 2027, the Power Reactor Optimization subprogram will leverage the national laboratory system, coordinate priorities with industry stakeholders, provide technical support to previously funded industry awards, and engage regulators through an existing MOU to focus on the conduct of R&D to resolve industry's highest priority and highest uncertainty challenges, and to identify areas of capacity expansion and plant power uprates. The subprogram will incorporate advanced models, methods, machine learning, and artificial intelligence to address these challenges and provide solutions to improve the current business model and associated practices of the current fleet. Application of these new technologies will enable the existing nuclear power plant fleet to manage the aging of SSCs, improve performance metrics, expand capacity, and pursue larger power uprates.

Advanced Reactor Technologies (ART) conducts essential R&D activities to reduce technical risks associated with advanced reactor technologies and systems. The subprogram's R&D scope reflects input from advanced reactor stakeholders with a goal of enabling industry to mature and ultimately demonstrate advanced reactor technologies. The ART subprogram focuses on industry-informed R&D priorities that would provide widely applicable benefits across many different advanced reactor concepts to enhance the likelihood of future demonstration and commercialization of emergent advanced reactor technologies and stimulate new ideas for transformational future concepts. The ART subprogram continues support for international collaborations on advanced reactor operations and safety promoting the development of advanced reactors in the United States and supporting deployment and export of U.S. technologies in the global marketplace. The ART subprogram leverages artificial intelligence tools to accelerate the development and future deployments of advanced reactors, including activities to enable autonomous control of advanced reactors.

ART R&D efforts support innovative reactor concepts and supporting capabilities, including:

1. **High temperature gas-cooled reactors (HTGR)**: Supports advanced alloy qualification, scaled integral experiments, and development and validation of modeling and simulation tools to support design and licensing.
2. **Fast reactors**: Demonstrates feasibility of advanced systems and component technologies to enhance performance and economic competitiveness and validates methods and codes to support design and licensing.
3. **Molten salt reactors (MSR)**: Investigates fundamental salt properties as well as materials, models, fuels, and technologies to reduce technical uncertainties for MSRs to enable development and demonstration.
4. **Microreactors**: supports non-nuclear and nuclear integrated system testing as well as maturation of innovative components. Supports the MARVEL microreactor which will be a nuclear microreactor test platform to test microreactor technologies and end-use applications.

5. **Graphite qualification**: Supports R&D activities to irradiate, characterize, and qualify nuclear grades of graphite and to establish design rules to enable use of graphite in high temperature reactors. Supports activities to establish a domestic nuclear graphite supply chain for high temperature reactors.
6. **Space Reactors**: In coordination with NASA, supports research and development of nuclear reactor technologies for space applications to: (a) power space exploration by further advancing nuclear reactor technology capabilities of fission power for spacecraft and surface systems; (b) further evolve space nuclear technology to support US national security interests; and (c) enable the safe, secure, productive, and profitable development of the U.S. commercial space industry.

Industry-led, cost-shared R&D activities are supported through competitively selected industry awards to reduce technical and regulatory risks associated with advanced reactor designs. Specifically, in FY 2021, DOE announced the selection of three awards to support the development of designs that could have significant impact on the energy market in the mid-2030s or later. The three concepts selected for award were:

- Advanced Reactor Concepts, LLC: Development of a conceptual design of a seismically isolated advanced sodium-cooled reactor facility
- General Atomics: Development of a fast modular reactor conceptual design with verifications of key metrics in fuel, safety, and operational performance
- Massachusetts Institute of Technology: Maturing the Modular Integrated Gas-Cooled High Temperature Reactor (MIGHTR) from a pre-conceptual stage to a conceptual stage (currently in the closeout process)

Integrated Energy Systems activities will be narrowed in FY 2027 to focus on completing high-priority projects such as planning the testing facilities necessary to enable the export of nuclear heat to industry and refining cost estimations of nuclear plants. These activities will be supported by FY 2026 appropriations to the Integrated Energy Systems (IES) subprogram. Outcomes of this subprogram include technical and economic assessments of nuclear energy applications; thermal distribution and control systems capable of delivering heat directly to major industrial and commercial applications; power system designs for managing load transients and reliability for directly supplying heat and electricity to industry and data centers; and validating process economics of converting nuclear energy into fuels and chemicals.

The IES subprogram consists of four pillars of R&D:

1. **National Impact of Nuclear IES:** Assesses the potential for nuclear energy on a national level based on market competition, enacted policies, and resource limitations for all energy sources.
2. **Nuclear Applications R&D:** Assesses economic opportunities for supplying energy to a variety of industrial plants. Cost optimization for near-term opportunities substituting energy imports with nuclear energy and longer-term opportunities of retrofitting industrial plants with advanced processes for nuclear energy applications.
3. **Thermal Systems R&D:** Conducts research on utilizing nuclear heat for industry. This effort analyzes industrial requirements to develop cost-effective and reliable thermal system designs that include heat exchangers, thermal storage, fluid system components, turbine engines, and control systems.
4. **Chemical Systems R&D:** Focuses on developing nuclear e-fuels that are distributed and used by the existing transportation infrastructure and developing economically competitive processes for producing a range of chemical commodities with nuclear power.

Reactor Concepts Research, Development, and Demonstration
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Advanced Small Modular Reactor RD&D	-	45,000[1]	-
Power Reactor Optimization	44,500	37,000	35,000
Advanced Reactor Technologies	73,800	78,800	92,059
Integrated Energy Systems	9,500	16,000	-
Total, Reactor Concepts Research, Development, and Demonstration	**127,800**	**176,800**	**127,059**

Explanation of Changes for Reactor Concepts Research, Development, and Demonstration

The increase in the ART budget from $73.8 million to $92.059 million reflects increased activities to enable initiation of dry criticality of the MARVEL microreactor in addition to the development of artificial intelligence tools to accelerate the deployments of advanced reactors.

No funding is being requested for IES in FY 2027. Activities will continue at a reduced level by utilizing prior year appropriations.

[1] No funding was requested for Advanced Small Modular Reactor RD&D in FY 2026.

Fuel Cycle Research and Development

Overview

The Fuel Cycle Research and Development (FCR&D) program conducts applied research and development (R&D) on advanced fuel cycle technologies that improve resource utilization and energy generation, and limit proliferation risk. The FCR&D program also contributes to the Department's policies and programs for ensuring a secure, reliable, and economic nuclear fuel supply for both existing and future reactors.

The FCR&D program also has the responsibility for the disposition of U.S. used nuclear fuel (UNF) and high-level radioactive waste (HLW), as stated in the Nuclear Waste Policy Act of 1982, Public Law 97–425, as amended. The Department remains committed to fulfilling its legal obligation to properly manage and dispose of this material, thereby reducing the Federal Government's estimated UNF liabilities. The program also supports R&D on multiple advanced fuel technologies that hold promise for enhanced performance and improved economics or are an important element in the development of the next generation of reactor designs.

A critical focus of the FCR&D program is supporting the availability of High-Assay Low-Enriched Uranium (HALEU) for civilian domestic research, development, demonstration, and commercial use. The program is ensuring HALEU is available in the near-term while establishing a long-term commercial HALEU and strengthened LEU supply chain capable of supporting deployment of advanced reactor technologies and continued operation of the existing commercial nuclear fleet.

Highlights of the FY 2027 Budget Request

The Material Recovery and Waste Form Development (MRWFD) subprogram will focus on advancements in nuclear fuel recycling and waste treatment technologies. Key areas of development include aqueous and vapor phase actinide separation, recovery of HALEU from Advanced Test Reactor (ATR) used nuclear fuel (Recovery of Critical Assets Pilot Program or RECAPP), off-gas and waste form improvements, and pyro/molten salt processing techniques. The overall goal is to develop more efficient, scalable, and cost-effective methods for nuclear fuel recycling, separation of valuable materials, and waste reduction. MRWFD program also coordinates with the private industry to offer public-private partnerships through competitive, cost-share program to pilot approaches to reprocess used nuclear fuel for use in new energy applications, such as medicine and industry applications. MRWFD program will be restructured to realign the subprograms to fit with domestic reprocessing and recycling options to close the fuel cycle to support long-term sustainability and efficient waste management in the U.S.

The Accident Tolerant Fuels (ATF) subprogram focuses on industrializing nuclear fuel technologies, including testing support for industrial design and licensing needs. Commercial reactor irradiated fuel will be shipped to national laboratories, and industrial contracts for ATF will be continued based upon annual appropriations. The National Reactor Testbed will be utilized to support ATF industrial partners' licensing needs, and Post Irradiation Examination (PIE) on ATF commercial reactor irradiated fuel will continue. Separate effects testing on ATF samples will also continue. Progress will be made toward establishing and enhancing experimental infrastructure to support commercial nuclear reactor research demands.

In FY 2027, the Next Generation Fuels (NGF) subprogram will focus on advanced nuclear fuel research and will concentrate on several key areas to enhance reactor performance and safety. Research will be performed on advanced nuclear fuel systems that support a range of advanced LWR and Non-LWRs. Metallic fuels will focus on qualification, improved fabrication, safety testing, and next-generation technologies for sodium-cooled fast reactors. Molten salt fuel research will focus on development of synthesis and purification technologies,

establishment of fuel standards, and implementation of comprehensive irradiation testing. Silicon-carbide cladding will undergo continued fabrication development, testing, and performance code development. NE will issue a call for proposals for innovative fuel systems to enhance LWR performance. Research on coated fuel particles (TRISO) will involve completing post-irradiation examination and safety testing while also developing future testing plans. Finally, advanced physics testing will focus on developing the System Physics Advanced Reactor Critical (SPARC) reactor physics test platform and a five-year plan for critical experiments.

In FY 2027, the Advanced Nuclear Fuels Availability (ANFA) subprogram will be funded using carryover appropriations from previous fiscal years. The subprogram supports the availability of HALEU for civilian domestic research, development, demonstration, and commercial use. Activities include recovery and down-blending of limited excess quantities of Department of Energy (DOE) uranium inventories.

The ANFA subprogram complements activities funded under the Inflation Reduction Act of 2022 (Public Law 117-169, August 16, 2022), Section 50173 (the IRA), and activities authorized by; the National Defense Authorization Act for Fiscal Year 2024 (Public Law 118-31, December 22, 2023), Section 3131 (the NDAA) and funded under Section 312 of the Consolidated Appropriations Act for FY 2024 which reallocates funds from the Civil Nuclear Credit program under the Infrastructure Investment and Jobs Act (Public Law 117-58) to directly support the supply chains for both LEU and HALEU.

Fuel Cycle Laboratory R&D subprogram will focus on key areas to include innovative nuclear materials research aimed at next-generation fuel cladding through advanced manufacturing and novel coatings; enhanced capabilities in Innovative Process Control (IPC), focusing on quantitative measurements and fission product removal; advancements in Materials Protection, Accounting, and Control Technologies (MPACT), including holdup monitoring, analyzing data obtained from molten salt sampler and microcalorimeter, and nuclear material accounting for fuel fabrication; and comprehensive Systems Analysis and Integration (SAI) efforts to develop nuclear outlooks (coordinated with the Integrated Energy Systems program), support the assessment of recycling fuel cycle economics, facilitate rapid deployment of advanced reactors, and support HALEU market sustainability.

Material Recovery and Waste Form Development ($52.4 million)
The Material Recovery and Waste Form Development (MRWFD) subprogram conducts applied R&D on advanced fuel recycling technologies that have the potential to improve resource utilization and energy generation by maximizing the recovery and reuse of valuable components in used nuclear fuels, reduce waste generation significantly reducing the amount of geological waste, and manage potential proliferation risks. The subprogram includes developing advanced fuel recycling technologies aimed at technology transfer to industry and addressing fundamental materials separations and recovery challenges that present significant degrees of technical risks and financial uncertainties. These recycling facility demonstrations will compliment broader DOE priorities and R&D.

MRWFD provides unique nuclear chemistry expertise and technical capabilities in separation technologies to a broad range of applications by seeking a fundamental understanding of various chemical challenges related to civil nuclear applications. FY 2027 planned activities include scale-up of advanced chemical decladding (RECAPP), advanced voloxidation and direct extraction to kg engineered scale with UNF and at fractional pilot scale (e.g 1/4 or 1/3 scale) using surrogate materials

Specific R&D includes:

- Development of advanced separations technologies to maximize the recovery and reuse of useful components in used nuclear fuel;
- Exploit principles of coordination chemistry to simplify actinide separations (e.g. first-of-a-kind aqueous, pyro, and hybrid technologies);
- Understand and manage radiation effects on materials and processes;
- Develop advanced waste forms to efficiently immobilize fission products;
- Design robust materials for separations of gas-phase species; and
- Support United States commercial industry, leveraging safeguards and security by design, to recover useful materials that support domestic supply chain resiliency in nuclear fuels, medical, and industrial applications.
- Development of improvements to pyrochemical unit operations to bridge technical gaps to commercial deployment, improve efficiencies, and provide additional processing options for advanced reactor fuel cycles.

Mining, Conversation, and Transportation ($1.4 million)

The Office of Nuclear Energy (NE) supports uranium mining R&D to continuously revitalize and strengthen the domestic uranium mining industry to benefit the entire front-end of the U.S. nuclear fuel cycle. De-risking the uranium mining technology will help fulfill the Department's goal in unleashing commercial nuclear power in the United States.

In-situ recovery (ISR) technology is the most cost effective and environmentally acceptable uranium mining method in the United States. The Mining, Conversion, and Transportation subprogram has assembled a technical assistant team with ISR experts from Brookhaven, Idaho, Los Alamos, Oak Ridge, and Pacific Northwest National Laboratories. The subprogram goals are to support the uranium mining industry to reduce ISR technology costs and technical uncertainties, accelerate advances, and regain American leadership in ISR technology.

Specific R&D efforts supported by this subprogram include:

- advanced in-situ sensors and monitoring systems and characterization capabilities,
- groundwater solution chemistries and associated biological effects,
- subsurface geological conditions and geo-physical characterization, and
- modeling and computation with an emphasis on using artificial intelligence and machine learning tools.

In FY 2027, this subprogram will continue supporting technical experts at DOE national laboratories to develop innovative technologies to improve in-situ uranium extraction efficiency and resource utilization for domestic uranium mining industry.

Accident Tolerant Fuels ($87.4 million)

The Accident Tolerant Fuels (ATF) subprogram mission is to enable near-term Light Water Reactor (LWR) nuclear fuel technologies to support the commercial nuclear industry to enhance the performance and safety of commercial U.S. reactors. In collaboration with nuclear fuel vendors, the ATF subprogram conducts fundamental research and testing, develops and modernizes laboratory infrastructure, and performs post-irradiation examinations (PIE) through testing in commercial light water reactors (LWR) as well as through use of national laboratory irradiation and testing infrastructure. The subprogram will meet the objectives of the Nuclear Energy Innovation and Modernization Act (NEIMA) (Public Law 115-439), and as re-established by the ADVANCE Act of 2024 (division B of Public Law 118-67) towards making commercial nuclear reactor

fuel more resistant to transients and lowering the cost of electricity. Both the NEIMA and ADVANCE Act provide objectives for the near-term ATF technologies towards enhanced safety and economics.

Nuclear fuel designs with enhanced accident tolerance are intended to provide further safety and performance benefits in comparison to the current UO_2-Zircaloy systems used by the nuclear industry today. These benefits may include in-reactor performance enhancements in normal, transient, and abnormal conditions. In additional benefits may include reduced handling or storage requirements by reducing discharged-from-service UNF assemblies. Additionally, the use of ATF will enable utilities to consider additional power uprates, a significant potential for improved utility economics that directly supports U.S. energy dominance.

The U.S. nuclear fuel suppliers are developing near-term concepts towards industrialization in the areas of coated claddings and nuclear fuel. In FY 2027 Phase 3, commercialization, continues focusing on performance testing of near-term irradiated samples, including from commercial reactors, and PIE. The primary objective of Phase 3 is for near-term technologies to reach industrialization whereby industry will lead further deployment activities. By the end of Phase 3, one or more nuclear fuel vendors will have succeeded in using ATF near-term technologies to affect commercial plant safety and capacity enhancements consistent with recent executive orders.

Next Generation Fuels ($60.6 million)
The Next Generation Fuels (NGF) subprogram mission is to perform R&D to revolutionize performance and safety of existing commercial U.S. reactors and advanced LWRs including Small Modular Reactors (SMR) and non-LWRs in coordination with industrial stakeholders, including early engagement with regulatory bodies, as appropriate. NGF laboratory-based R&D lays the groundwork for nuclear fuel designs that significantly outperform today's fuel, focusing on long-term, high-reward nuclear fuel concepts and will continue to drive innovation over the long term.

As a single subprogram with a common purpose, NGF is focused on long-term fuel development efforts including:

- Silicon carbide cladding for LWR applications,
- Long-term Innovative Fuel Systems (IFS),
- Metallic fuel,
- Advanced coated particle fuel technologies,
- Molten salt fuels, and
- System Physics Advanced Reactor Critical (SPARC).

IFS are long-term high-risk high-reward technologies nuclear fuel system concepts that have great potential to provide even better performance than the near-term ATF subprogram activities described in the preceding section.

Metallic fuel development can assist industry in qualifying the fuel for use in demonstration reactors with long-term improvements. The Leading Innovation in Fuel Technology (LIFT) activity develops the data and methods that support industry and non-LWR advanced reactor developers, such as Sodium-cooled Fast Reactors. Metallic fuel is also important for recycle-driven fuel cycle scenarios under consideration in the United States and can build on these research activities. The subprogram will establish a reference fuel performance using legacy data and modern tools to fill the knowledge gaps.

Investigation of coated particle fuel technologies may extend the existing Tristructural-isotropic (TRISO) particle fuel development and qualification activities and support non-LWR designs. TRISO fuel also has applications for other reactor concepts such as molten salt-cooled high temperature reactors, microreactors, and

nuclear thermal propulsion. Irradiation, safety testing, and PIE of TRISO fuel continue to provide data for fuel development and qualification in support of industry efforts to establish a domestic commercial TRISO fuel fabrication capability.

Molten salt fuels are of interest to advanced molten salt reactor developers and require R&D to increase technology readiness levels and derisk commercial deployment. Molten salt fuels activities support the development of optimized and scalable fuel salt synthesis and purification technologies, fuel salt specifications, methods of quantifying fuel salt impurities, and comprehensive irradiation and post-irradiation testing capabilities.

Advanced physics testing in the System Physics Advanced Reactor Critical (SPARC) will enable new fuel designs, configurations, and materials performance to be tested in a physics experiments facility established at the Idaho National Laboratory (INL), in a reactor building once used for the historic Special Power Excursion Reactor Test IV studies. This type of zero-power reactor will provide key benchmarking data for designing, optimizing and licensing advanced reactors and the fuel concepts while providing critical safety data important to the manufacture, shipping, and storage of advanced nuclear fuel systems. SPARC Horizontal Split Table (HST) will represent the nuclear physics of reactors fueled with advanced LWR fuel assemblies, TRISO fuel composites, metallic fuel fast reactor designs, and captures the physics needs of essentially all other systems of interest.

Advanced Nuclear Fuels Availability ($0)
The FY 2027 Budget assumes receipts credited to the American Energy Independence Fund (AEIF) as discretionary offsetting collections during this fiscal year, as authorized by section 312(a) of title III of division D of Public Law 118-42, shall be available until expended to carry out the purposes of the Fund. Activities under the ANFA subprogram will be funded using receipts credited to AEIF and any carryover appropriations from previous fiscal years.

- Under the ANFA subprogram in FY 2027, activities will continue to support recovery and down-blending of limited excess quantities of DOE uranium inventories to meet the needs and schedules of advanced reactor developers. At INL, activities will continue to support accelerated treatment of EBR-II driver fuel to produce HALEU metal and enable a successful outcome to the commitment established between DOE and the State of Idaho for completing EBR-II driver fuel treatment prior to December 31, 2028, as stipulated in the 2019 Supplemental Agreement to the 1995 Idaho Settlement Agreement. Activities to support purification of EBR-II reguli and conversion to produce HALEU oxide will also continue.
- At Savannah River Site (SRS), activities will continue to support downblending limited separated inventories of purified HEU solution in H-Canyon storage to produce HALEU as uranyl nitrate solution. Final scope of production is limited to approximately 3.1 MTU HALEU, funded by NE, will begin in FY 2028, and is governed by the February 2023 Memorandum of Agreement between NE and the Office of Environmental Management, Savannah River Operations Office.
- At the American Centrifuge Plant in Piketon, Ohio, HALEU produced by the HALEU enrichment demonstration cascade in previous fiscal years will be stored in FY 2027 and outyears until licensed transportation packaging and a deconversion capability is available.

The ANFA subprogram complements activities funded under IRA Section 50173 including:

- Supporting the availability of HALEU for civilian domestic research, development, demonstration, and commercial use,
- Development of criticality benchmark data in support of the U.S. Nuclear Regulatory Commission (NRC),
- Grant opportunities for research, development, and acquisition of NRC certification for HALEU transportation packages, and
- Grant opportunities for innovative technologies to address gaps, enhance current processes, and advance new technologies to produce HALEU.

Finally, the ANFA subprogram complements authorizations under the NDAA to support domestic uranium mining, conversion, and enrichment, including domestic production of LEU and HALEU to meet the needs of advanced reactor developers and the consortium. In FY 2026, the Department announced competitive Task Order awards for domestic commercial LEU enrichment and HALEU enrichment funded under Section 312 of the Consolidated Appropriations Act for FY 2024 which reallocates funds from the Civil Nuclear Credit program under the Infrastructure Investment and Jobs Act (Public Law 117-58) to directly support the supply chains for both LEU and HALEU.

Fuel Cycle Laboratory ($16.7 million)

This subprogram supports research activities that advance knowledge of nuclear fuel cycles and provide transformative innovations to accelerate development of civil nuclear technologies, including consideration of fuel cycle impacts from the potential deployment of advanced reactor technologies. It includes activities in Materials Protection, Accounting and Control Technologies (MPACT), Systems Analysis and Integration (SAI), Innovative Nuclear Materials (INM), and Innovative Process Control (IPC).

MPACT develops innovative technologies, analysis tools, and advanced integration methods to enable U.S. domestic nuclear materials management, to enable safeguards for emerging nuclear fuel cycles and to address vulnerabilities in current nuclear systems while managing potential proliferation risks. Addressing U.S. energy security needs requires innovative approaches to material control and accounting (MC&A) to ensure that nuclear material is not misused, diverted, or stolen. In FY 2027 MPACT will optimize TRISO fuel fabrication MC&A plans and apply MPACT-developed technology to address U.S. industry needs including measurement technology, models, and educational approaches.

SAI activities include strategic planning and analysis as well as integrated evaluation of Fuel Cycle Laboratory R&D subprogram activities. It provides the critical capability needed to analyze complex fuel cycle system options, project nuclear fuel and demand for grid electricity under various scenarios, assess overall nuclear technology readiness, evaluate fuel cycle cost to ensure nuclear energy competitiveness and economic viability, and improve understanding of the interdependencies between various subsystems and associated technologies. In FY 2027, SAI aims to further develop strategies to enhance the resilience and capacity of the fuel supply chain for deploying advanced reactors, including ongoing techno-economic market analysis, site assessments, and updating the compendium report on advanced nuclear technologies.

INM activities continue focusing on longer-term cladding and in-core materials discovery and development for advanced nuclear energy systems applications. The goals are to develop new tools, techniques, and capabilities at national laboratories to accelerate the pace of new materials discovery, building on recent advances in artificial intelligence, machine learning, theory, modeling, and computing, and advanced characterizations. More specifically, innovative approaches are needed to develop advanced metallic alloys and composite materials that are optimized to meet new reactor performance targets within the reactor core and fuel cladding, and includes recycling of Zircaloy cladding material, which is the second largest mass in used fuel assemblies.

In FY 2027, INM will complete a new cladding barrier development and demonstrate its capability to inner-wall coating to cladding tubes; enhance fabricating reactor grade thin wall tubes by solid phase processing and pilgering; conduct engineering work to test INM fast reactor cladding materials in existing test reactors and perform further post-irradiation examination (PIE).

Innovative Process Control (IPC) activities support foundational research to innovate the fuel cycle process and associated control technologies. The goals are to enhance advanced fuel recycle processes through development of lower-TRL technologies to maximize the potential of future U.S. advanced recycling deployments. In FY 2027, IPC will develop supporting technologies, such as salt management techniques, for molten salt systems, simplified but advanced processes that reduce the cost of plant construction and operations.

Fuel Cycle Research & Development
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Material Recovery & Waste Form Development	33,000	57,000	52,375
Mining, Conversion, & Transportation	1,500	1,500	1,425
Accident Tolerant Fuels	97,900	98,000	87,400
Next Generation Fuels	65,500	92,000	60,600
Advanced Nuclear Fuels Availability	126,500	123,500	-
Fuel Cycle Laboratory R&D	16,000	16,000	16,700
Integrated Waste Management	57,500	55,000	-
Used Nuclear Fuels Disposition R&D	47,000	47,000	-[1]
Total, Fuel Cycle Research & Development	**444,900**	**490,000**	**218,500**

Explanation of Changes for Fuel Cycle Research & Development

Material Recovery & Waste Form Development (-$4.6 million)
The budget decrease from FY 2026 reflects the program's shifting priority to close the gap between R&D and demonstration. The technologies have the potential to improve resource utilization and energy generation, reduce waste generation by maximizing the recovery and reuse of valuable components and manage potential proliferation risk.

Mining, Conversion, & Transportation (-$75 thousand)
The budget decrease from FY 2026 reflects a continuation of ongoing activities.

Accident Tolerant Fuels (-$10.6 million)
The budget decrease from FY 2026 reflects industry commercialization of ATF technologies. The Department will continue to prioritize R&D that supports industry toward high-reward nuclear fuel concepts that will enhance reactor safety and performance.

[1] The budget decrease from FY 2026 reflects subprogram activities previously associated with Integrated Waste Management System and Used Nuclear Fuels Disposition R&D now being funded under the new, combined control point in a separate congressional request titled "Used Nuclear Fuel and High-Level Waste Disposition."

Next Generation Fuels (-$31.4 million)
The budget decrease from FY 2026 reflects anticipated commercialization of technologies. The Department will continue to prioritize long-term, high-reward R&D towards nuclear reactor enhancements in the area of safety and performance.

Advanced Nuclear Fuels Availability (-$123.5 million)
The budget decrease from FY 2026 reflects activities under the ANFA subprogram will be funded using carryover appropriations from previous fiscal years. The FY 2027 Budget assumes receipts credited to the AEIF as discretionary offsetting collections during this fiscal year.

Integrated Waste Management System (-$55 million)
The budget decrease from FY 2026 reflects subprogram activities previously associated with Integrated Waste Management System and Used Nuclear Fuels Disposition R&D now being funded under the new, combined control point in a separate congressional request titled "Used Nuclear Fuel and High-Level Waste Disposition."

Used Nuclear Fuels Disposition R&D (-$47 million)
The budget decrease from FY 2026 reflects subprogram activities previously associated with Integrated Waste Management System and Used Nuclear Fuels Disposition R&D now being funded under the new, combined control point in a separate congressional request titled "Used Nuclear Fuel and High-Level Waste Disposition."

Used Nuclear Fuel and High-Level Waste Disposition

Overview

The Used Nuclear Fuel and High-Level Waste Disposition program is critical to ensuring the safe and secure long-term management of the nation's used nuclear fuel (UNF)[1] and high-level radioactive waste (HLW), fulfilling the mandate established by the Nuclear Waste Policy Act of 1982, Public Law 97–425, as amended. The Department remains committed to fulfilling its legal obligation to properly manage and dispose of this material, thereby reducing the Federal Government's estimated UNF liabilities. The program supports development and implementation of a Federal integrated waste management system. This system encompasses the structured and coordinated processes for the safe, secure, and environmentally responsible storage, transportation, and eventual permanent disposal of UNF and HLW. Additionally, the program evaluates storage, transport, and disposal considerations and costs for advanced reactor nuclear fuel forms, higher burnup, and higher enrichment fuels.

Highlights of the FY 2027 Budget Request

The Used Nuclear Fuel & High-Level Waste Disposition program is dedicated to advancing the responsible management of the nation's UNF and HLW. This involves prioritizing critical path activities, such as supporting the current commercial nuclear fleet by shipping and opening the high burnup research cask to collect data on the safety of higher burnup fuel, performing generic engineering and scientific studies for future geologic repositories, funding the Center for Used Fuel Research, and continuing the development of necessary infrastructure for a Federal integrated waste management system.

Used Nuclear Fuel and High-Level Waste Disposition ($102 million)
The current budget structure delineates the Used Nuclear Fuel Disposition (UNFD) and Integrated Waste Management System (IWMS) subprograms within the Fuel Cycle R&D congressional control. The FY 2027 Budget proposes to combine the UNFD and IWMS subprograms into a single congressional control: 'Used Nuclear Fuel & High-Level Waste Disposition.' This consolidation aims to streamline operations and enhance strategic focus on the nation's disposition mission, establishing it as an independent congressional control, distinct from Fuel Cycle R&D.

This Used Nuclear Fuel and High-Level Waste Disposition subprogram supports the development and implementation of Federal plans for the long-term management of UNF and HLW. It conducts engineering studies, targeted research, technology development, and program planning for the long-term disposition of UNF and HLW, in line with Executive Order 14302, "Reinvigorating the Nuclear Industrial Base," and consistent with the Nuclear Waste Policy Act of 1982, Public Law 97–425, as amended.

UNF and HLW Disposition focused activities include:

- In line with the Nuclear Waste Policy Act, conduct generic engineering studies and limited modeling for siting a future Federal deep geological repository;
- Public outreach and communication related to long-term management of UNF and HLW;
- Shipping the high burnup research cask from Virginia to Idaho in fall of 2027;
- Funding the Center for Used Fuel Research to address identified high risk technical issues to the long-term management and disposal of UNF; and

[1] The term "used nuclear fuel" is intended to be synonymous with the term "spent nuclear fuel" as used and defined in the Nuclear Waste Policy Act of 1982, as amended, and the Standard Contract for the Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste (10 CFR Part 961).

- Focusing the design of a Federal staging facility(ies) and associated transportation system(s) to serve as an initial step towards either a repository, reprocessing facility, or interim storage.

Used Nuclear Fuel and High-Level Waste Disposition
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Used Nuclear Fuel Disposition	47,000	47,000	-
Integrated Waste Management System	57,500	55,000	-
Used Nuclear Fuel and High-Level Waste Disposition	-	-	102,000

Explanation of Changes for Used Nuclear Fuel and High-Level Waste Disposition

Used Nuclear Fuels Disposition R&D (-$47 million)
The budget decrease reflects the merger of the Integrated Waste Management System and Used Nuclear Fuel Disposition subprogram activities previously under the Fuel Cycle R&D congressional control to a separate congressional control Used Nuclear Fuel & High-Level Waste Disposition.

Integrated Waste Management System (-$55.0 million)
The budget decrease reflects the merger of the Integrated Waste Management System and Used Nuclear Fuel Disposition subprogram activities previously under the Fuel Cycle R&D congressional control to a separate congressional control Used Nuclear Fuel & High-Level Waste Disposition.

Used Nuclear Fuel and High-Level Waste Disposition (+$102 million)
The budget increase reflects the merger of the Integrated Waste Management System and Used Nuclear Fuel Disposition subprogram activities previously under the Fuel Cycle R&D congressional control to a separate congressional control Used Nuclear Fuel & High-Level Waste Disposition.

Nuclear Energy Enabling Technologies

Overview

The Nuclear Energy Enabling Technologies (NEET) program conducts research and development (R&D) and makes strategic investments in research capabilities to develop innovative and crosscutting technologies that resolve nuclear technology development issues to enable continued operation of existing U.S. nuclear reactors, enable deployment of advanced nuclear reactors, and enable the development of advanced nuclear fuel cycles. The NEET program budget request is organized into five subprograms: (1) Advanced Materials and Manufacturing Technologies (AMMT), (2) Advanced Sensors and Instrumentation (ASI), (3) Nuclear Energy Advanced Modeling and Simulation (NEAMS), (4), Nuclear Science User Facilities (NSUF), and (5) Gateway for Accelerated Innovation in Nuclear (GAIN).

Highlights of the FY 2027 Budget Request

- NEAMS will demonstrate basic operational transient capabilities for thermal and fast molten-salt reactors (MSRs) by coupling reactor physics, thermal hydraulics, and evolving chemistry.
- AMMT will complete the development of ASME 316H laser powder bed fusion code case and continue irradiation and post-irradiation examinations of alloy 709 and laser powder bed fusion 316H for nuclear reactor applications.

Advanced Materials and Manufacturing Technologies (AMMT) ($14,000,000)

Advanced Materials and Manufacturing Technologies (AMMT) accelerates the development, qualification, demonstration, and deployment of advanced materials and manufacturing technologies in support of the U.S. leadership in a broad range of nuclear energy applications. The vision of AMMT is the expansion of reliable and economical nuclear energy enabled by advanced materials and manufacturing technologies. Four major technical areas were established to realize the mission and vision of the AMMT program:

- Advanced Materials and Manufacturing - addresses stakeholders' needs through integrated material and manufacturing technologies development to accelerate readiness and provide effective, economic solutions for the nuclear industry.
- Rapid Qualification - establishes a qualification framework for new materials to enable their timely deployment in advanced reactors more rapidly than current standards.
- Environmental Effects - addresses materials degradation for topics that are not covered by current codes and standards, including corrosion and irradiation effects on mechanical properties allowing for long term predicted performance.
- Technology Maturation - advances a technology by increasing its technology readiness level by moving it from concept through technology demonstration and validation to a reliable and scalable solution ready for real-world applications.

Advanced Sensors and Instrumentation (ASI) ($5,000,000)

Advanced Sensors and Instrumentation (ASI) conducts R&D of sensors, instrumentation and controls to support the continued operation of the existing reactor fleet, to address critical measurement technology gaps identified by the advanced reactor developer community, and to support nuclear fuel cycle development. By leveraging engagement with the U.S. national laboratories, universities, and private industry, ASI coordinates R&D to foster technology maturation from initial concept to commercial product. ASI engages directly with other programs in the Office of Nuclear Energy (NE) and with advanced reactor developers to inform its R&D, with its goals and R&D priorities published in the Advanced Sensors and Instrumentation Roadmap, updated annually.

- Develop high performance and rugged sensors for the harsh environments of advanced reactors to measure parameters such as pressure, temperature, and radiation.
- Enhance novel measurement methods and sensor performance in irradiation experiments for nuclear fuels and sensor qualifications.
- Develop methods for sensor integration into existing and future advanced reactor control systems to enhance operational efficiency and safety for the broader industry.
- Expand the development of artificial intelligence (AI) and machine learning (ML) techniques for nuclear industry applications, such as for autonomous control systems, digital twins, and sensor architecture improvements.

Nuclear Energy Advanced Modeling and Simulation (NEAMS) ($28,600,000)

Nuclear Energy Advanced Modeling and Simulation (NEAMS) develops and deploys a set of predictive modeling and simulation tools to support deployment of new nuclear reactor designs and more economic operation of existing nuclear reactors. NEAMS tools provide fundamental insights that are unattainable through experiment alone, inform experiment selection, drive design, and minimize the cost of research, development, and deployment. These modeling and simulation capabilities are extremely flexible and able to accommodate different reactor types and designs.

- For the existing fleet, NEAMS tools address core performance optimization issues and accelerate development of fuels with enhanced accident tolerance to help assure the long-term availability and market competitiveness of nuclear energy.
- For advanced reactor technologies, NEAMS tools help industry accelerate development and meet otherwise cost-prohibitive data needs.
- These tools also help support Nuclear Regulatory Commission (NRC) efforts to address its confirmatory analysis needs.

Nuclear Science User Facilities (NSUF) ($36,000,000)

The Nuclear Science User Facilities (NSUF) is the foremost mechanism for gaining access to user facilities for nuclear energy research. As a consortium of partner sites, NSUF provides users from industry, laboratories, and universities access through competitive solicitations to highly specialized nuclear energy capabilities and infrastructure. On an annual basis, researchers propose projects to be conducted at these unique facilities, with timelines ranging from a few months to several years. When projects are awarded, the NSUF funds the technical experiment and laboratory services at the partner user facilities.

The principal focus areas include awarded research for irradiation and post-irradiation examination, high-performance computing (HPC), and capability development as follows:

- The NSUF competitively supports irradiation and post-irradiation examination user access projects to accelerate emergent and innovative nuclear fuel and materials research. User projects include access to research and test reactors such as the Advanced Test Reactor at Idaho National Laboratory, hot cells, beamline capabilities, irradiation capabilities, irradiation experiment design, test fabrication support, and expert technical support.
- HPC supports scientific computing capabilities to enable nuclear energy advanced energy modeling and simulation, artificial intelligence, and digital twin activities. Four HPC supercomputers are planned to be in operation at Idaho National Laboratory including NE's flagship system called Teton.
- Capability development includes the Nuclear Fuels and Materials Library which supports the curation of a collection of high-value neutron irradiated fuel and material specimens accessible to industry and other users from prior irradiation test campaigns and real-world components retrieved from decommissioned power reactors. The NSUF program also supports the development of artificial intelligence tools and autonomous laboratory capabilities to reduce the time and cost for irradiation and post-irradiation examination testing with the goal to accelerate nuclear energy research and deployment.

Gateway for Accelerated Innovation in Nuclear ($10,000,00)

The Gateway for Accelerated Innovation in Nuclear (GAIN) facilitates access for industry and other stakeholders to the technical, regulatory, and financial support necessary to move advanced nuclear technologies toward commercialization and ensure the continued reliable and economic operation of the existing fleet.

GAIN provides direct support to the nuclear industry by:

- Supporting nuclear technology cost projection updates and capacity expansion modeling efforts
- Curating and maintaining legacy documents from demonstration reactors and other significant experiments dating back to the 1950s
- Examining and enhancing contracting mechanisms to more effectively collaborate with industry; and
- Hosting topic-specific workshops and coordinating National lab visits for industrial partners.

In addition, GAIN provides technical assistance to a wide range of stakeholder groups considering nuclear energy as an appropriate fit for their unique energy needs and objectives. In FY 2027, the Department expects that these activities will increase in importance as more States and local communities consider nuclear energy deployment.

On a quarterly basis, GAIN provides competitive opportunities for cost-shared research at the Department's national laboratories to resolve specific technical issues hindering the deployment of nuclear technologies.

Nuclear Energy Enabling Technologies
Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Advanced Materials and Manufacturing Technologies	14,082	24,000	14,000
Advanced Sensors and Instrumentation	5,682	5,000	5,000
Nuclear Energy Advanced Modeling and Simulation	28,500	28,600	28,600
Nuclear Science User Facilities	34,500	45,500	36,000
Gateway for Advanced Innovation in Nuclear	11,000	10,000	10,000
Total, Nuclear Energy Enabling Technologies	**93,764**	**113,100**	**93,600**

Explanation of Changes for Nuclear Energy Enabling Technologies

AMMT – The reduction (-$10,000,000) from $24,000,000 to $14,000,000 reflects a rebaselining after a limited directed increase for the specific purpose of continuing the development of additive manufacturing from forest product feedstock and secondary supporting materials, including metals, ceramics, polymers, and others, aiding in developing a U.S. supply chain for energy system technologies and small modular nuclear reactors.
NSUF – The decrease (-$9,500,000) from $45,500,000 to $36,000,000 reflects a reduction in support for computational user support, advanced computational architecture hardware, and artificial intelligence tool activities. Computational user support and hardware reduction (-$6,000,000) is associated with an adjusted program focus on supporting existing HPC systems at Idaho National Laboratory such as the Teton supercomputer. The artificial intelligence tool reduction (-$3,500,000) reflects a shift to only support the initial development of artificial intelligence tools associated with accelerating irradiation and post-irradiation examination testing.

Advanced Reactor Demonstration Program

Overview

The Advanced Reactor Demonstration Program (ARDP) focuses Departmental and non-federal resources on supporting the development of commercially promising advanced reactors that have the potential for near and mid-term demonstration and commercial deployment and addressing challenges hindering their deployment. The elements of the ARDP program are consistent with the Administration's energy dominance agenda by developing and deploying advanced commercial nuclear power plants for domestic utilities that are safe, economical, and reliable and to reestablish the United States as the leader in nuclear technologies, in accordance with the May 2025 nuclear energy Executive Orders. Pursuant to these Executive Orders, ARDP will help unleash American energy by accelerating advanced reactor testing, accelerating deployment of new nuclear reactor technologies, and enabling regulatory reform.

The ARDP research and development elements leading to demonstration include these four major elements:

- National Reactor Innovation Center (NRIC) – Supports testing, demonstration, and performance assessment to accelerate deployment of advanced reactors through development of advanced nuclear energy technologies by utilizing the unique DOE national laboratory facilities and capabilities
- Risk Reduction for Future Demonstrations – Supports cost-shared (up to 80% government, not less than 20% industry) partnerships with U.S.-based teams to address technical, operational, and regulatory challenges to enable development of a diverse set of advanced nuclear reactor designs for future demonstration
- Regulatory Development – Coordinates activities with the Nuclear Regulatory Commission (NRC) and U.S. industry to address and resolve key regulatory framework and licensing technical issues that directly impact the "critical path" to advanced reactor demonstration and deployment
- Advanced Reactor Safeguards and Security – Evaluates safeguards and security issues that are unique to advanced reactors to help reduce roadblocks by solving regulatory challenges, reducing safeguards and security costs, and utilizing the latest technologies and approaches for plant monitoring and protection

The ARDP demonstration element supports cost-shared (up to 50% government, not less than 50% industry) demonstration projects designed to facilitate U.S. private industry's development of advanced reactors that are safe, reliable, licensable, and commercially viable. The two ongoing ARDP Demonstration projects and the five Risk Reduction projects are working to overcome barriers to future deployments to unleash American energy and prosperity, through affordable, reliable, and secure energy.

Highlights of the FY 2027 Budget Request

In FY 2027, the first test of a microreactor concept in the NRIC Demonstration of Microreactor Operations (DOME) test bed will be completed.

In FY 2027, execution of the Holtec Risk Reduction award will be complete to advance design, engineering, and licensing activities to accelerate future demonstration of its light water-cooled small modular reactor (SMR).

National Reactor Innovation Center (NRIC) enables and accelerates the testing and demonstration of advanced reactors by utilizing the unique capabilities of U.S. national laboratories. NRIC ensures that the strategic infrastructure and assets of the national laboratories are available to enable physical validation of advanced nuclear reactor concepts, resolve technical uncertainties, and generate data relevant to safety, resilience, security, and functionality of advanced nuclear reactor concepts. NRIC works closely with R&D

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programs within the Office of Nuclear Energy to avoid duplication. NRIC does not conduct R&D; it ensures the connectivity necessary to enable the demonstration of selected nuclear reactor technologies and designs.

The NRIC subprogram activities include interactions with reactor developers who are considering options for demonstrating their reactor technologies as well as development of national laboratory capabilities for hosting advanced reactor demonstrations and tests. While NRIC is led by Idaho National Laboratory (INL) with significant activities at the INL Site, resources at other national laboratories and potential nuclear reactor demonstration sites play an important role in achieving NRIC's objectives.

NRIC helps accelerate technology readiness of advanced reactors to meet the energy needs of the future. Key support to be provided by NRIC includes:

- Continuing execution of NRIC Launch Pad to provide an enduring capability for the rapid development and implementation of advanced nuclear technologies by private industry. Launch Pad builds on DOE's reactor and fuel line pilot programs (Established per Executive Order 14301) and expands beyond authorization to include the testing and operation necessary to scale first-of-a-kind technologies toward widescale commercial deployment.
- Establishing and maintaining testing capabilities at DOE national laboratories to enable development and future demonstration of advanced reactor technologies
- Developing complementary technologies, in conjunction with relevant Nuclear Energy R&D programs, such as application of digital engineering philosophies and development and proof of concept of advanced construction technologies, to reduce the cost and schedule risks associated with the deployment of advanced reactors
- Assisting with environmental reviews, as appropriate, and DOE authorization related to testing of advanced reactor technologies
- Developing a resource network of sites, facilities, and capabilities suitable for performing key R&D, experiments, tests, or fabrications, and for hosting advanced reactor demonstrations
- Identifying and facilitating resolution of experimental capability gaps which are vital to advanced reactor development and demonstration

A key FY 2027 activity for NRIC includes support for establishing infrastructure for the testing of multiple advanced reactor concepts. The Demonstration and Operation of Microreactor Experiments (DOME) test bed will be capable of hosting experiments to support testing and development of microreactor technologies. DOME is located at the former Experimental Breeder Reactor II facility at INL to support this new mission. NRIC has partnered with several microreactor developers to complete engineering and experimental design activities to enable future testing of their technologies in DOME to generate data to support design and licensing activities. In FY 2027, the first test of a microreactor concept in DOME will be completed. Activities to support the establishment of the Laboratory for Operations and Testing in the United States (LOTUS) test bed are described in the Construction section of the ARDP program. It should be noted that Other Project Costs (OPCs) for the LOTUS project are reflected in the NRIC subprogram, while Total Estimated Costs (TECs) are reflected in line item 23-E-200, LOTUS.

Demonstration Reactors: The Advanced Reactor Demonstration element of ARDP supports two advanced reactor demonstrations through cost-shared (up to 50% government, not less than 50% industry) that were competitively awarded through financial assistance solicitation. These projects are designed to facilitate U.S. private industry's development of advanced reactors that are safe, reliable, licensable, and commercially viable. The program goals include affordability in construction and operation compared to competing, alternative sources of energy in the near- and mid-term and provide significant improvements in safety, security, economics, and environmental impacts over current nuclear power plant designs. The program is designed to

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have the ability to design, site, license, procure, construct, and operate a fuel fabrication facility and reactor, with the ability to demonstrate a path to achieving commercial operation with a customer.

The two ARDP projects are:

- **Demonstration 1:** X-energy plans to demonstrate a 320 MWe, 4-unit Xe-100 High Temperature Gas-Cooled Reactor (HTGR) at the Dow Chemical Company's Long Mott Generating Station site in Seadrift, Texas.

  X-energy's FY 2027 primary activities focus on advancing plant detailed design towards construction readiness; preparation of the operating license application; continuing long-lead material procurements; supporting the NRC's review of the commercial-scale TRISO fuel fabrication facility (TX-1); completing construction of the TX-1 fuel fabrication facility in Oak Ridge, Tennessee; conducting systems testing at the Helium Test Facility and the X-energy Test Facility in Frederick, Maryland; and continuing TRISO fuel pebble irradiation test experiments at Idaho National Laboratory.

- **Demonstration 2**: TerraPower, LLC, plans to demonstrate a 345/500 MWe Natrium Sodium Fast Reactor (SFR) commercial plant at the Kemmerer, Wyoming demonstration site.

  TerraPower's FY 2027 primary activities focus on preparing to submit the Kemmerer Unit 1 Final Safety Analysis Report and Application for License to Operate to NRC; construction of Kemmerer Unit 1; construction of the Kemmerer Training Center; advancing the plant design to Final Design level of maturity; advancing the design of the Natrium advanced fuels; support the NRC's review of the Fuel Fabrication Facility Category II Facility License Amendment; and progressing the design and licensing to construct a large scale HALEU fuel fabrication facility.

Risk Reduction for Future Demonstration supports advanced reactor concepts with the potential for future demonstration through cost-shared (up to 80% government, not less than 20% industry) competitively awarded (through a financial assistance solicitation) projects that are designed to maximize the utility of the results across the nuclear energy industry. The projects are aimed at reducing risk and technical uncertainty for a broad range of advanced reactor designs. Project activities may include R&D to address technical challenges associated with development of technologies and methods to improve the timelines for advanced reactor deployments; the cost and schedule for delivery of nuclear products, services, and capabilities supporting these nuclear technologies; design and engineering processes; and resolution of certification challenges potentially impeding the introduction of these technologies into the marketplace. This subprogram coordinates closely with the Reactor Concepts Research, Development & Demonstration program and other relevant programs to avoid duplication, leverage existing expertise, and maximize synergies.

The five projects are:

1. Kairos Power, LLC (Alameda, CA) will work to design, construct, and operate its Hermes reduced-scale test reactor. Hermes is intended to lead to the development of Kairos Power's commercial-scale fluoride salt-cooled high temperature reactor (FHR), a novel advanced nuclear reactor technology that leverages TRI-structural ISOtropic particle fuel (TRISO) fuel in pebble form combined with a low-pressure fluoride salt coolant

2. Westinghouse Electric Company, LLC (Cranberry Township, PA) will advance the design of a heat pipe-cooled microreactor

3. BWXT Advanced Technologies, LLC (Lynchburg, VA) will mature a commercially viable transportable microreactor conceptual design focused on using TRISO fuel particles to achieve higher uranium loading and an improved core design using a silicon carbide (SiC) matrix

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4. Holtec Government Services, LLC (Camden, NJ) will focus on early-stage design, engineering, and licensing activities to accelerate the development of its light water-cooled small modular reactor (SMR); and
5. Southern Company Services Inc. (Birmingham, AL) will lead a project to design, construct, and operate the Molten Chloride Reactor Experiment (MCRE), a critical nuclear test supporting molten salt reactor systems and components demonstrations.

FY 2027 activities focus on continuing design, manufacturing, and construction activities; supporting further interactions with the NRC on high impact regulatory related topics; conducting activities to resolve technical, operational, and regulatory challenges; and developing and executing plans for establishing infrastructure and support capabilities to enable execution of the Risk Reduction projects and future commercialization activities. In FY 2027, execution of the Holtec Risk Reduction award will be complete.

Regulatory Development coordinates with NRC and industry to address and resolve key regulatory framework issues that directly impact the "critical path" to advanced reactor demonstration and deployment. Part of the subprogram focuses on regulatory modernization activities such as developing adaptations of light water reactor (LWR)-based regulations for non-LWR advanced reactors, finalizing the establishment of risk-informed and performance-based license application guidance, and establishing clear expectations for license application content and review criteria. The Regulatory Development subprogram supports limited R&D aimed at producing broadly applicable results that can be used by an array of private sector companies to inform their regulatory requirements. Design-specific regulatory gaps for advanced reactors, including fast reactors, gas-cooled reactors, and molten salt reactors, are also addressed. The Regulatory Development Program is supporting key activities to accelerate advanced reactor licensing including exploring the use of Artificial Intelligence to reduce licensing times. In FY 2027, the Regulatory Development subprogram will continue to provide resources for cost-share grants to applicants for the purpose of funding a portion of NRC fees for pre-application and licensing application review activities. Additionally, in FY 2027, the subprogram will continue coordination with the NRC to support harmonization of regulatory processes as NRC and DOE pursue regulatory reform, as required by Executive Orders 14300 and 14301, respectively.

Advanced Reactor Safeguards and Security (ARSS) evaluates safeguards and security issues unique to advanced reactor designs. R&D is strongly aligned with vendor needs to drastically reduce physical and cybersecurity costs and inform materials accountancy design for new fuels and reactor types. The research within the ARSS subprogram supports DOE efforts to enable the rapid deployment and export of next-generation nuclear technology and improves U.S. energy security. ARSS promotes robust efficient physical security and cybersecurity protection for advanced reactors through new technologies and approaches. Program research also provides assurance that nuclear material will be tracked and secured from theft or diversion.

All three major elements, physical security, cybersecurity, material control and accountability (MC&A), work to mature areas of R&D and program activities through vendor engagements. Through collaborative efforts with advanced reactor developers, the ARSS program generates lessons learned and deliverables to strategically approach incorporation of security requirements into the design of future reactors. The ARSS subprogram also coordinates with the NRC, Nuclear Energy Institute (NEI), National Nuclear Security Administration (NNSA), nuclear industry, and university community to collaborate on the development of technologies and methods to ensure security of advanced reactors.

Key FY 2027 activities include expanding cybersecurity work toward demonstration of wireless remote monitoring and operations, developing physical protection system, MC&A, and Cyber by design recommendations reports for all classes of advanced reactors, demonstrating new measurement technologies on

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surrogate salt materials representative of molten salt reactor fuel, and collaboration with the NRC on consequence analysis for microreactors to tailor on-site responder requirements.

Construction: 23-E-200, Laboratory for Operations and Testing in the United States (LOTUS)
The LOTUS Project will enable and support the development and deployment of advanced nuclear systems by providing the infrastructure for advanced reactor developers to securely test fueled experiments that utilize Safeguards Category I materials for operation, in contrast to facilities like DOME, which can accommodate Category II materials and below. First-of-a-kind nuclear technology developers need a location for testing, validating, and maturing new technologies or concepts, and for validating the safety and workability of systems or components individually or as part of the overall system. Advanced reactor developers also need to generate data on key phenomena relevant to the design and safe operation of their designs to aid in future licensing and commercial deployment of these technologies. Although not required for the commercial concepts, some experiments require higher enrichment fuel to keep the size of the experiment small while ensuring that neutronics and thermal hydraulics are representative of commercial designs. The intent of the LOTUS Project is to make available a robust facility that can provide the appropriate containment capabilities and supporting infrastructure. The anticipated first user of the NRIC-LOTUS test bed is the Molten Chloride Reactor Experiment (MCRE) under development by Southern Company Services, TerraPower and INL. Modification of the Zero Power Physics Reactor (ZPPR) facility at INL was originally selected as the preferred alternative to meet the LOTUS mission need.

Based on the completion of final design for the LOTUS ZPPR alternative and receipt of construction bids, the cost estimate to complete the LOTUS project has increased. The cost increase is due to many factors including a better understanding of the increased complexity associated with modification of the existing facility and changing construction market conditions. Given the cost increases, DOE re-evaluated the selection of the ZPPR facility as the preferred alternative to meet the LOTUS mission need, with consideration of recent changes to regulatory requirements. That analysis showed that building a new facility at INL (LOTUS 2.0) will be faster, less complicated and cheaper. The FY 2027 request reflects transition to LOTUS 2.0.

Advanced Reactor Demonstration Program
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
National Reactor Innovation Center	79,112	65,000	51,214
Demonstration 1	30,000	5,000	10,000
Demonstration 2	30,000	5,000	10,000
Risk Reduction for Future Demonstration	137,222	130,000[1]	115,000
Regulatory Development	17,030	25,000	18,000
Advanced Reactor Safeguards and Security	9,172	9,000	12,000
Construction: 23-E-200, LOTUS	16,112	30,000	9,786
Total, Advanced Reactors Demonstration Program[2]	**318,648**	**269,000**	**226,000**

[1] Risk Reduction for Future Demonstration FY 2026 amount includes the Use of Prior Year Balances in the amount of $100M.
[2] Balance of program totals does not include Infrastructure Investment and Jobs Act (IIJA) funding being repurposed in FY 2026.

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Explanation of Changes for Advanced Reactor Demonstration Program

The decrease in the NRIC budget from $65 million to $51.2 million reflects completion of construction of the DOME test bed.

The decrease in the Risk Reduction for Future Demonstrations budget from $130 million to $115 million reflects completion of one of the five Risk Reduction awards.

The decrease in the Regulatory Development budget from $25 million to $18 million reflects resolution of some key advanced reactor policy issues as advanced reactors move to the demonstration phase.

The increase in the Advanced Reactor Safeguards and Security budget from $9 million to $12 million reflects the necessity to expand on cybersecurity research to ensure robust approach to securing advanced reactor technologies including wireless monitoring and operation.

Advanced Reactor Demonstration Program
Construction Projects Summary
($K)

	Total	Prior Years	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
Total Estimated Cost (TEC)	110,150	54,252	16,112	30,000	9,786	-20,214
Other Project Costs (OPC)[3]	14,850	8,557	2,000	4,293	-	-4,293
Total Project Cost (TPC) Project Number 23-E-200	**125,000**	**62,809**	**18,112**	**34,293**	**9,786**	**-24,507**
Total Estimated Cost (TEC)	110,150	54,252	16,112	30,000	9,786	-20,214
Total Other Project Costs (OPC)	14,850	8,557	2,000	4,293	-	-4,293
Total Project Cost (TPC) All Construction Projects	**125,000**	**62,809**	**18,112**	**34,293**	**9,786**	**-24,507**

[3] OPC funding for 23-E-200, LOTUS is included within the National Reactor Innovation Center subprogram line.

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23-E-200, Laboratory for Operations and Testing in the United States
Idaho National Laboratory
Project is for Design and Construction

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

Summary

The fiscal year (FY) 2027 Budget Request for the Laboratory for Operations and Testing in the United States (LOTUS) project is $9,786,000 of Total Estimated Cost (TEC) funding and $0 of Other Project Costs (OPC) funding. The Total Project Cost (TPC) range for the design and construction of LOTUS is $85,000,000 to $125,000,000 and the project completion date estimate of 4Q FY 2029. The LOTUS project will provide a dynamic test bed to support testing of fueled experiments consistent with DOE safety and security requirements.

The requested capital funding in FY 2027 supports execution of construction activities and preparation for operational readiness.

Significant Changes

This Construction Project Data Sheet (CPDS) is an update of the FY 2026 CPDS and does not include a new start for FY 2027.

The project achieved Approval of Alternative Selection and Cost Range on June 1, 2023. The approved alternative was to modify the existing Zero Power Physics Reactor (ZPPR) facility at the Materials and Fuels Complex (MFC), Idaho National Laboratory (INL), and the TPC range was defined as $65,600,000 to $98,200,000, with a project completion date of 2Q FY 2030, including schedule reserve and contingency. The project completed final design on September 18, 2024, and received multiple construction subcontract bids.

The final design reflected a better understanding of the increased complexity associated with modification of the existing facility, including additional requirements for meeting nuclear facility seismic requirements, establishment of the new access tunnel to support the installation of advanced reactors, and retaining the confinement capability of the structure. There was a 6-month delay in completion of preliminary/final design, primarily driven by the detailed seismic analysis and design required to ensure that the existing structure could meet current nuclear facility requirements. This delay resulted in project cost escalation.

On February 27, 2025, the project received Approval of Long Lead Procurement, and initiated a phased procurement approach to mitigate risks and adequately integrate the delivery of certain items into the construction phase.

On March 21, 2025, the Secretary of Energy issued a memorandum to Heads of Departmental Elements and National Laboratory Directors revising delegated project authority within DOE Order 413.3B from $50 million to $300 million specific to the National Laboratories managed under Management and Operating Contracts. Given the cost range for the LOTUS project is under $300 million, project authority was delegated to Idaho National Laboratory. DOE will continue to employ project management best practices to ensure judicious management of the project while ensuring efficiency and flexibility in successfully executing this critical project.

The received construction bids reflected increased costs associated with excavation and more extensive shoring of the new access tunnel necessary to maintain the structural integrity of immediately adjacent nuclear material storage capabilities; the installation of micro-piles to underlying basalt to provide seismic stability of the new access tunnel and hatch; additional rock removal and drainage based on improved understanding of field

conditions; increased costs due to overall market demand for fabricated items, specialty nuclear components (e.g., isolation valves), and electrical/instrumentation and controls components; the higher costs associated with conducting extensive construction activities within a highly secure area; and prevailing regional construction market conditions.

Given the significantly increased costs reflected by the received construction bids, DOE did not update the TPC in the FY 2026 Project Data Sheet and elected to reassess the project. DOE carefully reviewed and considered the construction bids and INL performed an independent review of the received bids in late FY 2025. The received construction bids and independent review indicated a TPC of $207.5M. Based on the results of the independent review and increased regulatory flexibility in response to the May 23, 2025, Executive Order 14301 *Reforming Nuclear Reactor Testing at the Department of Energy,* NE reconsidered alternatives for the project. NE also halted all long-lead procurements while reconsidering alternatives.

While a new build was considered but not selected as part of the initial Critical Decision-1 process, subsequent DOE-NE regulatory reform actions (i.e., facility safety [NE Order 420.1] and security [NE Order 470.1]) makes a new build faster, less complicated, and cheaper than re-purposing the existing ZPPR. A new build reflects more straightforward construction, and initial analysis indicates this will yield significantly lower construction costs and an expedited project completion date of 4Q FY 2029. Modifying the one-of-a-kind ZPPR structure presents unknown conditions that would be encountered during construction. New construction will utilize conventional building techniques, improve efficiency by building outside the MFC secure area, implement performance-based security measures, and will not require extensive excavation adjacent to critical facilities. The preliminary TPC for the new build alternative reflects a TPC range of $85M to $125M and includes sunk costs associated with the project to-date.

The FY 2027 LOTUS PDS reflects the transition to the new build alternative.

Critical Milestone History

Fiscal Year	CD-0	Conceptual Design Complete	CD-1	Final Design Complete	CD-1R/2/3	D&D Complete	CD-4
FY 2027	3/8/2022	1/13/2022	6/1/2023	9/18/2024	3Q FY 2026	N/A	4Q 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
Final Design Complete – Estimated/Actual date the project design will be/was complete(d)
CD-1R/2/3 – Reevaluation of Selected Alternative, Approve Performance Baseline, and Approve Start of Construction
Construction Complete – Completion of construction
CD-4 – Approve Start of Operations or Project Closeout

Fiscal Year	Performance Baseline Validation	CD-3A	CD-3B
FY 2027	TBD	2/27/2025	N/A

CD-3A – Approve Long-Lead Procurements, Original Scope
CD-3B – Approve Long-Lead Procurements, Revised Scope (as needed)

Project Cost ($K)

Fiscal Year	TEC, Design	TEC, Construction	TEC, Total	OPC, Total	TPC
FY 2027	16,496	93,654	110,150	14,850	125,000[a]

a. This is strictly a breakdown of the project's TPC and not affected by funding.

No construction will be performed until the project performance baseline is validated and start of construction is approved.

2. Project Scope and Justification

Scope

Laboratory for Operations and Testing in the United States (LOTUS) will provide a dynamic test bed to support testing of fueled experiments. The test bed will be designed and constructed to meet the following minimum requirements:

- The test bed capability must have the supporting infrastructure to safely test fueled advanced reactor experiments and interface, as necessary, with reactor support systems.
- The test bed will provide approximately 14,000 square feet of new constructed area to support access roads and concrete pads, not enclosed or covered, for necessary equipment.
- The test bed capability must be able to satisfy Natural Phenomena Hazard (NPH) criteria. As a Hazard Category 2 nuclear facility, the test bed must meet the NPH requirements of DOE Order 420.1C, "Facility Safety", including seismic, wind, flood, and volcanic hazards. Design and construction must ensure that systems, structures, and components will perform safety functions during and after design basis NPH events.
- The test bed capability must be able to provide confinement capability during postulated accident and design basis events. Specifically, it must prevent or control radioactive material release to the environment either in operation or from an accident; and it must ensure air supply and exhaust are controlled, and typically filtered. Confinement may be provided by some combination of leak tightness in the structure and active ventilation to maintain a negative pressure.
- The test bed capability must have the infrastructure (physical and resource) to appropriately control safeguards category I materials.
- The test bed capability must provide the minimum features necessary to conduct an experiment to validate an advanced reactor design. The test bed capability must be available for advanced reactor testing for a minimum of 20 years from the start of operation.

Key Performance Parameters (KPPs)

A KPP is a vital characteristic, function, requirement, or design basis that, if changed, would have a major impact on the facility or system performance, scope, schedule, cost, risk, or the ability of an interfacing project to meet its mission requirements. The preliminary threshold KPPs represent the minimum acceptable scope for successful delivery of the Laboratory for Operations and Testing in the United States (LOTUS) project. Achievement of KPPs will be a prerequisite for approval of project completion. Final KPPs will be established when the project's Performance Baseline is established.

Preliminary Threshold KPPs

Performance Measure	Threshold
Provide the facility infrastructure to support the operation of experimental/test reactors that utilize fuels requiring enhanced security requirements.	Establishment of core infrastructure needed to support operation of experimental/test reactors in the test bed, with clearly defined boundaries: • Electrical supply and back-up power (as necessary) • Ventilation/exhaust for test bed cell • Support systems (e.g., compressed air, argon, fire protection, oxygen monitoring, criticality monitoring, chilled water loop system) • Establishment of control room area with appropriate data connections
Establish a Hazard Category 2 nuclear facility capable of supporting tests using safeguards category I quantities of material	Establishment of equipment access capability with required confinement and security features Approved Safety Analysis Report addressing test bed capability Completion of DOE Operational Readiness Review for the test bed capability in accordance with DOE Order 425.1E Completion of Vulnerability Assessment demonstrating compliance with applicable security requirements

Completion of operational readiness activities for first reactor tests utilizing LOTUS will not be requisite for determining successful project completion.
Funds appropriated under this data sheet may be used to provide independent assessments related to project planning and execution.

Justification

Following the advent of nuclear power generation, the United States was an international leader in the development and testing of advanced nuclear reactor technologies. DOE and its predecessor organizations appropriately provided nuclear fuels and materials development capabilities and large-scale demonstration facilities in support of currently deployed nuclear reactor technologies. However, the existing industrial and DOE test bed facilities are not Safeguards Category I facilities and therefore are not currently capable of supporting fueled advanced reactor tests using high security materials and international facilities are not an option due to concerns with access, transportation, and technical equivalencies. Lack of domestic advanced reactor test bed capabilities is hampering the U.S. ability to move forward in the development of next generation nuclear reactors.

The Nuclear Energy Innovation Capabilities Act of 2017 (P.L. 115-248) (NEICA), Section 958, Enabling Nuclear Energy Innovation, authorized the National Reactor Innovation Center (NRIC) as a program to enable the testing and demonstration of reactor concepts to be proposed and funded, in whole or in part, by the private sector. As a result, the DOE Office of Nuclear Energy launched the NRIC in August 2019. NRIC is charged with developing the infrastructure needed for the testing and demonstration of multiple advanced reactor concepts. To fulfill that charge, NRIC has been exploring options to develop test bed capabilities to provide industry partners the infrastructure to startup, test, and operate fueled advanced reactor experiments in a safe and economical manner.

Establishment of the LOTUS capability will provide industry with the infrastructure necessary to support development and testing of fueled experiments requiring safeguards category I materials for operation. Testing of these reactor experiments will provide real data that can be used to validate models and support subsequent licensing activities to bring the reactors to market.

3. Financial Schedule ($K)

	Budget Authority (Appropriations)	Obligations	Costs
Total Estimated Cost (TEC)			
Design			
FY 2022	2,252	2,252	-
FY 2023	8,992	8,992	1,529
FY 2024	252	252	9,967
FY 2025	-	-	-
FY 2026	5,000	5,000	5,000
Total, Design (TEC)	**16,496**	**16,496**	**16,496**
Construction			
FY 2023	11,008	11,008	-
FY 2024	31,748	31,748	-
FY 2025	16,112	16,112	1,989
FY 2026	25,000	25,000	12,000
FY 2027	9,786	9,786	42,000
Outyears	-	-	37,665
Total, Construction (TEC)	**93,654**	**93,654**	**93,654**
Total Estimated Costs (TEC)			
FY 2022	2,252	2,252	-
FY 2023	20,000	20,000	1,529
FY 2024	32,000	32,000	9,967
FY 2025	16,112	16,112	1,989
FY 2026	30,000	30,000	17,000
FY 2027	9,786	9,786	42,000
Outyears	-	-	37,665
Total TEC	**110,150**	**110,150**	**110,150**
Other Project Costs			
FY 2021	3,957	3,957	1,037
FY 2022	600	600	2,674
FY 2023	1,000	1,000	802
FY 2024	3,000	3,000	658
FY 2025	2,000	2,000	567
FY 2026	4,293	4,293	3,500

	Budget Authority (Appropriations)	Obligations	Costs
FY 2027	-	-	2,000
Outyears	-	-	3,612
Total OPC	**14,850**	**14,850**	**14,850**
Total Project Costs (TPC)			
FY 2021	3,957	3,957	1,037
FY 2022	2,852	2,852	2,674
FY 2023	21,000	21,000	2,331
FY 2024	35,000	35,000	10,625
FY 2025	18,112	18,112	2,556
FY 2026	34,293	34,293	20,500
FY 2027	9,786	9,786	44,000
Outyears	-	-	41,277
Grand Total	**125,000**	**125,000**	**125,000**

4. Details of Project Cost Estimate ($K)

	Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Estimated Cost (TEC)			
Design			
Design	15,496	13,180	TBD
Contingency	1,000	2,420	TBD
Total, Design	16,496	15,600	TBD
Construction			
Site Work	7,600	2,735	TBD
Equipment	13,554	-	TBD
Construction	52,500	43,285	TBD
Other, as needed	-	-	TBD
Contingency	20,000	11,380	TBD
Total, Construction	93,654	57,400	TBD
TOTAL TEC	110,150	73,000	TBD
Contingency, TEC	21,000	13,800	TBD
Other Project Cost (OPC)			
OPC except D&D			
Conceptual Design/Planning	4,917	4,620	TBD
Other OPC Costs	7,933	17,680	TBD
Contingency	2,000	2,900	TBD
TOTAL, OPC	14,850	25,200	TBD
Contingency, OPC	2,000	2,900	TBD

	Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Project Cost (TPC)	125,000	98,200	TBD
Contingency (TEC+OPC)	23,000	16,700	TBD

5. Schedule of Appropriation Requests ($K)

Request Year	Type	Prior Years	FY 2027	FY 2028	FY 2029	FY 2030	Outyears	Total
FY 2027	TEC	100,364	9,786	-	-	-	-	110,150
	OPC	14,850	-	-	-	-	-	14,850
	TPC	115,214	9,786	-	-	-	-	125,000

6. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	4Q FY 2029
Expected Useful Life (number of years)	20
Expected Future Start of D&D of this capital asset (fiscal quarter)	4Q FY 2049

Related Funding Requirements ($M)

	Annual Costs		Life Cycle Costs	
	Previous Total Estimate	Current Total Estimate	Previous Total Estimate	Current Total Estimate
Operations and Maintenance	22.4	10.4	575	495.9

Life-cycle operations and maintenance costs include escalation.

7. D&D Information

The new LOTUS test bed facility will be sited over an existing modular office building. The displaced office space is anticipated to be replaced via a leased modular office building (not included in data below).

	Square Feet
New area being constructed by this project at INL	Approximately 14,000
Area of D&D in this project at INL	13,451
Area at INL to be transferred, sold, and/or D&D outside the project, including area previously "banked"	-
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	-

Site location, building name or numbers, and square footages of existing facilities to be replaced: INL, Materials and Fuels Complex, MFC-1727, Modular Office Building – 13,451 sq ft.

As an advanced reactor test bed (laboratory facility), the proposed LOTUS test bed facility is not subject to Freeze the Footprint (>50% lab space).

8. Acquisition Approach

As a Hazard Category 2 nuclear facility, design, and construction of the LOTUS must be integrated with ongoing nuclear operations activities. Design and construction must also be coordinated/integrated with nuclear research and development programs. A design-build project delivery method managed by the INL management and operating contractor will be used for the design and construction of LOTUS. A firm, fixed-price construction subcontract is anticipated for construction of the LOTUS test bed.

Infrastructure

Overview

Infrastructure consists of the Idaho National Laboratory (INL) Facilities Operations and Maintenance (IFM) subprogram.

The mission of the IFM subprogram is to manage the planning, acquisition, operation, maintenance, and disposition of the multi-program nuclear facilities and capabilities owned by the Office of Nuclear Energy (NE) along with the supporting infrastructure at INL. The IFM subprogram maintains the Department of Energy (DOE) mission-supporting facilities and capabilities at INL in a safe and compliant status (with DOE Orders, federal laws and regulations, and state agreements) to enable technological advancement in the existing nuclear fleet, advanced reactor pipeline, and fuel cycle missions. These facilities and capabilities support the NE research and development (R&D) necessary to revitalize and unleash nuclear energy in the United States. These key assets also provide unique testing of Naval Reactors (NR) fuels and reactor core components supporting existing and future fleet needs, support a diverse range of national security technology programs for the National Nuclear Security Administration (NNSA), provide isotope production for the Office of Science, and support other federal agencies in critical infrastructure protection, nuclear nonproliferation, and incident response. The IFM subprogram integrates and closely coordinates with DOE, NNSA, and industry-driven research programs to ensure proper alignment and prioritization of infrastructure investments, as well as availability of infrastructure for programmatic work.

Highlights of the FY 2027 Budget Request

In FY 2027, the IFM subprogram will focus on:

- Maintaining safe and compliant operation of INL nuclear research reactors, non-reactor nuclear facilities, and radiological research facilities to support a wide range of customers at both the Advanced Test Reactor (ATR) Complex and Materials and Fuels Complex (MFC).
- Continuing procurements and preparation for the next ATR Core Internals Changeout (CIC) cycle and initiating major restoration activities to sustain ATR operations beyond 2045.
- Continuing community and technical activities supporting the Agreement in Principle (AIP) with the Shoshone-Bannock Tribes, the Idaho Department of Environmental Quality, and environmental reviews and data collection to support future permits.
- Continuing compliance with Federal and State environmental laws and regulations applicable to INL as well as the 1995 Settlement Agreement with the State of Idaho, the Supplemental Agreement signed by DOE and the State of Idaho in November 2019, and the Waiver of Section K.1 of the 1995 Settlement Agreement signed in April 2025.
- FY 2027 will be the first full year of operations for the Sample Preparation Laboratory (SPL) following project completion in FY 2026. SPL operations funding is accounted for under INL Non-Reactor Nuclear Research Facility Operations and Maintenance.

INL Nuclear Research Reactor Operations and Maintenance ($168,263,000)

This subcategory provides funding to support operations and maintenance of the nuclear research reactors at the ATR Complex and MFC, including the ATR, the ATR Critical Facility (ATRC), the Neutron Radiography Reactor (NRAD), and the Transient Reactor Test Facility (TREAT). ATR remains the nation's only high flux thermal neutron irradiation test reactor and is the primary research reactor at INL, supporting test programs and experiments sponsored by NE, NR, and NNSA. ATR is also the primary scientific capability of the Nuclear Science User Facilities (NSUF) and supports universities, laboratories, and private industry. There continues to be significant R&D demand for thermal neutron irradiation at ATRC and neutron radiography and small component test irradiation at NRAD. The TREAT reactor, an air-cooled thermal spectrum test facility,

continues to address technical challenges for reactor fuels related to nuclear fuel performance and qualifications. All programmatic work is funded by sponsoring federal programs, and cost to other users is determined in accordance with DOE regulations and depends upon the demands on the reactor and nature of the user.

Activities for this subcategory in FY 2027 include:

- Achieving ATR availability of 80% with a target of 200 irradiation days for the first time in over a decade in FY 2027 to satisfy the needs of planned ATR users.
- Initiate plans to reorganize used ATR nuclear fuel providing additional storage space allowing continued operations beyond the next CIC.
- Continuing procurements to support the next ATR CIC and initiating major component and system replacements (e.g., primary coolant heat exchangers, primary system valves and reactor plant motor control centers) to restore the reliability of ATR for operation beyond 2045.
- Continuing thermal neutron irradiation at ATRC, neutron radiography and small component testing at NRAD, and transient testing operations at TREAT consistent with approved research plans.

INL Non-Reactor Nuclear Research Facility Operations and Maintenance ($186,094,000)

This subcategory provides funding for operations, maintenance, and support of non-reactor nuclear and radiological research facilities primarily located at the MFC. Activities within this category sustain or improve unique nuclear and radiological capabilities essential to multiple NE R&D programs.

The non-reactor nuclear research facilities support core programmatic capabilities for inspecting, fabricating, and processing a myriad of radioactive and non-radioactive materials including:

- Post Irradiation Examination (PIE) and Fresh Fuel Characterization – Receipt of irradiated fuels and materials, non-destructive examinations, destructive examinations and analyses, and mechanical testing of highly radioactive materials.
    - In late January 2026, the Sample Preparation Laboratory began operations, completing the suite of facilities (along with the Hot Fuels Examination Facility and Irradiated Materials Characterization Laboratory) fulfilling near-term advanced post-irradiation examination needs that will serve as a center for advanced fuels and materials characterization, as well as development of new processes, tools, and instruments to further research. The initiation of SPL operations continues nuclear capability expansion in line with NRIC and DOE programmatic objectives and provides world-class structural material analysis capabilities focusing on non-fuel sample preparation, mechanical properties and failure modes, and micro/nano structural materials characterization.
- Experimental Fuel Fabrication – R&D on fabrication of multiple fuel types at various enrichment levels.
- Advanced Separation and Waste Form – Separation, pre-treatment technology development, electrochemical separation, and engineering scale waste form development.

This subcategory also provides funding for management of NE-owned special nuclear material (SNM) and support for Nuclear Regulatory Commission cask certifications.

Activities for this subcategory in FY 2027 include:

- Operating and maintaining MFC infrastructure, facilities, and equipment to support facility availability for programmatic activities.
- Performing maintenance and refurbishment activities within MFC nuclear facilities and infrastructure consistent with the approved safety basis and continuing prioritized infrastructure investments to improve reliability and availability of key MFC facilities.

- Continuing off-site disposition of excess NE-owned uranium- and plutonium-bearing contact-handled material consistent with the May 23, 2025, Executive Orders *Deploying Advanced Nuclear Reactor Technologies for National Security* and *Reinvigorating the Nuclear Industrial Base,* as well as programmatic needs and approved nuclear material allotment forecasts.

INL Engineering and Support Facility Operations and Maintenance ($5,375,000)

This subcategory provides funding for community and technical activities supporting the Agreement in Principle (AIP) with the Shoshone-Bannock Tribes, the Idaho Department of Environmental Quality, and environmental reviews and data collection to support future permits. This subcategory also funds Payment in Lieu of Taxes (PILT), Institute of Nuclear Power Operations, and Departmental cross-cutting infrastructure reporting requirements.

Activities for this subcategory in FY 2027 include:

- Continuing to support federally funded activities to maintain operations at INL, such as PILT; environmental review and data collection to support future permits; and community support for local Shoshone-Bannock Tribes.

INL Regulatory Compliance ($18,268,000)

The subcategory provides funding for activities for continued compliance with Federal and State environmental laws and other regulations applicable to INL. Compliance activities focus on air, soil, and water monitoring and waste disposal consistent with Federal and State permit requirements and agreements such as the INL Site Treatment Plan. Regulatory activities also include efforts that support compliance with the 1995 Settlement Agreement with the State of Idaho, which governs management and disposition of used nuclear fuel and transuranic wastes at INL. In November 2019, DOE and the State of Idaho signed a Supplemental Agreement to the 1995 Idaho Settlement Agreement that reaffirmed DOE's and Idaho's commitment to remove Cold War legacy waste and special nuclear materials from Idaho. In April 2025, a Waiver of Section K.1 of the 1995 Settlement Agreement was signed updating the agreement.

Activities for this subcategory in FY 2027 include:

- Continuing regulatory compliance program management.
- Meeting the INL Site Treatment Plan milestone for annual treatment of two cubic meters of mixed low-level waste (MLLW).
- Processing a minimum of 8 treatment batches of EBR-II fuel.
- Conducting environmental surveillance and monitoring activities.

Infrastructure
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
INL Facilities Operations and Maintenance[1]	326,000	342,000	378,000
Total, Infrastructure	**326,000**	**342,000**	**378,000**

[1] Funding does not reflect the transfer of $92,800,000 in FY 2025 and $96,740,000 in FY 2026 from Naval Reactors for maintenance and operation of the Advanced Test Reactor.

Explanation of Changes for Infrastructure

The increase in total funding between INL Facilities Operations and Maintenance FY 2027 Request and FY 2026 Enacted is primarily driven by continued procurements to support the next ATR CIC and initiation of ATR restoration through major component and system replacements to reliably operate ATR beyond 2045.

The ATR must replace internal core components every 7-10 years due to neutron irradiation damage. This replacement requires numerous long lead procurements to be made during the timeframe between CICs, and the next CIC is anticipated to occur around FY 2032.

The ATR has operated for almost 60 years, and many major components and systems are reaching the end of their design life or have obsolescence concerns. Maintaining this unique capability beyond 2045 requires major investments to replace systems and components like the primary coolant heat exchangers, primary coolant pump check valves, the cooling tower structure, and the plant protection system.

Idaho Sitewide Safeguards and Security

Overview

The Idaho Sitewide Safeguards and Security (S&S) program enables Office of Nuclear Energy (NE) research and development (R&D) missions at Idaho National Laboratory (INL) by securing nuclear material, classified matter, and other vital assets from theft, diversion, espionage, unauthorized access, and other hostile acts that could cause unacceptable impacts to national security or the health and safety of the public. Located on an 890-square-mile site in eastern Idaho, INL serves as the lead nuclear energy research and development laboratory, advancing nuclear energy, national security, and other applied energy solutions in support of nuclear energy objectives. The Idaho Sitewide Safeguards and Security program supports the NE mission by providing a safe and secure environment for critical innovation and nuclear development activities.

The FY 2027 Budget Request provides direct funding for NE's S&S base program. Strategic Partnership Projects (SPP) contribute an allocable share through full cost recovery. Extraordinary security requirements, such as dedicated security for non-NE infrastructure and special projects or exercises, will be funded by SPP customers and recovered by the S&S program. Other Department of Energy (DOE) programs at INL are responsible for directly funding their S&S costs.

Highlights of the FY 2027 Budget Request

In FY 2027, the S&S program will maintain high confidence in the protection of NE-owned INL assets and provide excellent customer service through strategic, performance-based integration of advanced technologies and specialized security personnel, proactive systems maintenance, and a robust cybersecurity program. Key investment areas include protecting special nuclear material (SNM), deploying emerging security technologies, and enhancing cybersecurity capabilities to focus on the critical task of deterring, responding to, and neutralizing threats.

Program Initiatives

The Idaho Sitewide Safeguards and Security program is split into the following security disciplines:

- Protective Forces: Provides security personnel 24/7 across the site to deter, detect, delay, and respond to threats, ensuring asset protection during normal and emergency conditions.
- Security Systems: Maintains and tests physical security systems, including intrusion detection, access control, barriers, lighting, and other security equipment.
- Information Security: Protects and controls classified and sensitive information through various measures, including technical security counter measures and controlled unclassified information programs.
- Cybersecurity: Secures classified and unclassified information and electronic operations using a risk-based approach, protecting against data loss or compromise.
- Personnel Security: Manages access to sensitive information and positions through clearances, security awareness, U.S. citizen and foreign visitor control, the Human Reliability Program and psychological/medical assessment programs.
- Material Control and Accountability (MC&A): Controls and accounts for special nuclear materials to prevent diversion.
- Program Management: Provides policy oversight, security planning, vulnerability assessments, incident investigations, and ensures program compliance with Departmental security requirements.

Idaho Sitewide Safeguards and Security
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Protective Forces	98,464	103,847	103,847
Security Systems	14,420	15,247	15,247
Information Security	3,100	-	-
Cybersecurity	23,916	27,133	27,133
Personnel Security	7,300	-	-
Material Control & Accountability	7,400	8,173	8,173
Program Management	5,400	5,600	5,600
Total, Idaho Sitewide Safeguards and Security	**160,000**	**160,000**	**160,000**

Explanation of Changes for Idaho Sitewide Safeguards and Security

The FY 2027 request remains at the same level as in FY 2025 and FY 2026.

Funding at this level maintains existing program activities. Subprogram levels are summarized below:

- **Protective Force**: The request level maintains functional staffing levels and associated equipment mandated by departmental security requirements and contractual wage commitments.
- **Security Systems**: The request level supports preventative maintenance for security systems. This level does not support technological investment initiatives such as artificial intelligence and other advanced detection capabilities.
- **Cybersecurity:** The requested funding level sustains current cybersecurity investments in compliance with departmental mandates. The request level does not include investments in artificial intelligence capabilities required to advance Zero Trust Architecture implementation, thereby limiting enhancements to the laboratory's defensive cyber posture.
- **Material Control & Accountability:** This request level maintains program personnel, equipment, and services. The funding level does not include investments in technological improvements.
- **Information Security:** The request represents full cost recovery for this program.
- **Personnel Security:** The request level represents full cost recovery for this program.

Idaho Sitewide Safeguard and Security
Reimbursable Costs

The FY 2027 Budget Request provides direct funding for NE's S&S base program. Strategic Partnership Projects (SPP) contribute an allocable share through full cost recovery. In FY 2026, the Information and Personnel Security functions transitioned from direct funding to full cost recovery. Information regarding SPP full cost recovery estimates is provided on the table below:

Reimbursable Costs
($K)

	FY 2025	FY 2026	FY 2027	FY 2027 vs FY 2026	
				$	%
Idaho National Laboratory	**16,035**	**30,234**	**31,015**	**+781**	**+3**

Program Direction

Overview

Program Direction provides the federal staffing resources and associated costs required to support the overall direction and execution of the Office of Nuclear Energy (NE) programs. NE has staff strategically located in Washington, D.C. Headquarters and at the Idaho Operations Office. Activities within the site office support inherently federal functions that facilitate the efficient execution of Department of Energy (DOE) programs or directly execute DOE mandated safety, security, business functions, and public outreach. In addition to NE federal personnel, Program Direction supports select federal staff and support for the Office of Human Capital Service Center and the Office of Management.

The Support Services subprogram allows the Department to cost-effectively hire the best available industry experts to support federal staff in managing the nuclear programs and complex activities. The ability to acquire expertise quickly and on an as needed basis provides flexibility in team composition as the needs of NE evolve. Program Direction also includes the Other Related Expenses subprogram, which provides NE's directed funding contribution to the Department's Working Capital Fund (WCF). The WCF supports specific Departmental services and activities that are shared across DOE including employee health and testing services and consolidated training and recruitment initiatives, established in previous fiscal years and supported in FY 2027.

In addition to appropriated funds, NE manages approximately $450 million annually from other activities such as: reimbursable funding from agencies such as the National Aeronautics and Space Administration (NASA) and the Department of Homeland Security (DHS), as well as working/coordinating with other agencies to support DOE/NE's mission.

The FY 2027 Request will allow the Office of Nuclear Energy to support its mission, address succession planning for critical technical positions, and support the International Nuclear Energy Cooperation program.

Highlights of the FY 2027 Budget Request

NE continues to assess and refine the workforce levels needed to effectively execute the robust Research, Development, and Infrastructure activities under its purview. This effort includes ensuring the federal workforce can support implementation of the Administration's Executive Orders to modernize nuclear regulation, streamline nuclear reactor testing, deploy reactors for national security purposes, and strengthen the nuclear industrial base. NE plans to achieve a staffing level of up to 300 FTEs in FY 2027. Program Direction funds the full cost of federal workforce staffing, including salaries, benefits, travel, training, and other related expenses to include contractor services managed under federal oversight.

Program Direction
Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Salaries and Benefits	33,881	31,501	35,551
Travel	605	750	1,500
Support Services	5,578	5,537	7,033
Other Related Expenses	3,217	5,815	9,000
Total, Washington Headquarters	**43,281**	**45,603**	**53,084**
Salaries and Benefits	1,569	338	338
Travel	-	-	-
Support Services	-	-	-
Other Related Expenses	50	115	115
Total, Nevada Field Office	**1,619**	**453**	**453**
Salaries and Benefits	30,519	28,944	32,104
Travel	188	200	500
Support Services	5,628	5,085	5,094
Other Related Expenses	5,765	6,715	7,500
Total, Idaho Operations Office	**42,100**	**40,944**	**44,463**
Salaries and Benefits	65,969	60,783	67,993
Travel	793	950	2,000
Support Services	11,206	10,622	12,127
Other Related Expenses	9,032	12,645	16,615
International Nuclear Energy Cooperation	3,000	3,000	1,000
Total, Program Direction	**90,000**	**88,000**	**99,735**
Technical Support	2,241	2,124	2,425
Management Support	8,965	8,498	9,702
Total, Support Services	**11,206**	**10,622**	**12,127**
Working Capital Fund	3,781	7,815	8,959
Rent, Utilities, and Facilities	2,553	2,553	2,553
Training	105	215	215
Other Services	2,593	2,062	4,888
Total, Other Related Expenses	**9,032**	**12,645**	**16,615**
Federal FTEs	**277**	**236**	**300**

Program Direction
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Program Direction		
88,000	**99,735**	**+11,735**
Salaries and Benefits		
60,783	*67,993*	*+7,210*
Provides salaries and benefits for up to 236 FTEs.	Provides salaries and benefits for up to 300 FTEs.	This increase of up to 64 FTEs reflects the organization's efforts to identify the staff levels necessary to meet critical requirements for the Department of Energy.
Travel		
950	*2,000*	*+1,050*
Provides for travel by the federal staff including any necessary permanent change of station (PCS) costs.	Provides for travel by the federal staff including any necessary PCS costs.	This increase is due to the estimated costs to support activities such as PCS and other travel requirements.
Support Services		
10,622	*12,127*	*+1,505*
Provides for technical and administrative support services for the NE federal staff.	Provides for technical and administrative support services for the NE federal staff.	This funding continues to provide technical and administrative support services for NE federal staff.
Other Related Expenses		
12,645	*16,615*	*+3,970*
Provides for NE's share of goods and services procured through the Department's Working Capital Fund (WCF); rents and utilities associated with the Idaho Operations Office; federal training expenses; and other miscellaneous expenses.	Provides for NE's share of goods and services procured through the Department's Working Capital Fund (WCF); rents and utilities associated with the Idaho Operations Office; federal training expenses; and other miscellaneous expenses.	This increase supports WCF, Energy Information Technology Service (EITS), and general training costs associated with Federal workforce expenses.
International Nuclear Energy Cooperation		
3,000	*1,000*	*-2,000*
Provides funding in support of NE's International Nuclear Energy Cooperation program focused on increasing nuclear exports and enhancing global competitiveness.	Provides funding in support of NE's International Nuclear Energy Cooperation program focused on market access.	Reflects a reduction of funding to focus on market access.

DEPARTMENT OF ENERGY
Funding by Site Detail
Nuclear Energy - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Ames Laboratory			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	-	184	-
Total Ames Laboratory	**-**	**184**	**-**
Argonne National Laboratory			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	80	555	-
Advanced Reactor Technologies	10,140	11,500	13,000
Integrated Energy Systems	1,960	5,000	-
Reactor Concepts RD&D	12,100	16,500	13,000
Materials Recovery and Waste Form Development	2,840	2,840	2,457
Accident Tolerant Fuels	30	30	26
Fuel Cycle Laboratory R&D	1,760	1,760	1,760
Advanced Nuclear Fuel Availability	250	-	-
Used Nuclear Fuel Disposition R&D	360	2,000	-
Integrated Waste Management System	2,000	2,000	-
Next Generation Fuels	500	500	400
Fuel Cycle Research & Development	7,740	9,130	4,643
Used Nuclear Fuel and High-Level Waste Disposition	-	-	3,000
Used Nuclear Fuel & High-Level Waste Disposition	-	-	3,000
Nuclear Energy Advanced Modeling and Simulation	6,855	6,805	6,800
Nuclear Science User Facilities	230	-	500
Advanced Materials and Manufacturing Technologies	3,531	3,531	3,500
Advanced Sensors and Instrumentation	288	260	260
Nuclear Energy Enabling Technologies	10,904	10,596	11,060
National Reactor Innovation Center	3,380	3,000	3,000
Regulatory Development	1,750	1,165	1,500
Advanced Reactor Safeguards	885	800	1,000
Advanced Reactors Demonstration Program	6,015	4,965	5,500
Total Argonne National Laboratory	**36,839**	**41,746**	**37,203**
Brookhaven National Laboratory			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	-	200	-
Accident Tolerant Fuels	305	305	262
Fuel Cycle Laboratory R&D	521	521	521
Next Generation Fuels	500	500	400
Fuel Cycle Research & Development	1,326	1,326	1,183
Advanced Reactor Safeguards	200	200	200
Advanced Reactors Demonstration Program	200	200	200
Total Brookhaven National Laboratory	**1,526**	**1,726**	**1,383**

DEPARTMENT OF ENERGY
Funding by Site Detail
Nuclear Energy - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Chicago Operations Office			
Nuclear Science User Facilities	1	-	-
Nuclear Energy Enabling Technologies	1	-	-
Total Chicago Operations Office	**1**	**-**	**-**
Idaho National Laboratory			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	25,084	30,574	31,517
Light Water Reactor Sustainability	15,335	-	-
Advanced Reactor Technologies	45,850	48,600	59,859
Integrated Energy Systems	5,665	10,500	-
Power Reactor Optimization (formerly LWR Sustainability)	-	18,650	18,705
Reactor Concepts RD&D	66,850	77,750	78,564
Materials Recovery and Waste Form Development	19,763	14,263	38,127
Accident Tolerant Fuels	21,044	21,044	20,000
Fuel Cycle Laboratory R&D	7,072	7,072	7,072
Advanced Nuclear Fuel Availability	39,405	-	-
Used Nuclear Fuel Disposition R&D	6,000	7,000	-
Integrated Waste Management System	6,000	6,000	-
Next Generation Fuels	44,654	44,654	41,025
Fuel Cycle Research & Development	143,938	100,033	106,224
Used Nuclear Fuel and High-Level Waste Disposition	-	-	20,000
Used Nuclear Fuel & High-Level Waste Disposition	-	-	20,000
Nuclear Energy Advanced Modeling and Simulation	11,600	11,550	11,435
Nuclear Science User Facilities	26,834	41,990	33,320
Advanced Materials and Manufacturing Technologies	3,957	3,957	4,500
Gateway for Accelerated Innovation in Nuclear	4,549	6,000	4,500
Advanced Sensors and Instrumentation	3,842	3,020	3,020
Nuclear Energy Enabling Technologies	50,782	66,517	56,775
National Reactor Innovation Center	58,386	25,955	35,000
Risk Reduction for Future Demonstrations	17,000	25,363	40,000
Regulatory Development	3,325	1,830	2,300
Advanced Reactor Safeguards	1,347	900	1,150
23-E-200 LOTUS Project	16,112	30,000	9,786
Advanced Reactors Demonstration Program	96,170	84,048	88,236
INL Facilities Operations and Maintenance	321,473	336,942	372,700
Infrastructure	321,473	336,942	372,700
Idaho Sitewide Safeguards & Security (050)	158,600	158,600	158,600
Program Direction - Nuclear Energy	2,744	4,250	4,250
Total Idaho National Laboratory	**865,641**	**858,714**	**916,866**

DEPARTMENT OF ENERGY
Funding by Site Detail
Nuclear Energy - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Idaho Operations Office			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	19,877	8,805	7,637
Light Water Reactor Sustainability	17,225	-	-
Advanced Reactor Technologies	544	1,700	700
Integrated Energy Systems	75	94	-
Power Reactor Optimization (formerly LWR Sustainability)	-	7,650	5,250
Reactor Concepts RD&D	17,844	9,444	5,950
Materials Recovery and Waste Form Development	-	25,000	-
Accident Tolerant Fuels	59,535	59,535	52,614
Advanced Nuclear Fuel Availability	5,558	-	-
Used Nuclear Fuel Disposition R&D	13,955	12,500	-
Integrated Waste Management System	5,000	9,000	-
Next Generation Fuels	220	26,720	300
Fuel Cycle Research & Development	84,268	132,755	52,914
Used Nuclear Fuel and High-Level Waste Disposition	-	-	20,000
Used Nuclear Fuel & High-Level Waste Disposition	-	-	20,000
Nuclear Energy Advanced Modeling and Simulation	685	225	250
Nuclear Science User Facilities	230	360	230
Advanced Materials and Manufacturing Technologies	100	100	-
Advanced Sensors and Instrumentation	121	60	60
Nuclear Energy Enabling Technologies	1,136	745	540
National Reactor Innovation Center	95	500	500
Risk Reduction for Future Demonstrations	-	93,037	75,000
Regulatory Development	225	10,225	10,225
Advanced Reactor Safeguards	70	120	120
Advanced Reactors Demonstration Program	390	103,882	85,845
INL Facilities Operations and Maintenance	3,808	3,558	3,800
Infrastructure	3,808	3,558	3,800
Idaho Sitewide Safeguards & Security (050)	1,400	1,400	1,400
Program Direction - Nuclear Energy	34,245	34,245	34,245
Total Idaho Operations Office	**162,968**	**294,834**	**212,331**

DEPARTMENT OF ENERGY
Funding by Site Detail
Nuclear Energy - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Lawrence Berkeley National Laboratory			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	-	400	-
Used Nuclear Fuel Disposition R&D	3,000	-	-
Fuel Cycle Research & Development	3,000	-	-
Used Nuclear Fuel and High-Level Waste Disposition	-	-	5,000
Used Nuclear Fuel & High-Level Waste Disposition	-	-	5,000
Nuclear Energy Advanced Modeling and Simulation	150	150	150
Nuclear Energy Enabling Technologies	150	150	150
Total Lawrence Berkeley National Laboratory	**3,150**	**550**	**5,150**
Lawrence Livermore National Laboratory			
Used Nuclear Fuel Disposition R&D	300	-	-
Integrated Waste Management System	25	-	-
Fuel Cycle Research & Development	325	-	-
Used Nuclear Fuel and High-Level Waste Disposition	-	-	310
Used Nuclear Fuel & High-Level Waste Disposition	-	-	310
Total Lawrence Livermore National Laboratory	**325**	**-**	**310**
Los Alamos National Laboratory			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	-	327	-
Advanced Reactor Technologies	1,495	1,300	1,300
Reactor Concepts RD&D	1,495	1,300	1,300
Materials Recovery and Waste Form Development	250	250	216
Accident Tolerant Fuels	5,275	5,275	4,526
Fuel Cycle Laboratory R&D	1,473	1,473	1,473
Used Nuclear Fuel Disposition R&D	1,500	-	-
Next Generation Fuels	2,500	2,500	1,875
Fuel Cycle Research & Development	10,998	9,498	8,090
Nuclear Energy Advanced Modeling and Simulation	3,475	3,475	3,965
Advanced Materials and Manufacturing Technologies	720	720	700
Nuclear Energy Enabling Technologies	4,195	4,195	4,665
Advanced Reactor Safeguards	490	500	500
Advanced Reactors Demonstration Program	490	500	500
Total Los Alamos National Laboratory	**17,178**	**15,820**	**14,555**
National Laboratory of the Rockies			
Integrated Energy Systems	186	107	-
Reactor Concepts RD&D	186	107	-
Total National Laboratory of the Rockies	**186**	**107**	**-**

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Nevada Field Office			
Program Direction - Nuclear Energy	1,880	1,675	1,675
Total Nevada Field Office	**1,880**	**1,675**	**1,675**
Oak Ridge National Laboratory			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	500	835	-
Light Water Reactor Sustainability	5,000	-	-
Advanced Reactor Technologies	4,939	4,500	6,000
Power Reactor Optimization (formerly LWR Sustainability)	-	6,000	6,125
Reactor Concepts RD&D	9,939	10,500	12,125
Materials Recovery and Waste Form Development	1,965	1,965	2,000
Accident Tolerant Fuels	9,066	9,066	9,452
Fuel Cycle Laboratory R&D	2,049	2,049	2,049
Advanced Nuclear Fuel Availability	485	-	-
Used Nuclear Fuel Disposition R&D	5,500	7,500	-
Integrated Waste Management System	9,000	8,500	-
Fuel Cycle Research & Development	28,065	29,080	13,501
Used Nuclear Fuel and High-Level Waste Disposition	-	-	16,000
Used Nuclear Fuel & High-Level Waste Disposition	-	-	16,000
Nuclear Energy Advanced Modeling and Simulation	4,415	4,415	4,400
Nuclear Science User Facilities	-	1,950	1,000
Advanced Materials and Manufacturing Technologies	4,245	4,245	4,300
Gateway for Accelerated Innovation in Nuclear	20	30	-
Advanced Sensors and Instrumentation	1,067	1,000	1,000
Nuclear Energy Enabling Technologies	9,747	11,640	10,700
National Reactor Innovation Center	100	45	100
Risk Reduction for Future Demonstrations	-	11,600	-
Regulatory Development	1,020	1,075	1,100
Advanced Reactor Safeguards	825	870	1,020
Advanced Reactors Demonstration Program	1,945	13,590	2,220
Total Oak Ridge National Laboratory	**50,196**	**65,645**	**54,546**
Oak Ridge Office			
Advanced Nuclear Fuel Availability	13	-	-
Next Generation Fuels	15,126	15,126	12,150
Fuel Cycle Research & Development	15,139	15,126	12,150
Program Direction - Nuclear Energy	172	-	-
Total Oak Ridge Office	**15,311**	**15,126**	**12,150**

DEPARTMENT OF ENERGY
Funding by Site Detail
Nuclear Energy - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Pacific Northwest National Laboratory			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	190	765	-
Advanced Reactor Technologies	2,350	4,700	4,700
Reactor Concepts RD&D	2,350	4,700	4,700
Materials Recovery and Waste Form Development	2,640	2,640	2,200
Accident Tolerant Fuels	395	395	468
Fuel Cycle Laboratory R&D	1,347	1,347	1,347
Used Nuclear Fuel Disposition R&D	6,000	6,000	-
Integrated Waste Management System	16,000	15,000	-
Next Generation Fuels	1,000	1,000	850
Fuel Cycle Research & Development	27,382	26,382	4,865
Used Nuclear Fuel and High-Level Waste Disposition	-	-	17,000
Used Nuclear Fuel & High-Level Waste Disposition	-	-	17,000
Nuclear Science User Facilities	-	200	200
Advanced Materials and Manufacturing Technologies	1,255	1,255	1,000
Advanced Sensors and Instrumentation	187	300	300
Nuclear Energy Enabling Technologies	1,442	1,755	1,500
Regulatory Development	280	215	300
Advanced Reactor Safeguards	600	850	950
Advanced Reactors Demonstration Program	880	1,065	1,250
Total Pacific Northwest National Laboratory	**32,244**	**34,667**	**29,315**
Portsmouth Gaseous Diffusion Plant			
Advanced Nuclear Fuel Availability	30	-	-
Fuel Cycle Research & Development	30	-	-
Total Portsmouth Gaseous Diffusion Plant	**30**	**-**	**-**
Sandia National Laboratories			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	-	100	-
Light Water Reactor Sustainability	2,695	-	-
Advanced Reactor Technologies	5,150	6,000	6,000
Power Reactor Optimization (formerly LWR Sustainability)	-	4,000	4,200
Reactor Concepts RD&D	7,845	10,000	10,200
Accident Tolerant Fuels	60	60	52
Fuel Cycle Laboratory R&D	571	571	571
Used Nuclear Fuel Disposition R&D	8,785	6,500	-
Integrated Waste Management System	5,500	5,000	-
Fuel Cycle Research & Development	14,916	12,131	623
Used Nuclear Fuel and High-Level Waste Disposition	-	-	8,000

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Used Nuclear Fuel & High-Level Waste Disposition	-	-	8,000
National Reactor Innovation Center	-	500	500
Regulatory Development	200	200	225
Advanced Reactor Safeguards	4,488	3,810	4,010
Advanced Reactors Demonstration Program	4,688	4,510	4,735
Total Sandia National Laboratories	**27,449**	**26,741**	**23,558**
Savannah River National Laboratory			
Fuel Cycle Laboratory R&D	207	207	207
Advanced Nuclear Fuel Availability	810	-	-
Used Nuclear Fuel Disposition R&D	1,300	2,978	-
Integrated Waste Management System	6,475	8,000	-
Fuel Cycle Research & Development	8,792	11,185	207
Used Nuclear Fuel and High-Level Waste Disposition	-	-	6,000
Used Nuclear Fuel & High-Level Waste Disposition	-	-	6,000
Advanced Reactor Safeguards	200	300	400
Advanced Reactors Demonstration Program	200	300	400
Total Savannah River National Laboratory	**8,992**	**11,485**	**6,607**
Savannah River Site			
Advanced Nuclear Fuel Availability	2,190	-	-
Fuel Cycle Research & Development	2,190	-	-
Total Savannah River Site	**2,190**	**-**	**-**
Washington Headquarters			
Light Water Reactor Sustainability	675	-	-
Advanced Reactor Technologies	675	500	500
Power Reactor Optimization (formerly LWR Sustainability)	-	700	720
Reactor Concepts RD&D	1,350	1,200	1,220
Mining, Conversion, and Transportation	1,500	1,500	1,425
Materials Recovery and Waste Form Development	5,542	10,042	7,375
Accident Tolerant Fuels	2,190	2,290	-
Fuel Cycle Laboratory R&D	1,000	1,000	1,700
Advanced Nuclear Fuel Availability	77,759	123,500	-
Used Nuclear Fuel Disposition R&D	300	2,522	-
Integrated Waste Management System	7,500	1,500	-
Next Generation Fuels	1,000	1,000	3,600
Fuel Cycle Research & Development	96,791	143,354	14,100
Used Nuclear Fuel and High-Level Waste Disposition	-	-	6,690
Used Nuclear Fuel & High-Level Waste Disposition	-	-	6,690
Nuclear Energy Advanced Modeling and Simulation	1,320	1,980	1,600
Nuclear Science User Facilities	7,205	1,000	750

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Gateway for Accelerated Innovation in Nuclear	6,431	3,970	5,500
Advanced Sensors and Instrumentation	177	360	360
Nuclear Energy Enabling Technologies	15,133	7,310	8,210
National Reactor Innovation Center	571	1,000	1,000
Regulatory Development	-	1,000	350
Advanced Reactor Safeguards	6	650	650
Advanced Reactors Demonstration Program	577	2,650	2,000
INL Facilities Operations and Maintenance	719	1,500	1,500
Infrastructure	719	1,500	1,500
Program Direction - Nuclear Energy	50,959	47,830	59,565
Total Washington Headquarters	**165,529**	**203,844**	**93,285**
Undesignated LPI			
University and Competitive Research Program (formerly NEUP, SBIR/STTR and TCF)	94,269	103,355	89,687
Advanced Small Modular Reactor RD&D	-	45,000	-
Light Water Reactor Sustainability	3,570	-	-
Advanced Reactor Technologies	2,657	-	-
Integrated Energy Systems	1,614	299	-
Reactor Concepts RD&D	7,841	45,299	-
Advanced Materials and Manufacturing Technologies	274	10,192	-
Nuclear Energy Enabling Technologies	274	10,192	-
National Reactor Innovation Center	468	34,000	11,114
Demonstration 1	30,000	5,000	10,000
Demonstration 2	30,000	5,000	10,000
Risk Reduction for Future Demonstrations	120,222	-	-
Regulatory Development	10,230	9,290	2,000
Advanced Reactor Safeguards	61	-	2,000
Advanced Reactors Demonstration Program	190,981	53,290	35,114
Total Undesignated LPI	**293,365**	**212,136**	**124,801**
Total Funding by Site for TAS_0319 - Nuclear Energy	**1,685,000**	**1,785,000**	**1,533,735**

Nuclear Waste Disposal

Nuclear Waste Disposal
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
12,040	12,040	12,040	-

Proposed Appropriation Language

For Department of Energy expenses necessary for nuclear waste disposal activities to carry out the purposes of the Nuclear Waste Policy Act of 1982, Public Law 97–425, as amended, $12,040,000, to remain available until expended, which shall be derived from the Nuclear Waste Fund.

Mission

The mission of the Nuclear Waste Fund Oversight program is to execute activities in compliance with the Nuclear Waste Policy Act of 1982 and ensure the continued safety of the Yucca Mountain site through activities such as security, maintenance, and environmental requirements, and continued oversight for the Nuclear Waste Fund.

Overview

The Nuclear Waste Fund Oversight program supports the Department's responsibilities for managing the Nuclear Waste Fund (NWF), administering the Standard Contract, offering legal services for nuclear waste disposal, maintaining the security of the Yucca Mountain site, and laying the groundwork within existing law to implement DOE's responsibilities for the long-term management of used nuclear fuel (UNF)[1] and high-level radioactive waste (HLW).

Nuclear Waste Fund Oversight
Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Nuclear Waste Fund Oversight	12,040	12,040	12,040	-	-
Total, Nuclear Waste Fund Oversight	**12,040**	**12,040**	**12,040**	-	-

Highlights of the FY 2027 Budget Request

The Nuclear Waste Fund Oversight program's FY 2027 Budget Request activities include:

- Implementation of an appropriate investment strategy and prudent management of the NWF investment portfolio;
- Administration of the Standard Contract for the disposal of UNF and HLW between contract holders and the government;
- Provision of legal services for activities related to management, storage, and disposition of UNF, HLW and related material;

[1] The term "used nuclear fuel" is intended to be synonymous with the term "spent nuclear fuel" as used and defined in the Nuclear Waste Policy Act of 1982, as amended, and the Standard Contract for the Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste (10 CFR Part 961).

- Associated costs for Nuclear Lifecycle Innovation Campus activities that are consistent with section 302 of the Nuclear Waste Policy Act of 1982, including activities for the storage, transportation, treatment, and disposition of UNF, HLW, and material derived therefrom.
- Management of the physical security, site maintenance, and environmental requirements for the Yucca Mountain site;
- Execution of the annual agency financial report and audit; and
- Operation and maintenance costs for Yucca Mountain legacy licensing and data management system.

These funds are inclusive of program direction activities and management and technical costs necessary to carry out the program's mission.

Description

The United States has generated significant quantities of used nuclear fuel (UNF) and high-level waste (HLW) from nuclear technology applications, including electricity generation, national defense, and research and development, and this material requires safe storage and eventual disposal. Commercial power reactors have produced approximately 97,000 metric tons of initial heavy metal (MTHM) of UNF, with the potential to generate an additional 83,000 MTHM by 2070[1]. Currently, most commercial UNF is stored at reactor sites, a quarter of which no longer have operating reactors. The United States also has an inventory of HLW from both commercial and defense activities stored in multiple states.

Under the Nuclear Waste Policy Act, the Department of Energy is responsible for the disposal of UNF and HLW. The Nuclear Waste Fund Oversight program ensures the proper management of the Nuclear Waste Fund investment portfolio and the administration of the Standard Contract for Disposal of UNF and HLW. It also supports legal services related to nuclear waste disposal activities and manages physical security at the Yucca Mountain site.

[1] Based on data from: (a) *Spent Nuclear Fuel and Reprocessing Waste Inventory*, Produced by Pacific Northwest National Laboratory (PNNL) for the U.S. Department of Energy (DOE), PNNL-33938, Rev. 1.1, December 2024; and (b) GC-859 Nuclear Fuel Data Survey Summary tables produced by PNNL for DOE, available at https://gc859.pnnl.gov, released August 9, 2024.

DEPARTMENT OF ENERGY
Funding by Site Detail
Nuclear Waste Disposal Fund - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Idaho Operations Office			
Nuclear Waste Fund Oversight	396	500	500
Total Idaho Operations Office	**396**	**500**	**500**
Los Alamos National Laboratory			
Nuclear Waste Fund Oversight	500	500	500
Total Los Alamos National Laboratory	**500**	**500**	**500**
Pacific Northwest National Laboratory			
Nuclear Waste Fund Oversight	320	375	375
Total Pacific Northwest National Laboratory	**320**	**375**	**375**
Sandia National Laboratories			
Nuclear Waste Fund Oversight	2,000	2,100	2,200
Total Sandia National Laboratories	**2,000**	**2,100**	**2,200**
Washington Headquarters			
Nuclear Waste Fund Oversight	8,824	8,565	8,465
Total Washington Headquarters	**8,824**	**8,565**	**8,465**
Total Funding by Site for TAS_5227 - Nuclear Waste Disposal Fund	**12,040**	**12,040**	**12,040**

Electricity

Electricity
($K)

FY 2025 Enacted	FY 2025 Enacted (comparable)	FY 2026 Enacted	FY 2026 Enacted (comparable)	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted (comp.)
280,000	339,750	235,000	259,750	203,477	-56,273

Proposed Appropriation Language

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for electricity 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, $203,477,000, to remain available until expended: *Provided*, That of such amount, $21,877,000 shall be available until September 30, 2028, for program direction: *Provided further*, That of such amount, $20,000 from unobligated funds made available under this heading for projects specified in the table that appears under the heading "Congressionally Directed Spending Electricity Projects" in the explanatory statement described in section 4 in the matter preceding division A of Public Law 117–103 shall be available for the purposes described under this heading: *Provided further*, That of such amount, $500,000 from unobligated funds made available under the "Electricity Delivery and Energy Reliability" heading for projects specified in the table that appears under the heading "Energy and Water Development (Congressionally Directed Spending Items)" in the joint explanatory statement accompanying the conference report on Public Law 111–85 shall be available for the purposes described under this heading: *Provided further*, That funds under this heading allocated for the purposes of section 9 of the Small Business Act, as amended (15 U.S.C. 638), including for Small Business Innovation Research and Small Business Technology Transfer activities, or for the purposes of section 1001 of the Energy Policy Act of 2005, as amended (42 U.S.C. 16391(a)), for Technology Commercialization Fund activities, may be reprogrammed without being subject to the restrictions in section 301 of this Act.

Mission

The Office of Electricity (OE) stabilizes, optimizes, and grows the electricity system to ensure the grid delivers affordable, reliable, and secure energy to the American people.

Overview

OE leads the Department's efforts to ensure the affordability, reliability, and security of the U.S. electricity grid. The electric power sector is the cornerstone for the American economy and is essential to the quality of life, connection to family and community, and a strong job market. OE works in close partnership with States, Tribes, Territories, industry, national laboratories, and other energy sector stakeholders to lower energy costs and improve grid reliability and security. OE's role includes research, development, demonstration, and analysis; overseeing key planning and permitting functions; and directly supporting the deployment of critical electric infrastructure nationwide.

Generating electric energy is only the first step; the ability to securely move affordable electricity from where it is produced to where and when it is needed is critical for a reliable electric grid. The electricity delivery system must accommodate all generation resources and load types while ensuring reliable, secure, and resilient grid operations under a variety of conditions. OE leads the Department's efforts in developing new technologies and solutions to strengthen, transform, and improve electricity delivery infrastructure so all generation sources and

loads can be fully integrated into the energy ecosystem and all customers, from data centers to individual American homes, have access to reliable and affordable electricity.

A dramatic structural transformation of the electricity delivery system is underway. America's grid is transforming into a more dynamic and structurally complex system, with bidirectional power flows and rapidly changing generation and load characteristics. Managing this will require significant reengineering and advancements in grid technology and system architectures.

In FY 2027, OE will deliver electrical energy dominance through four priority goals:

- **Strengthen, enhance, and expand the electric system's capacity to reliably and affordably meet growing demand:** Scaling for new load requires coordinated actions to ensure the grid can accommodate rapid, energy-dense growth while addressing bottlenecks slowing buildout of new infrastructure. Delays to strategic expansion of the transmission system to scale for emerging demand patterns would risk slowing economic growth, increasing consumer costs, and undermining long-term grid reliability and affordability. OE advances will support maintaining system performance, expanding capacity, and improving the grid's ability to integrate new load at scale while making cost drivers more visible and aligning investment and planning decisions so that the grid can modernize and expand without placing disproportionate burdens on consumers.
- **Ensure reliability and security of the electricity grid under increasingly complex dynamic conditions:** Modernizing for reliability and security requires aligning operational tools and planning practices with a grid that is more dynamic, data rich, and heterogeneous than in past eras. OE will focus on improving operational confidence, strengthening system performance, and supporting reliable operations as technologies and conditions evolve.
- **Catalyze on-shore production and availability of critical grid components to reduce reliance on foreign suppliers:** Grid operation and modernization depend on consistent access to critical components and materials. However, many critical grid components have limited or no domestic manufacturing capacity and their supply chains face complex challenges. OE will address supply chain challenges by addressing immediate equipment constraints, promoting common configurations, and strengthening domestic capability to support long-term grid needs.
- **Accelerate innovation through the leveraging of cutting-edge scientific initiatives:** Unleashing the power of artificial intelligence and new technologies will revolutionize grid innovation. OE will leverage Departmental investments in scientific computing to catalyze breakthrough advancements in software, methods, and tools for the grid. In addition, OE will utilize the expanding knowledge base of new materials to accelerate and enhance the design and development of next-generation grid components with improved performance and reduced cost.

OE will leverage crosscutting mechanisms, such as convening, decisionmaker empowerment, application-driven use of artificial intelligence, and test beds, to support these priority objectives. OE can help build awareness of new solutions to urgent needs and quantify the expanded solution landscape, helping decisionmakers navigate to their desired energy future.

OE's team of experts share their technical, analytical, and policy expertise with offices throughout DOE and with energy stakeholders across the country. Continued program direction support is crucial to sustain a talented workforce to facilitate the Administration's goal of energy dominance and providing a reliable, resilient, secure, and affordable 21st century power grid for the American people.

Electricity
Funding ($K)

	FY 2025 Enacted	FY 2025 Enacted (comp.)	FY 2026 Enacted	FY 2026 Enacted (comp.)	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted (comp.)	
						$	%
Transmission Reliability & Resilience	*33,000*	*33,000*	*27,500*	*27,500*	*27,500*	*-*	*-*
Energy Delivery Grid Operations Technology	*31,000*	*31,000*	*31,000*	*31,000*	*34,500*	*+3,500*	*+11%*
Resilient Distribution Systems	*53,000*	*53,000*	*25,000*	*25,000*	*20,600*	*-4,400*	*-18%*
Cyber Resilient & Secure Utility Communications Networks	*15,500*	*15,500*	*10,800*	*10,800*	*10,500*	*-300*	*-3%*
Total, Grid Controls & Communications	132,500	132,500	94,300	94,300	93,100	-1,200	-1%
Energy Storage	*92,500*	*92,500*	*85,000*	*85,000*	*51,700*	*-33,300*	*-39%*
Transformer Resilience & Advanced Components	*22,500*	*22,500*	*22,500*	*22,500*	*22,500*	*-*	*-*
Applied Grid Transformation Solutions	*13,500*	*13,500*	*13,500*	*13,500*	*10,300*	*-3,200*	*-24%*
Total, Grid Hardware, Components, & Systems	128,500	128,500	121,000	121,000	84,500	-36,500	-30%
Transmission Planning & Permitting	-	38,250	-	10,250	4,000	-6,250	-61%
Distribution & Markets	-	15,500	-	8,500	-	-8,500	-100%
Program Direction	19,000	25,000	19,700	25,700	21,877	-3,823	-15%
Total, Electricity account	**280,000**	**339,750**	**235,000**	**259,750**	**203,477**	**-56,273**	**-28%**
Transmission Planning & Permitting	38,250	-	10,250	-	-	-	-
Distribution & Markets	15,500	-	8,500	-	-	-	-
Hydropower Incentives[1]	250	-	250	-	-	-	-
Program Direction	6,000	-	6,000	-	-	-	-
Total, Grid Deployment account	**60,000**	**-**	**25,000**	**-**	**-**	**-**	**-**
Total	**340,000**	**339,750**	**260,000**	**259,750**	**203,477**	**-56,273**	**-22%**

DOE Realignment

In November 2025, DOE functionally realigned ongoing program activities within the Grid Deployment Office to the Office of Electricity. In the FY 2027 Budget Request, Grid Deployment staff and programmatic work have been incorporated in the Request for the Electricity account.

Comparable columns in the funding tables above, labeled "(comparable)" or "(comp.)," reflect how the funding would have looked had Grid Deployment activities been funded within the Electricity account in all years shown.

[1] Hydropower Incentives activities are realigned to the Office of Critical Minerals and Energy Innovation.

The tables below show the funding allocation in the prior budget structure (in the rows) and the proposed budget structure (the columns) for FY 2025 through FY 2027.

FY 2025 Enacted Appropriation Comparability Matrix
($K)

	FY 2027 Proposed Budget Structure						
	Electricity					Critical Minerals & Energy Innovation	**Total**
FY 2025 & FY 2026 Budget Structure	Transmission Planning & Permitting	Distribution & Markets	Program Direction	All Other	Total, Electricity		
Program Direction	-	-	*19,000*	-	*19,000*	-	***19,000***
All Other	-	-	-	*261,000*	*261,000*	-	***261,000***
Total, Electricity	-	-	19,000	261,000	280,000	-	**280,000**
Transmission Planning & Permitting	*38,250*	-	-	-	*38,250*	-	***38,250***
Distribution & Markets	-	*15,500*	-	-	*15,500*	-	***15,500***
Hydropower Incentives	-	-	-	-	-	*250*	***250***
Program Direction	-	-	*6,000*	-	*6,000*	-	***6,000***
Total, Grid Deployment	38,250	15,500	6,000	-	59,750	250	**60,000**
Total	**38,250**	**15,500**	**25,000**	**261,000**	**339,750**	**250**	**340,000**

FY 2026 Enacted Appropriation Comparability Matrix
($K)

	FY 2027 Proposed Budget Structure						
	Electricity					Critical Minerals & Energy Innovation	**Total**
FY 2025 & FY 2026 Budget Structure	Transmission Planning & Permitting	Distribution & Markets	Program Direction	All Other	Total, Electricity		
Program Direction	-	-	*19,700*	-	*19,700*	-	***19,700***
All Other	-	-	-	*215,300*	*215,300*	-	***215,300***
Total, Electricity	-	-	19,700	215,300	235,000	-	**235,000**
Transmission Planning & Permitting	*10,250*	-	-	-	*10,250*	-	***10,250***
Distribution & Markets	-	*8,500*	-	-	*8,500*	-	***8,500***
Hydropower Incentives	-	-	-	-	-	*250*	***250***
Program Direction	-	-	*6,000*	-	*6,000*	-	***6,000***
Total, Grid Deployment	10,250	8,500	6,000	-	24,750	250	**25,000**
Total	**10,250**	**8,500**	**25,700**	**215,300**	**259,750**	**250**	**260,000**

FY 2027 Request to Congress Comparability Matrix
($K)

FY 2025 & FY 2026 Budget Structure	FY 2027 Proposed Budget Structure			
	Electricity			
	Transmission Planning & Permitting	Program Direction	All Other	Total, Electricity
Program Direction	-	*20,977*	-	*20,977*
All other	-	-	*177,600*	*177,600*
Total, Electricity	-	20,977	177,600	198,577
Transmission Planning & Permitting	*4,000*	-	-	*4,000*
Program Direction	-	*900*	-	*900*
Total, Grid Deployment	4,000	900	-	4,900
Total	**4,000**	**21,877**	**177,600**	**203,477**

Transmission Reliability and Resilience

Overview

The Transmission Reliability and Resilience (TRR) program collaborates with the electric industry to research, develop, and demonstrate system monitoring and diagnostics, advanced data analytics and modeling, and robust control technologies that are critically needed to assess and enhance the reliability and performance of the electricity system, mitigate large-scale blackouts, and adapt to evolving system needs, emerging risks, and interdependencies. This program is critical to realize the full potential of investments in generation technologies and growing electric loads, which are dependent on transmission capacity expansion and stability.

TRR focuses on:

- Enhancing reliable systems operations through research, development, and demonstration (RD&D) of system observability and control capabilities
- Developing and validating models, approaches, and frameworks to characterize evolving system needs and the emerging operational landscape
- Developing and demonstrating operational tools to better utilize existing transmission infrastructure and increase grid capacity
- Identifying pathways for improving grid resilience through risk-informed operational and planning tools
- Addressing ongoing industry challenges related to relay misoperations and identification and isolation of faults
- Mitigating risks across integrated energy systems through comprehensive data acquisition, augmentation, and synthesis at various scales and development of uncertainty-informed decision support systems that consider human factors

TRR brings together energy stakeholders from government, industry, academia, and national laboratories to generate novel ideas and develop transformative solutions to address the Nation's energy infrastructure challenges, including stakeholder landscape and architecture changes as well as natural and man-made hazards. TRR also fosters strategic university-based power system research, helping ensure an enduring strategic national capability for innovation in this essential area.

Transmission Reliability and Operations (TRO) develops transmission system operational planning and control tools to inform decisions on maintaining and improving system reliability and affordability. A key focus of the program is on transmission system measurement, control, and operations to improve grid stability and resilience. Visibility into transmission system conditions, through analytics and displays, allows operators to make risk-informed and cost-effective decisions. TRO develops tools that help system operators understand and respond to reliability events from electricity demand changes and uncertain conditions, such as wildfires, heat waves, cold snaps, and other hard-to-predict events. TRO works to modernize transmission system tools through human factors, risk science, and cognitive science research for reliable and resilient system operations. RD&D will improve the speed, accuracy, and precision of power system state determinations required to manage the increasing complexity and uncertainty of grid operations. Research will improve systems' ability to monitor and cost-effectively manage the interconnected and interdependent effects among the Nation's critical infrastructures. TRO continues to develop research datasets and data platforms that facilitate tool development with real data and reduce the burden of data requests on utilities. This sets the groundwork for catalyzing artificial intelligence and machine learning (AI/ML) in the transmission system.

Advanced Grid Modeling (AGM) supports building electricity sector capacity and capability to analyze the electricity delivery system using Big Data, advanced mathematical theory, and high-performance computing to assess the current state of the grid, mitigate reliability risks, and understand future needs. Since FY 2026, AGM

includes protective relaying, which identifies and isolates faults so the remaining system will continue to operate under normal conditions and reduces equipment damage and potential injuries to utility personnel and the public. AGM leads research activities to better understand issues affecting the current and future electric power grid and develop robust model-based solutions, resulting in new software and analytical toolsets for operators and planners. Successful research enables grid operators and planners to optimize decision-making, giving the electric industry sophisticated tools, capabilities, and understanding to dramatically improve electric delivery system reliability, security, and affordability. AGM plans to continue collaboration with the National Science Foundation's (NSF) Division of Mathematical Sciences on Algorithms for Modern Power Systems (AMPS) to build a community of university-level mathematicians and statisticians to solve some of the hardest power-system-related challenges.

Highlights of the FY 2027 Budget Request

TRR investigates and develops technologies that make the present and future grid resilient, reliable, efficient, affordable, and secure. In FY 2027, TRR will concentrate on:

- Developing next-generation mathematical and statistical algorithms, utilizing electromagnetic transient (EMT) simulations to simulate and study a modern electrical power grid
- Exploring quantum technology application options in electric power systems
- Advancing the application of AI to grid operation and planning to improve the security, reliability, and affordability of the electric power system
- Advancing the application of cognitive science and human factors to identify and develop tools needed for robust decision making and training for system operators
- Advancing protective relaying methods to improve the functional integrity and effectiveness of proactive corrective actions to prevent misoperations and to mitigate power outages when they occur, to restore the system as quickly as possible
- Continuing research on changes to grid system dynamics with a focus on large dynamic loads such as data centers
- Supporting the development of industry standards and collaboration for wide-area situational awareness and control technologies on the transmission system
- Continuing support for the Grid Event Signature Library to facilitate the development of AI/ML tools for power sector
- Developing strategies for improving operations and operational planning across regions to advance cost-effective controls
- Identifying novel operational strategies for maintaining and improving system stability and affordability by managing uncertainty and complexity from changes in resources and loads
- Continuing the partnership with NSF on AMPS, targeting university-based research
- Developing risk-based measurement-model approaches to enable the operation of degraded or damaged electricity systems while sustaining critical functionality by improving detection, mitigation, recovery, and restoration from system issues
- Advancing transmission system tools that anticipate distribution systems operations, energy resources, and loads
- Developing and demonstrating tools with utility partners that identify, locate, and inform actions that mitigate reliability and security issues while improving affordability
- Developing training tools for operators for knowledge transfer of existing skills, and developing new skills needed for grid operations

Technology, tools, and applications developed under TRR will be evaluated for and hardened against physical and cyber security risks. Testing and evaluation will be conducted in coordination with OE's SecureNet

program to ensure that security is built into these technologies and to guard against new security risks to the electric delivery sector.

Transmission Reliability and Resilience
Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Transmission Reliability and Operations	11,700	8,700	8,700
Advanced Grid Modeling	21,300	18,800	18,800
Total, Transmission Reliability and Resilience	**33,000**	**27,500**	**27,500**

Explanation of Changes for Transmission Reliability and Resilience

Transmission Reliability and Operations:

- Continues core work on transmission measurement, controls, and operations to prevent power disturbances and improve system affordability and performance, including wide area situational awareness, AI/ML data support, transmission controls under uncertainty, and human factors for system operations
- Condenses activities on resilience while maintaining work on risk science

Advanced Grid Modeling:

- Develops next-generation mathematical and statistical algorithms utilizing EMT simulations, quantum technology and artificial intelligence to improve the security, reliability, and affordability of the electric power system.
- Supports RD&D to develop new models to increase the net power flowing through transmission lines
- Develops analytical methods to manage the impact of uncertainty to maintain the reliability, security, and affordability of the grid
- Helps the electric industry understand and maintain reliability as supply and load change to manage uncertainty and risk associated with the changing grid

Energy Delivery Grid Operations Technology

Overview

The Nation's energy resilience strategy can benefit from advancements in national-scale energy analytics, including short-term (operational) and long-term (infrastructure) planning capabilities, to better characterize risk and uncertainty across multiple utility and infrastructure boundaries. Built around rigorous and quantitative assessment, sensing, prediction, and deep learning, the Energy Delivery Grid Operations Technology (EDGOT) program enhances the analytical capability needed to ensure reliable and resilient energy delivery and provides the architecture and process for identifying a range of scalable mitigation solutions to manage emerging threats.

The core of the EDGOT portfolio is the North American Energy Resilience Model (NAERM). NAERM is a hybrid data/model platform for the quantitative assessment of the significant interdependencies that have evolved within the energy sector and that could affect reliability and resilience. NAERM allows for the simulation of impacts to the energy system from natural and manmade events and, through collaborative partnerships, strategic insights will be accessible to utilities and other Federal agencies. NAERM provides enhanced planning and analysis capabilities that can be leveraged to facilitate grid investments to address these threats.

NAERM activities focus on developing, enhancing, and operating the portfolio of tools needed to address grid reliability, security, and resilience in a system with pervasive and evolving threats and challenges. Starting in FY 2025, activities have been undertaken to strengthen NAERM with the capability to include a more robust economic analysis component to the tool chain. NAERM has also been improving capabilities by transitioning underlying capabilities to a robust, secure operational state, and prioritizes what-if scenarios affecting reliability and security, which is essential for maintaining OE's ability to identify and advance solutions for America's grid.

EDGOT's tools support private and public efforts by:

- Utilizing a systems perspective to compare and collectively plan for impacts across organizational, geographic, sector, and jurisdictional boundaries
- Targeting collaboration on mitigations with energy infrastructure owners and operators to effectively address multi-regional-scale natural threats and national security concerns

The EDGOT portfolio leverages previous national laboratory efforts to fully understand the resilience risks associated with the regionally diversified North American electric system and associated infrastructure systems. National laboratories, including Argonne, Idaho, Lawrence Livermore, Los Alamos, National Lab of the Rockies, Oak Ridge, Pacific Northwest, and Sandia, have a long history of developing system-wide modeling and analysis tools, as well as transformational sensing and communications technology.

Highlights of the FY 2027 Budget Request

Predicting the impact of a specific event on energy system operations, restoration, and recovery is vexing due to the scale of the North American energy system—crossing organizational, geographic, sector, and jurisdictional boundaries—and the underlying physics of energy transport.

NAERM will analyze these interdependencies and complex events by leveraging capabilities such as:

- Use of confidential and proprietary data not available to others to drive projections on resulting impacts
- Tools and expertise to characterize and analyze the relationships between electricity and associated infrastructures, such as communications and fuel supply
- Data availability to support infrastructure grid planning across seams, including transmission, distribution, and grid-edge

The FY 2027 Request focuses on developing and enhancing the portfolio of tools to help address modeling needs and to maintain the underlying capabilities in a robust, secure operational state:

- Incorporating the best available information on threat characteristics and their evolution over time
- Hardening and integrating research innovations in advanced analytics to rapidly identify system vulnerabilities and enhance decision support for system analysis
- Developing complex multi-infrastructure contingency analyses for understanding and identifying reliability and security challenges
- Enhancing and updating the infrastructure models and facilitating their integration into the NAERM architectural framework
- Expanding NAERM's operational capability in protecting and supporting the increase in data sources and access to NAERM
- Formalizing procedures and establishing partnerships for sharing data with industry stakeholders
- Engaging with industry stakeholders to get a better understanding of issues and practices on a regional basis to ensure that threat and consequence models are realistic and representative of actual system responses
- Supporting other government offices and agencies to assess structural, operational, and contextual changes on the power grid on a regional and national level as well as identifying mitigation approaches to potential reliability, security, and resilience concerns
- Develop and test new best practices in resource adequacy modeling that industry can use and leverage
- Supporting short- and long-term planning activities

Technology, tools, and applications developed under the EDGOT program are evaluated for security risks including cybersecurity.

Energy Delivery Grid Operations Technology
Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
NAERM Operations	14,000	14,000	17,500
NAERM Upgrades	17,000	17,000	17,000
Total, Energy Delivery Grid Operations Technology	**31,000**	**31,000**	**34,500**

Explanation of Changes for Energy Delivery Grid Operations Technology

NAERM Operations:

- Expands NAERM use to address analytical needs from internal and external stakeholders, while protecting privileged data
- Increases the NAERM security posture to ensure protection of data and analyses
- Uses NAERM to conduct studies at the national and regional level to support DOE's mission

NAERM Upgrades:

- Develops and integrates models and simulation tools, such as communication-electricity, into NAERM and enhance existing ones, such as natural gas-electricity, weather-electricity, and wildfire-electricity
- Expands data usability and system architecture, enabling easy integration of additional tools and data into NAERM
- Conducts routine studies to analyze the impact of changes to the power grid whether from natural events such as storms, wildfires, and flooding or man-made events such as physical attacks and infrastructure upgrades at the national and regional levels to support DOE's mission to ensure grid reliability, resilience, and security

Resilient Distribution Systems

Overview

The Resilient Distribution Systems (RDS) program focuses on research, development, and demonstration (RD&D) of grid technologies, tools, and techniques needed to maintain power to end users and coordinate information and control across segments of the electricity system, such as transmission, distribution, loads, and microgrids. RDS works to improve grid operational reliability and resilience across the electricity system. RDS also creates, shares, and disseminates information and best practices with stakeholders, including utilities, state entities, and the public. The growing convergence of transmission and distribution (T&D) systems requires new architectural, control, and operational approaches alongside a more sophisticated approach to data as a collective resource to catalyze the use of analytics, leveraging artificial intelligence (AI) and machine learning (ML). As the complexity of the electricity distribution system increases, new technologies are needed to address operational uncertainty and challenges. Utilities require new tools and capabilities to enhance observability, control, and dynamic protection across all system assets.

RDS focuses on:

- Improving reliability, resilience, affordability, and capacity of electrical power delivered to consumers through RD&D of tools and technologies that support operational coordination and integrated planning across transmission and distribution
- Lowering costs and advancing functional capabilities of microgrid solutions to ensure delivery to consumers of reliable, affordable, and secure firm power, including uninterruptible power supply to critical infrastructure
- Developing tools for effective utilization of dynamic loads and distributed assets to increase grid throughput capacity while improving power stability and power outage prevention
- Helping to develop and propagate best practices and methodologies for grid design and operations
- Identifying pathways for optimizing firm power delivery to consumers through improved transmission, distribution, and microgrid system controls and operations
- RDS pursues strategic investments in innovative technologies, tools, and practices that improve overall grid reliability, affordability, and security, while also providing grid system planners, stakeholders, and operators with better solutions for coordinating decision-making and investment strategies across grid system domains.

Microgrid Research and Development (R&D) advances next-generation microgrid systems through advanced technologies, methodologies, and tools to strengthen the U.S. electrical grid by boosting its capacity and flexibility, thereby enabling reliable, resilient, secure, and affordable energy delivery, and offering advanced solutions to address demand growth, particularly from large dynamic digital loads like data centers. The program focuses on providing crucial capabilities for delivering firm energy to both grid-connected and electrically remote locations to serve local demands under normal and disturbed conditions, leveraging cyber-secure intelligent controls enhanced with AI and utilizing diverse energy resources, such as advanced nuclear energy and energy storage. Additionally, advanced microgrid functionality will enable the provision of vital grid services, in some cases easing interconnection requirements. These innovations are essential for national security, ensuring the continuous operation of critical defense energy infrastructure, and bolstering U.S. energy dominance by providing uninterrupted power supply to natural gas and critical minerals mining and extraction operations. To support American technology leadership and coordinated industry adoption, the program develops comprehensive tools for microgrid valuation, planning, design, and operations. Additionally, in collaboration with industry partners, the program supports the establishment of best practices, guidelines, and technical standards for beneficial microgrid deployment.

Dynamic Controls RD&D investigates new control approaches and technologies to enhance the electric distribution grid's ability to harness all available resources across distribution and customer assets, reducing

transmission burdens and freeing up capital to address load growth. Operating an electric grid supporting the growing U.S. economy requires control and balancing capabilities beyond the capabilities of single owner-operators, necessitating coordination and incentivization to attract willing and capable customer-owned resources. A new data-rich environment is emerging, with data originating both within and outside traditional utility boundaries. This new environment needs expanded data science, strategy, and analytics research to increase situational awareness at the distribution level, supporting both normal operations and the ability to withstand and recover from disruptions caused by extreme weather and man-made events. Dynamic Controls also explores implications of increasing dynamic loads and other transformative grid influences.

Electricity Delivery Systems (EDS) works closely with State officials and the utility industry to advance practices leading to the formulation of grid investment strategies that address community, State, and Federal planning processes and serve utilities and their customers. The program examines technological and institutional issues and applies grid architecture principles and decision-making processes to address them. This includes examining resource adequacy and transmission expansion. Toward this end, EDS is advancing integrated system planning practices and developing guidelines to enable coordinated operations between transmission, distribution, and dynamic loads. The program develops reference designs to address emerging structural complexity across the electricity delivery system. These activities are meant to establish a common understanding among utilities, regulators, and their stakeholders of grid investments needed to enable the utilization of an increasingly diversified set of resources and dynamic loads while maintaining reliability, resilience, and affordability.

RDS research results enable industry to strengthen electrical infrastructure reliability and resilience and support the ongoing evolution of the electric grid. RDS is developing a U.S. Electric Sector Data Strategy to establish a framework to allow sector participants to contextualize information created and used throughout the system, enable new uses for existing and emerging data resources, and extend data sharing capabilities without sacrificing privacy or security.

Highlights of the FY 2027 Budget Request

RDS R&D focuses on developing and validating new technologies and methods to improve grid reliability and resilience.

FY 2027 activities are supported in the following areas:

- Advancing microgrid integration of AI/ML capabilities to improve situational awareness, enable quasi-autonomous protection and control, optimize operational data usage, and strengthen cyber-secure operations. This activity will focus on enhancing overall microgrid system capacity to adaptively and resiliently support grid operations and local demand in real-time.
- Developing robust solutions for microgrid controller design to address engineering and operational challenges with integrated energy systems—primarily including small modular nuclear reactors (SMRs) and energy storage—to support uninterrupted firm baseload power for commercial and industrial loads (such as data centers), military and other mission-critical loads, critical minerals mining operations, and other large electrical loads.
- Continuing industry stakeholder engagement and outreach to establish technical standards, methodologies, best practices, guidelines and comprehensive toolkits for microgrid valuation, planning, design, deployment and operations—aligning R&D priorities to needs, advancing commercial readiness of advanced microgrids, empowering States and regions with key tools and information for microgrid investment decisions, and educating stakeholders on available microgrid technologies.
- Researching controls to explore the economic and reliability impacts of meeting load growth with status quo upgrades or relying on flexible resources with different control and ownership schemes.

- Researching highly resilient distribution designs accommodating evolving electricity supply and adapting to disruptions.
- Developing control and coordination approaches addressing dynamic load integration issues.
- Highlighting industry best practices and guidance on complex data sharing challenges across ownership and responsibility boundaries that assure data security, integrity, and privacy while ensuring attainment of stakeholder operational objectives.
- Developing analytics, platforms, frameworks, and tools to visualize the grid using AI/ML techniques for electric power operations and delivery—from the grid edge through the distribution system to the transmission system.
- Advancing integrated system planning practices to enable the formulation of holistic and staged grid investment strategies.
- Establishing rules to enable coordinated operations across the T&D system domains, including developing guidelines and sharing best practices to mature and standardize institutional, business, and technical processes governing the interfaces between them.
- Advancing coordinated grid decision-making, operations, and planning across community, State, and regional jurisdictions through working groups, education, and training activities in cooperation with major national energy association groups, such as the National Association of Regulatory Utility Commissioners (NARUC), National Association of State Energy Officials (NASEO), National Rural Electric Cooperative Association (NRECA), American Public Power Association (APPA), National Governors Association (NGA), National Conference of State Legislatures (NCSL), and National Association of State Utility Consumer Advocates (NASUCA).

Technology, tools, and applications developed under RDS will be evaluated, in conjunction with SecureNet testbed capabilities, for security risks including cybersecurity. Testing and evaluations will be conducted to ensure that security is built into these technologies and that new security risks are not being introduced into the electric sector.

Resilient Distribution Systems
Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Microgrids	11,500	5,000	5,500
Dynamic Controls	15,000	11,500	11,500
Sensor Data Analytics	4,500	-	-
Electricity Delivery Systems	10,000	4,000	3,600
COMMANDER National Testbed Laboratory	2,000	2,000	-
Underserved & Indigenous Community Microgrids	10,000	2,500	-
Total, Resilient Distribution Systems	**53,000**	**25,000**	**20,600**

Explanation of Changes for Resilient Distribution Systems

- Microgrids: Focuses on AI/ML integration with microgrid designs to enable enhanced capacity and other ancillary grid services as well as resilient firm energy solutions for connected load systems, while maintaining affordability; and SMR-integrated microgrid controller architectures to support mission-critical applications such as data centers, rare-earth mineral mining operations, and process industries
- Dynamic Controls: Focuses R&D efforts on distributed operational controls to support load growth and associated capacity expansion through optimization, data strategy, sector interdependencies, and system affordability
- Sensor Data Analytics: Planned activities are completed with funding provided in FY 2025

- Electricity Delivery Systems: Focuses work on multi-State grid planning practices to address regional and multi-jurisdictional issues associated with grid reliability, resilience, affordability, and flexibility requirements, especially resource adequacy, affordability, and transmission expansion
- COMMANDER National Testbed Laboratory: Planned activities will be completed with prior year funding
- Underserved & Indigenous Community Microgrids: Planned activities will be completed with prior year funding

Cyber Resilient and Secure Utility Communications Networks (SecureNet)

Overview

Our Nation's energy system is heavily dependent on information networks for operational reliability and resilience. While electricity consumption—from data centers, manufacturing, and other customer uses—is growing, these loads are also becoming more dynamic at scale, which can affect grid stability. Meeting these energy needs will require adding new generation, but it will also require more actively orchestrating the behavior of generation and load assets. This orchestration drives increasing grid requirements for information volume, velocity, veracity, and variety, both for situational awareness and for control and coordination messaging. Data feeds are used by human operators and automated logic, and soon will be used by artificial intelligence as well, on increasingly rapid timescales to maintain grid stability. At the same time, these distributed assets present a broader attack surface for adversaries to exploit. Modernizing communications and control systems to support end-to-end information security for real time operations, from the grid edge to the control center and back, is essential to ensure efficient, reliable, resilient, and affordable operation of the electric power system in a complex and dynamic risk landscape.

The Cyber Resilient and Secure Utility Communications Networks (SecureNet) program develops solutions to strengthen information security in the electricity delivery system through two interdependent research, development, and demonstration (RD&D) subprograms:

- Secure Communications Network RD&D focuses on securing grid data in transit: developing next-generation grid communications systems built from inception to mitigate communication failures and detect, reject, and withstand attacks on and disruptions to information flows. Key areas of research include grid communications architectures, resilient timing systems, securing heterogeneous grid networks, spectrum interference, grid communications quality of service, and new tools for grid operators to plan, build, and manage their networks.
- Grid Technology Cyber Resilience RD&D focuses on securing grid data at the points of production, processing, and application, which hardens digital grid technologies against current and future manipulation and attacks. Key areas of research include operational technology cybersecurity architectures, digital ledger technologies, digital twin applications, hardening digital interfaces for grid hardware, and cyber situational awareness for grid operators.

Highlights of the FY 2027 Budget Request

The SecureNet program will continue to develop and validate technical solutions to strengthen electric grid communications infrastructure.

The Secure Communications Network RD&D Request includes the following core activities:

- Defining and evaluating grid communications architectures.
- Operating and further developing the Secure Pathways for Resilient Communications (SPaRC) testbed. The testbed is a resource for laboratories, utilities, industry, and communications providers to test and evaluate secure communications technologies in realistic grid environments, and a means of providing technical assistance on grid communications.
- Developing and evaluating terrestrial alternatives to GPS at the Center for Alternate Synchronization and Timing (CAST). Tool development, technical assistance, publication of testing results, and

formulation of best practices enable the electric grid to implement more robust synchronization and timing capable of operating through GPS-denied or degraded environments.[1]
- Engaging with industry on secure grid communications topics to align DOE RD&D activities to needs, provide validated data sources, and educate stakeholders on available technologies and best practices.

The Grid Technology Cyber Resilience RD&D Request includes the following core activities:
- Defining and evaluating operational technology cybersecurity architectures and best practices.
- Analyzing grid operational technology standards and protocols to improve reliability, resilience, and security.
- Exploring and demonstrating distributed ledger technology to support information attestation in a variety of grid use cases.
- Ensuring technologies in the OE R&D pipeline are secure by design through continued development of the Cyber Health Assessment for Resilient Grid Evolution (CHARGE) program. CHARGE provides cyber design inputs, testing capabilities, and vulnerability assessments.
- Engaging with industry to align RD&D activities to pressing needs.

SecureNet
Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Secure Communications Network RD&D	9,500	7,800	7,500
Grid Technology Cyber Resilience RD&D	6,000	3,000	3,000
Total, SecureNet	**15,500**	**10,800**	**10,500**

Explanation of Changes for SecureNet

SecureNet will continue to build and operate core program capabilities in secure communications and cybersecurity, including the SPaRC testbed. Activities will be scaled to available resources, focusing on the highest priority areas, including developing technologies for secure, end-to-end grid communications networks and addressing security challenges posed by more active participation in the grid operational environment by loads such as data centers.

[1] For an overview of grid reliance on timing signals and impacts when these signals are disrupted, see DOE's response to a NIST RFI at https://www.nist.gov/system/files/documents/2020/07/14/pnt-0038.pdf.

Energy Storage

Overview

The Energy Storage program transforms storage technologies into solutions for a reliable, resilient, secure, and affordable future-ready grid. Storage enhances the usefulness of all electricity resources, providing new tools to improve grid economics, reliability, security, and resilience, and creating new infrastructure planning options from deferral to rapid expansion.

The Budget emphasizes rapid de-risking and accelerating market readiness of new storage technologies to give Americans reliability and affordability solutions by the next year, rather than the next decade. New storage technologies tailored for more adaptable siting, added modularity, enhanced safety features, and lower cost will bring the benefits of energy storage to more people and places. As deployments grow, domain expertise, from safety and valuation to operations and decommissioning, must account for continual innovations in both new and existing storage technologies.

Energy Storage research, development, demonstration, and deployment (RDD&D) efforts seek to maximize the value of these technologies to the growing number of users and use cases, including for firm baseload power, emergency response, critical facility resilience, data center integration, affordability, and other Administration priority areas. These efforts identify foundational, leverageable, and catalytic investments through the Energy Storage Program's four primary focus areas:

- **Materials and Systems Innovation** reduces development risks and maximizes the rate at which new energy storage recipes can deliver value across the innovation ecosystem. This risk reduction incorporates storage technologies that decouple from volatile supply chains, perform reliably under wide-ranging operating conditions, scale to larger power and energy capacities, and utilize lower-cost, earth-abundant, and domestically sourced materials. Leveraging a wide portfolio of energy storage materials and technologies (such as flow batteries; solid-state batteries; sodium-, zinc-, and lead-based batteries; and thermal energy storage) provides a menu of technology options to meet consumer storage needs. Additional crosscutting R&D areas include manufacturability, interconnections, power electronics, and power conversion systems.
- **Safety and Reliability** facilitates the safe installation and operation of energy storage in more locations and for more users. Through a continuous process of research, testing, standards, and evaluation, this focus area reduces operational risks of new technologies through improved understanding and predictability of energy storage system and component operations when integrated into real-world grid conditions. Key stakeholders include fire departments and other first responders, building managers, and approving authorities and others with responsibilities for energy storage installations.
- **Analytics** helps stakeholders quantify the financial and operational benefits of energy storage. End-users, developers, utilities, regulators, and investors use OE's innovative analytical and open-source tools, performance protocols, and advanced modeling capabilities to uncover new value and benefits from advanced technologies. These capabilities are developed and disseminated through stakeholder convenings, which are vital for fostering collaboration, exchanging lessons learned, and identifying market and regulatory opportunities to maximize the affordability, reliability, and resilience benefits of energy storage.
- **Grid Integration and Field Validation** transforms the modeled benefits of energy storage into real dollars and electrons. This focus area enhances the understanding of how innovative storage systems can be effectively deployed in the field and integrated into grid operations. On-site operation of storage systems complements the use of tools and models for complex system-level analyses, determining technology operational requirements and collecting and analyzing performance data. These activities, conducted in close partnership with national laboratories, energy industry, standards organizations, and local communities, ultimately reduce operational and market risks for advanced energy storage deployment.

Highlights of FY 2027 Budget Request

The Request supports the program's core research, development, and demonstration (RD&D) focus areas, including the application of storage technologies that support reliable firm power. Activities provide collaborative and nimble mechanisms to nurture a rapidly growing domestic energy storage innovation ecosystem. By leveraging national laboratory capabilities and with input from industry stakeholders on priority challenges, the program de-risks solid state, sodium, flow, and other emerging battery chemistries. This includes identifying key areas, from materials development to safety and deployment, that are essential for these technologies to progress towards commercialization. Targeted collaboration mechanisms for industry, academic, and community stakeholders will strategically leverage existing program-funded RD&D and ultimately accelerate progress and impact in energy storage. These activities will utilize collaboration space at the Grid Storage Launchpad (GSL) at the Pacific Northwest National Laboratory.

Increased use of energy storage across the grid and other sectors requires safe, reliable, and affordable materials and components that are sourced through secure supply chains. Materials and Systems Innovation core R&D is refocused to advance storage technology materials development and component design toward improving manufacturability, achieving system performance requirements, and facilitating interoperability of power electronics and power converter designs into additional prototype systems. These strategic risk-reduction activities will prime technology options for timely validation and commercialization.

Safety and Reliability R&D maintains foundational activities involving reliability testing, power electronics, and modeling, while optimizing remaining R&D efforts to more directly assist energy storage ecosystem stakeholders through safety education and safety standards development. Stakeholder outreach will help ensure the energy industry and local communities understand how to deploy these technologies safely. Activities will be conducted in partnership with a broad range of stakeholders, including national laboratories, the energy industry, first responders, approving authorities and others with responsibilities for energy storage installations, safety standards organizations, and communities. These activities provide utilities, local authorities, project developers, and other interested stakeholders with tools, guidance, and data. These resources will ensure energy storage deployments incorporate effective emergency response protocols and adhere to best practices for safe and cost-effective deployment and operation.

Grid Integration and Field Validation R&D refocuses core activities to de-risk innovative technologies through demonstrations and performance validation, project-based techno-economic analyses, system integration standards development, and technology integration. This work will include efforts that validate how different storage technologies can provide affordability and reliability benefits to dispatchable generation and large loads such as data centers and manufacturing facilities.

Analytics R&D will be realigned and streamlined toward affordable and reliable systems for modeling and analysis, early-stage technology assessments, technical assistance, and non-traditional, full-spectrum valuation of large-scale storage resources. Activities will refocus on continuous R&D efforts to develop open-source tools and resources, analyze storage opportunities and impacts, and assess storage performance protocols. By prioritizing two-way stakeholder engagement and development of open, unbiased informational platforms, Analytics aims to empower developers, end-users, utilities, regulators, and other decision-makers and stakeholders to implement informed strategies and create an energy landscape supporting fair, affordable, balanced, and effective energy storage participation as a tool for electricity reliability and resilience.

GSL is the first national laboratory facility focused on battery materials and battery systems for grid applications. GSL activities focus on materials development and validation of prototype battery systems (up to 100 kW systems integration and testing) to identify and solve issues early in the development cycle. GSL provides key capabilities to accelerate energy storage RD&D:

- Standardizing grid performance testing across the spectrum of battery materials, battery systems, auxiliary power, and battery management systems under market-aware and grid-specific use-case conditions

- Providing an objective national resource to report battery testing performance under grid conditions and duty cycles
- Integrating and coordinating university and national laboratory researchers to rapidly solve crosscutting science and technology challenges
- Developing new capabilities, including characterization capabilities, to rapidly scale up new materials for grid scale storage and deliver these capabilities
- Conducting realistic testing of design options in a laboratory environment

Technology, tools, and applications developed under Energy Storage will be evaluated for and hardened against physical and cyber security risks. Testing and evaluation will be conducted in coordination with OE's SecureNet program to ensure that security is built into these technologies and to guard against new security risks to the electric delivery sector.

Energy Storage Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Materials and Systems Innovation	32,750	32,350	18,500
Safety and Reliability	15,250	26,350	12,500
Analytics	20,600	11,150	8,500
Grid Integration and Field Validation	9,100	10,350	7,700
Grid Storage Launchpad Operations	4,800	4,800	4,500
Section 3201 Pilot Demonstration Grants	10,000	-	-
Total, Energy Storage	**92,500**	**85,000**	**51,700**

Explanation of Changes for Energy Storage

Materials and Systems Innovation: Materials & systems R&D is refocused to address high-priority topics, including storage technology materials development and component design toward improving manufacturability, achieving system performance requirements, and facilitating interoperability of power electronics and power converter designs into additional prototype systems. External activities to expand end-of-life/alternative life options for system materials and components, domestic supply chain innovations for access to/efficient use of materials, components, and other products used in energy storage technology, and strategic designs for improved manufacturability are reduced.

Safety and Reliability: R&D efforts are optimized to more directly apply findings to assist energy storage ecosystem stakeholders. This strategic shift aims to solve their specific challenges relating to key safety and reliability topic areas for energy storage. Laboratory activities will focus on safety and reliability R&D pathways for de-risking solid state, sodium, flow, and other emerging battery chemistries.

Analytics: Energy storage for rural resilience activities will be completed using prior year funding, enabling a strategic prioritization of support for decisionmaker access to DOE national laboratory expertise and tools, storage stakeholder convenings for information exchanges across the energy storage community, and development of open-source and advanced tools for storage analysis and investments.

Grid Integration and Field Validation: Support focuses on assisting storage ecosystem stakeholders in solving their challenges related to key grid integration and field validation topics. As part of this pivot, new initiatives will identify grid integration and field validation R&D pathways to de-risk solid state, sodium, flow, and other emerging battery chemistries.

Grid Storage Launchpad Operations: The Request maintains safety, current industry agreements, and conducting essential R&D functions, with reductions in outreach and education activities.

Section 3201 Pilot Demonstration Grants: Planned activities will be completed with prior year funding.

Transformer Resilience and Advanced Components

Overview

The Transformer Resilience and Advanced Components (TRAC) program is focused on strengthening the Nation's electricity delivery system by addressing key challenges such as aging infrastructure, evolving electrical loads including the rapid emergence of large electrical loads, and increasing needs for all grid components to withstand both system transients and extreme physical events. TRAC supports innovation and modernization to enhance the reliability, security, and affordability of critical grid infrastructure. At the same time, supply chain disruptions and global competition for materials have highlighted the risks associated with relying on foreign sources for critical grid components. TRAC is focused on developing resilient, high-performance equipment that can be manufactured using domestic materials and supply chains.

TRAC is advancing technologies that carry, control, convert, and condition electricity in ways that are smarter, faster, and more adaptable. Specific technologies include transformers, cables, conductors, high-temperature superconductors (HTS), power flow and voltage controllers, protection equipment and switchgear, and equipment sensors. By embedding data-driven design, streamlined manufacturing, and flexible system architectures, the program supports a grid that is more reliable, resilient, and affordable, and better prepared to meet the demands of a rapidly evolving energy landscape.

TRAC encompasses materials research, exploratory concepts, modeling, and analysis to address the range of challenges associated with transformers and other grid components. Program activities, developed in close coordination with industry, aim to fill fundamental research and development (R&D) gaps and accelerate the adoption of new technologies and approaches.

Flexibility is a major advantage of new critical grid components. A single large power transformer (LPT) failure can disrupt power to a half million homes. Supply chain disruptions can result in a replacement taking more than 24 months because LPTs are nearly always custom-made. Increased U.S. electricity demand is also adding an unprecedented need for distribution transformers, increasing lead times. TRAC supports innovative transformer designs that are more flexible, modular, and adaptable, enabling standardized designs to be used in more locations. This approach reduces manufacturing lead times while increasing the applicability of spare inventory. The program covers electric power transformers from LPTs to distribution service transformers, addressing issues across the entire grid.

Trends such as increasing data center demand and changes at the grid edge are introducing uncertainties in load growth projections, requiring greater grid capacity in increasingly unpredictable ways. TRAC supports innovative technologies that will help unlock additional capacity from existing assets, including grid-enhancing technologies (GETs), power flow controllers, and direct current (DC) systems that support electricity delivery and improve efficiency in many power systems, including at data centers. The Solid State Power Substation (SSPS) building block concept, reliant on advanced power electronics, will allow for nearly on-demand capacity additions or reallocations. These modular and scalable designs enable greater standardization and allow for more cost-effective capacity expansion. Additional benefits include smaller module sizes for ease of transport and lower power ratings to reduce criticality.

Data-driven approaches will be necessary for a reliable and efficient grid. For example, transmission and distribution equipment such as transformers, power lines, and substation equipment are often exposed to the elements and are vulnerable to adverse conditions. Next-generation grid hardware technologies will need to anticipate, withstand, and rapidly recover from the impact of extreme events, including terrestrial and space weather events, electrical disturbances, equipment failures, accidents, deliberate attacks, and other unknowns.

Local intelligence with embedded sensors, data processing, and communications will enable real-time health monitoring, reduced maintenance costs, and enhanced system reliability. Leveraging results from other OE activities, including sensors and emerging technologies, will improve system observability.

For the FY 2027 Budget Request, TRAC will prioritize technologies that can make the grid more reliable, affordable, and secure. These technologies include advanced transformers (solid state, flexible, and hybrid transformers, etc.), advanced power electronics, modular substations, alternative transformer core materials, and advanced transformer insulation.

Highlights of the FY 2027 Budget Request

The Request continues analysis, materials, and component development to enable next-generation transformers and grid equipment. Major technology focus areas include:

- *Market and System Impact Analysis:* The request supports ongoing market and system impact analyses of grid hardware, including advanced transformers, to facilitate the development of tools that reduce transformer types, thereby lowering equipment lead times, manufacturing and operational costs, and improving system reliability. This effort also supports the development of an electric grid supply chain report to proactively identify vulnerabilities and strategic solutions for grid hardware procurement.
- *Component Design and Development:* The Request supports continued device and operational improvements for SSPS technologies, including a medium voltage (MV) power electronics field demonstration. Greater utilization of medium- and high-voltage power electronic converters within substations, including hybrid and solid-state transformer applications, can provide power flow control capabilities and reactive power support, limit fault currents, and increase system flexibility and reliability. The Request continues to advance modular, scalable, flexible, and solid-state transformers from early concept prototypes systems to larger systems suitable for field validation. The Request also supports the development and testing of modular substation technologies, including innovative designs for affordable prefabricated, standardized, and rapidly deployable substation components.
- *Applied Material R&D:* The Request supports continued R&D of electrical conductors, transformer core materials, and advanced transformer insulation, as well as developing approaches to advance the recycling, reuse, and repurposing of critical grid components.

Technology, tools, and applications developed under TRAC will be evaluated for risks including physical security of electrical infrastructure, cybersecurity, electromagnetic pulses, and geomagnetic disturbances. Testing and evaluations will be conducted to ensure that security is built in and new risks are not being introduced into the electric sector.

Transformer Resilience and Advanced Components
Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Market and System Impact Analysis	3,000	3,000	3,000
Component Design and Development	16,600	16,600	16,600
Applied Material R&D	2,900	2,900	2,900
Total, TRAC	**22,500**	**22,500**	**22,500**

Explanation of Changes for Transformer Resilience and Advanced Components

Market and System Impact Analysis:

- Continues market and system analyses for different grid hardware components
- Continues advanced tool development to reduce the number of transformer specifications, and the development of an electric grid supply chain report

Component Design and Development:

- Addresses grid hardware technical challenges to support growing and emerging loads such as data centers, including accelerating the development of advanced grid-scale power electronics and advanced transformers
- Continues the development of modular substation technologies

Applied Material R&D:

- Continues R&D on soft magnetics for transformer cores, conductors, and dielectric materials for grid components
- Continues the development of approaches aimed at advancing the recycling, reuse, and repurposing of grid components

Applied Grid Transformation Solutions

Overview

The Applied Grid Transformation Solutions (AGTS) program tests and validates innovative grid technologies prior to their deployment in the field, increases awareness of advanced grid solutions that can meet pressing industry needs, and drives standards that promote U.S. leadership, innovations, and grid technologies in global markets. Modernizing the grid to broaden reliability, resilience, and security while maintaining affordability requires significant reengineering of system architectures, development of appropriate requirements and standards, and well-informed adoption of advanced grid solutions. By assembling and enhancing testbed capabilities to stress test advanced grid technologies and identify performance limitations; methodically assessing pilot demonstrations in integrated and operational environments to document best practices, requirements, and capability gaps; and developing decision-making tools and resources for a variety of stakeholders, AGTS provides industry with the data, insights, and support to inform grid transformation, assess infrastructure investments, and advance U.S. interests and influence in critical grid supply chains.

Transformation Toolkit: The speed of innovation and change facing the electric grid is overwhelming decision makers, especially around different technologies and options that can provide similar benefits. The information available for consideration is vast, unstructured, and diverse due to the various objectives, approaches, and processes for different technologies in different states, regions, and jurisdictions across the United States. Information asymmetry between utilities and regulators leads to suboptimal solutions and slows adoption of beneficial grid technologies that can meet pressing industry needs. OE is a trusted entity that can serve as a clearinghouse for technical information, including emerging standards, and an unbiased evaluator of options to facilitate grid transformation.

The Transformation Toolkit subprogram focuses on developing tools, resources, and programs to empower grid stakeholders with actionable information. Activities include documenting best practices, baselining technology readiness, providing technical assistance, supporting U.S. engagement in standards development processes to counter foreign influence, and compiling outputs and impacts of OE and DOE grid R&D investments.

Testbed Network: Grid testbeds are vital tools in the technology development process, providing capabilities to evaluate innovative technologies in a controlled and realistic environment prior to integration with operational assets and systems in the field. Stress tests help evaluate technology performance, reliability, safety, and security under blue sky, grey sky, and black sky conditions and can surface technical and capability gaps that may require further R&D efforts. While industry has established testing facilities**,** they are facing capacity and capability limitations due to historic underinvestment after most grid technology manufacturing moved overseas. These limitations impose time and cost constraints that the industry can't afford, especially for small businesses and innovators. Facility upgrades and advanced testbeds are also needed to evaluate new grid hardware and software technologies, such as grid power electronics and AI operator tools. Investments in grid test facilities and increasing access to their capabilities is vital for the United States to exert global leadership in next-generation grid technology innovations.

The Testbed Network subprogram focuses on identifying and assembling needed grid testbed facilities across the Nation to test, validate, and evaluate advanced grid technologies. By leveraging and connecting unique capabilities at national laboratories, private sector facilities, and academic testbeds, industry will have a coordinated platform to support testing and validation of innovative grid technologies for a variety of use cases and scales while minimizing redundant investments. Activities also include bridging capability gaps, facilitating access to testing resources to bolster local grid innovation ecosystems, and supporting testing to inform standards that help advance U.S. energy, economic, and national security objectives.

Strategic Pilots and Evaluation: Pilot demonstrations of innovative grid technologies are often required prior to broader implementation since benefits are difficult to quantify when tested in isolation and results are difficult to extrapolate to real utility systems. Due to variations across jurisdictional boundaries, different utilities frequently conduct their own pilots for the same or similar technology. While there are unique characteristics of each project, there are also commonalities and shared learning that can shorten, reduce, or obviate the need for some utility pilots. The current practice is a suboptimal use of ratepayer and taxpayer dollars and slows adoption of beneficial grid technologies that can meet pressing industry needs. Systematic assessment and evaluation of pilot demonstrations will yield actionable information desired by utilities and regulators, such as project use cases, technology performance, integration and operational requirements, cyber-physical security requirements, relevant standards, and quantified economic benefits.

The Strategic Pilots and Evaluation subprogram focuses on assessing pilot demonstrations that fill strategic knowledge gaps; integrating innovations into operational environments to identify R&D needs; and systematically documenting project results to inform scaling, replication, and/or extension. Activities include establishing evaluation frameworks based on grid architecture to chart transformation and conducting strategic pilot demonstrations that combine synergistic technologies and innovations to provide enhanced value.

Highlights of the FY 2027 Budget Request

- Enhance at least one grid testbed capability in collaboration with national laboratories, private industry, and academia to evaluate and stress test advanced grid technologies such as AI tools for operational environments, advanced transformers, sensors and equipment condition monitoring solutions, and medium voltage (MV) grid power electronics systems and solutions
- Continue industry engagement to share information, gather technology adoption insights and best practices, and identify new grid technology testing and validation needs.
- Apply grid architecture assessment and documentation frameworks to pilot demonstrations to systematically evaluate benefits and scalability.

AGTS is inherently crosscutting and coordinates its activities with other OE programs and DOE offices on shared technology development needs, objectives, and results. Testing and evaluation activities will be coordinated with OE's SecureNet program to ensure security is built into technologies and to guard against new security risks to the electric delivery sector.

Applied Grid Transformation Solutions
Funding ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Transformation Toolkit	2,000	2,000	2,000
Testbed Network	5,500	5,500	4,500
Strategic Pilots and Evaluation	6,000	6,000	3,800
Total, AGTS	**13,500**	**13,500**	**10,300**

Explanation of Changes for Applied Grid Transformation Solutions

Transformation Toolkit focuses efforts on disseminating tools and resources for decision-making support to facilitate adoption of beneficial solutions.

Testbed Network focuses testing activities on testbed enhancements aligned with standards development processes to counter foreign dependence and influence.

Strategic Pilots and Evaluation reduces support for new pilot demonstrations and focuses efforts on assessment.

Transmission Planning and Permitting

Overview

The Transmission Planning and Permitting (TPP) program accelerates the build-out and modernization of the Nation's electric grid to secure American energy dominance while making electricity more affordable to Americans.

Large-scale electricity demand growth is occurring at a pace and scale that presents significant challenges to the U.S. electric grid. In several regions, planned and proposed data centers, semiconductor fabrication plants, manufacturing facilities, and other large loads are driving multi-gigawatt increases in electric demand. Many of these new loads are highly location-specific, have accelerated timelines, and depend on rapid interconnection of reliable electricity supply. This growth has exposed gaps in existing infrastructure, including limited transmission capacity, grid congestion, aging grid infrastructure, and delays in interconnection processes for both load and new generation. Long-lead times for transmission and generation development, along with regulatory, permitting, planning, and operational challenges, are threatening the ability of critical projects to meet demand.

TPP supports activities encouraging development of needed transmission capacity to meet projected electricity demand growth that has significantly outpaced existing electric grid capacity growth. The program provides technical assistance addressing urgent challenges and opportunities. Challenges include aging electric infrastructure that struggles to meet modern electricity needs, increasing natural disasters including wildfires, heat domes, polar vortexes, and the evolving demands of the electric grid, particularly from artificial intelligence, data centers, and increased manufacturing. Improving energy affordability is an opportunity for TPP to ensure that the costs of meeting those challenges are not passed down to residential consumers, holding large load users, such as data centers, accountable for their infrastructure costs. In addition, technical assistance to improve transmission siting and permitting processes helps unlock the Nation's energy resources to grow the grid. Increasing transmission capacity and improving siting and permitting can provide greater certainty to drive investment in the highest-need transmission projects, which will reduce electricity costs for consumers. This unleashing of American energy will make the grid more affordable, reliable, and secure for the American people.

Highlights of the FY 2027 Budget Request

The FY 2027 Request prioritizes technical assistance to optimize planning, siting, and permitting processes to accelerate transmission buildout for an affordable, reliable, and secure grid.

TPP works with experts around the country, including the national laboratories and Power Marketing Administrations, to provide data, tools, analyses, and other solutions to address the challenges and opportunities to unleash American energy. Technical assistance to energy system stakeholders is expected to become increasingly critical as the electricity demand outpaces electricity capacity, and affordability issues and reliability imperatives drive States to take on a greater role in transmission and energy system planning and analysis.

In FY 2027, TPP's technical assistance will focus on:

- *Resource Adequacy* supporting efforts to ensure the availability of reliable generation and transmission capacity to support energy resource adequacy,
- *Reconductoring* encouraging the deployment of advanced transmission technologies, including advanced conductors and grid enhancing technologies that maximize the use of existing transmission assets, and
- *Affordability* ensuring that energy affordability remains a high priority while increasing transmission capacity to meet growing demand.

In the FY 2027 Request, TPP will continue to execute its legal responsibilities for authorizing the export of electric energy, permitting the construction of transmission infrastructure across international borders, and helping better coordinate permitting of transmission on Federal lands. TPP will also continue efforts for the statutorily mandated triennial Transmission Needs Study.

Transmission Planning and Permitting
Funding ($K)

	FY 2025 Enacted	FY 2025 Enacted (comp.)	FY 2026 Enacted	FY 2026 Enacted (comp.)	FY 2027 Request
Technical Assistance	-	17,750	-	5,250	4,000
Interregional Planning and Development	-	16,000	-	5,000	-
Offshore Wind Planning and Development	-	4,500	-	-	-
Total, Transmission Planning and Permitting	**-**	**38,250**	**-**	**10,250**	**4,000**

In November 2025, DOE functionally realigned program activity from the Grid Deployment Office to the Office of Electricity. In the FY 2027 Budget Request, Grid Deployment programmatic work has been incorporated in the Request for the Electricity account. Comparable FY 2025 and FY 2026 columns in the table above, labeled "(comp.)," reflect how the funding would have looked had it been within the Electricity account in all years shown.

Explanation of Changes for Transmission Planning and Permitting

- *Technical Assistance*: The reduction streamlines and prioritizes technical assistance activities to better meet Administration priorities to unleash American energy.
- *Interregional Planning and Development*: Interregional transmission planning and development activities are refocused and streamlined into the Technical Assistance subprogram for greater efficiency and flexibility.
- *Offshore Wind Planning and Development*: No activities are requested for offshore wind transmission planning and development work in FY 2027.

Distribution and Markets

Overview

No funding is requested in FY 2027 for the Distribution and Markets program. Prior work helped electricity system partners and stakeholders establish and improve centrally organized market components and bilateral market arrangements as well as advance distribution-level market opportunities to improve the grid.

Distribution and Markets
Funding ($K)

	FY 2025 Enacted	FY 2025 Enacted (comp.)	FY 2026 Enacted	FY 2026 Enacted (comp.)	FY 2027 Request
Wholesale Markets Technical Assistance & Grants	-	8,000	-	6,000	-
DER Grid Planning & Markets	-	2,000	-	-	-
Territory, Tribal, & Rural Community Development	-	5,500	-	-	-
PUC & RTO TA, Support, & Guidance on Models, Rates, & Market Designs Integrating LDES	-	-	-	2,500	-
Total, Distribution and Markets	**-**	**15,500**	**-**	**8,500**	**-**

In November 2025, DOE functionally realigned program activity from the Grid Deployment Office to the Office of Electricity. In the FY 2027 Budget Request, Grid Deployment programmatic work has been incorporated in the Request for the Electricity account. Comparable FY 2025 and FY 2026 columns in the table above, labeled "(comp.)," reflect how the funding would have looked had it been within the Electricity account in all years shown.

Explanation of Changes for Distribution and Markets

No funding is requested for Distribution and Markets in FY 2027. Prior-year funded activities will be completed using already appropriated funding.

Program Direction

Overview

The Program Direction (PD) program provides for the Federal workforce responsible for the overall direction and administrative support of the Office of Electricity (OE). Headquarters Federal employees provide executive management, programmatic oversight, and analysis for the effective implementation of the OE program, as well as communications, finance, operations, planning, and workforce development functions. PD funding is also provided for time spent by Office of Fossil Energy (FE) technical staff at the National Energy Technology Laboratory (NETL) in support of OE's financial activities, including procurement, finance, and legal functions.

Contractor support services are utilized for some administrative tasks and special purpose analyses for management, such as technology and market analyses and development of tools to improve overall office efficiency, consolidate organizational knowledge, track performance and inventory data, and facilitate staff use of the information. Other related PD expenses include corporate IT support and equipment through DOE's Energy Information Technology Services (EITS), Office of Research, Technology, and Economic Security (RTES) reviews, and common administrative services such as rent for office space leased from the General Services Administration, telecommunications, and corporate business systems through DOE's Working Capital Fund (WCF).

Highlights of the FY 2027 Budget Request

OE's team of experts share their technical, analytical, and policy expertise with offices throughout DOE and with energy stakeholders across the country. Continued program direction support is crucial to sustain a talented workforce to facilitate the Administration's goal of energy dominance and providing a reliable, resilient, secure, and affordable 21st century power grid for the American people.

DOE Realignment

In November 2025, DOE functionally realigned ongoing program activities within the Grid Deployment Office to the Office of Electricity. In the FY 2027 Budget Request, Grid Deployment staff and programmatic work have been incorporated in the Request for the Electricity account. Comparable columns in the funding tables, labeled "(comparable)" or "(comp.)," reflect how the funding would have looked had Grid Deployment activities been funded within the Electricity account in all years shown.

Program Direction
Funding ($K)

	FY 2025 Enacted	FY 2025 Enacted (comp.)	FY 2026 Enacted	FY 2026 Enacted (comp.)	FY 2027 Request
Salaries and Benefits	11,715	15,019	10,727	11,692	12,135
Travel	92	116	360	420	400
Support Services	2,674	3,008	1,035	3,249	1,721
Other Related Expenses	1,577	3,391	4,243	5,202	3,569
Total, Washington Headquarters	**16,058**	**21,534**	**16,365**	**20,563**	**17,825**
Salaries and Benefits	1,723	1,934	1,709	3,199	2,417
Travel	2	3	45	46	47
Support Services	388	388	383	694	398
Other Related Expenses	829	1,141	1,198	1,198	1,190
Total, NETL	**2,942**	**3,466**	**3,335**	**5,137**	**4,052**
Salaries and Benefits	13,438	16,953	12,436	14,891	14,552
Travel	94	119	405	466	447
Support Services	3,062	3,396	1,418	3,943	2,119
Other Related Expenses	2,406	4,532	5,441	6,400	4,759
Total, Program Direction	**19,000**	**25,000**	**19,700**	**25,700**	**21,877**
Technical Support	1,901	1,600	908	1,903	1,314
Management Support	1,161	1,796	510	2,040	805
Total, Support Services	**3,062**	**3,396**	**1,418**	**3,943**	**2,119**
EITS Desktop Services	438	814	594	936	824
WCF	1,139	2,525	2,190	2,725	2,745
Other Services	829	1,193	2,657	2,739	1,190
Total, Other Related Expenses	**2,406**	**4,532**	**5,441**	**6,400**	**4,759**
OE Federal FTEs	50	71	47	51	51
Additional FE Federal FTEs at NETL supporting OE[1]	12	12	11	12	11
Total OE-funded FTEs	**62**	**83**	**58**	**63**	**62**

[1] OE funds FE FTEs at NETL that support OE activities. The NETL FTEs are included in FE's FTE totals and not in the OE FTE totals shown on the "Federal FTEs" line.

Program Direction
Activities and Explanation of Changes
($K)

FY 2026 Enacted (comp.)	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted (comp.)
Program Direction		
25,700	**21,877**	**-3,823**
Salaries and Benefits		
14,891	*14,552*	*-339*
Support 63 FTEs providing executive management, programmatic oversight, and analysis for the effective implementation of the OE program	Support 62 FTEs providing executive management, programmatic oversight, and analysis for the effective implementation of the OE program	Funding reflects 1 fewer FTE.
Travel		
466	*447*	*-19*
Funds transportation, subsistence, and incidental expenses allowing OE to effectively facilitate its mission	Funds transportation, subsistence, and incidental expenses allowing OE to effectively facilitate its mission	Planned travel is reduced
Support Services		
3,943	*2,119*	*-1,824*
Includes contractor support directed by Federal staff to perform administrative tasks and provide analysis to management May also include support for post-doctoral fellows and IPA assignments	Includes contractor support directed by Federal staff to perform administrative tasks and provide analysis to management May also include support for post-doctoral fellows and IPA assignments	Savings resulted from merging OE and GDO through consolidation of functions previously performed independently.
Other Related Expenses		
6,400	*4,759*	*-1,641*
Includes EITS desktop services and equipment upgrades and replacements WCF expenses include rent, supplies, copying, graphics, mail, printing, and telephones	Includes EITS desktop services and equipment upgrades and replacements WCF expenses include rent, supplies, copying, graphics, mail, printing, and telephones	Savings resulted from merging OE and GDO through reductions in conference fees, training, construction, furniture purchases, and other activities.

DEPARTMENT OF ENERGY
Funding by Site Detail
Electricity - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Argonne National Laboratory			
Transmission Reliability and Resilience	1,990	1,800	1,500
Energy Delivery Grid Operations Technology	2,509	2,491	2,500
Resilient Distribution Systems	2,395	-	-
Grid Controls and Communications	6,894	4,291	4,000
Energy Storage R&D	2,015	1,345	1,345
Energy Storage	2,015	1,345	1,345
Transformer Resilience and Advanced Components	2,000	2,500	2,500
Applied Grid Transformation Solutions	320	-	-
Grid Hardware, Components, and Systems	4,335	3,845	3,845
Transmission Planning & Permitting	1,000	-	-
Total Argonne National Laboratory	**12,229**	**8,136**	**7,845**
Brookhaven National Laboratory			
Transmission Reliability and Resilience	800	950	1,000
Grid Controls and Communications	800	950	1,000
Energy Storage R&D	300	-	-
Energy Storage	300	-	-
Transformer Resilience and Advanced Components	800	-	-
Grid Hardware, Components, and Systems	1,100	-	-
Total Brookhaven National Laboratory	**1,900**	**950**	**1,000**
Idaho National Laboratory			
Transmission Reliability and Resilience	950	850	800
Resilient Distribution Systems	1,035	-	-
Cyber Resilient & Secure Utility Communications Network (SecureNet)	3,315	1,500	1,500
Grid Controls and Communications	5,300	2,350	2,300
Energy Storage R&D	50	-	-
Energy Storage	50	-	-
Transformer Resilience and Advanced Components	800	2,500	2,500
Applied Grid Transformation Solutions	805	1,500	-
Grid Hardware, Components, and Systems	1,655	4,000	2,500
Distribution & Markets	1,000	-	-
Total Idaho National Laboratory	**7,955**	**6,350**	**4,800**

DEPARTMENT OF ENERGY
Funding by Site Detail
Electricity - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Lawrence Berkeley National Laboratory			
Transmission Reliability and Resilience	950	900	1,000
Energy Delivery Grid Operations Technology	156	250	500
Resilient Distribution Systems	6,125	4,450	3,300
Grid Controls and Communications	7,231	5,600	4,800
Energy Storage R&D	374	-	-
Energy Storage	374	-	-
Applied Grid Transformation Solutions	1,480	700	50
Grid Hardware, Components, and Systems	1,854	700	50
Transmission Planning & Permitting	2,000	-	-
Total Lawrence Berkeley National Laboratory	**11,085**	**6,300**	**4,850**
Lawrence Livermore National Laboratory			
Transmission Reliability and Resilience	4,413	2,350	1,500
Energy Delivery Grid Operations Technology	9,494	7,066	7,200
Resilient Distribution Systems	473	-	-
Grid Controls and Communications	14,380	9,416	8,700
Energy Storage R&D	1,000	-	-
Energy Storage	1,000	-	-
Applied Grid Transformation Solutions	35	-	-
Grid Hardware, Components, and Systems	1,035	-	-
Transmission Planning & Permitting	1,000	-	-
Total Lawrence Livermore National Laboratory	**16,415**	**9,416**	**8,700**
Los Alamos National Laboratory			
Transmission Reliability and Resilience	1,185	1,100	1,200
Energy Delivery Grid Operations Technology	3,461	3,189	3,300
Resilient Distribution Systems	1,403	-	-
Grid Controls and Communications	6,049	4,289	4,500
Transformer Resilience and Advanced Components	900	800	800
Grid Hardware, Components, and Systems	900	800	800
Total Los Alamos National Laboratory	**6,949**	**5,089**	**5,300**
National Energy Technology Lab			
Energy Delivery Grid Operations Technology	150	-	-
Grid Controls and Communications	150	-	-
Transmission Planning & Permitting	5,000	7,500	1,000
Distribution & Markets	8,000	7,000	-
Program Direction - OE	3,164	1,866	3,607
Total National Energy Technology Lab	**16,314**	**16,366**	**4,607**

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
National Laboratory of the Rockies			
Transmission Reliability and Resilience	2,363	1,000	1,200
Energy Delivery Grid Operations Technology	1,653	2,486	2,500
Resilient Distribution Systems	6,982	980	850
Grid Controls and Communications	10,998	4,466	4,550
Energy Storage R&D	553	500	500
Energy Storage	553	500	500
Transformer Resilience and Advanced Components	3,300	4,000	4,000
Applied Grid Transformation Solutions	1,660	-	-
Grid Hardware, Components, and Systems	5,513	4,500	4,500
Transmission Planning & Permitting	15,000	1,000	1,500
Distribution & Markets	1,000	750	-
Total National Laboratory of the Rockies	**32,511**	**10,716**	**10,550**
Oak Ridge National Laboratory			
Transmission Reliability and Resilience	6,771	6,375	5,000
Energy Delivery Grid Operations Technology	1,746	829	2,000
Resilient Distribution Systems	3,971	4,470	2,800
Cyber Resilient & Secure Utility Communications Network (SecureNet)	4,385	4,000	4,000
Grid Controls and Communications	16,873	15,674	13,800
Energy Storage R&D	3,900	2,616	2,616
Energy Storage	3,900	2,616	2,616
Transformer Resilience and Advanced Components	3,450	4,000	4,000
Applied Grid Transformation Solutions	3,819	300	300
Grid Hardware, Components, and Systems	11,169	6,916	6,916
Transmission Planning & Permitting	1,000	-	-
Total Oak Ridge National Laboratory	**29,042**	**22,590**	**20,716**
Pacific Northwest National Laboratory			
Transmission Reliability and Resilience	6,551	4,340	2,000
Energy Delivery Grid Operations Technology	6,080	7,438	7,500
Resilient Distribution Systems	15,560	13,440	12,000
Cyber Resilient & Secure Utility Communications Network (SecureNet)	2,574	3,500	3,500
Grid Controls and Communications	30,765	28,718	25,000
Energy Storage R&D	21,024	19,832	19,832
Energy Storage	21,024	19,832	19,832
Transformer Resilience and Advanced Components	1,800	2,500	2,500
Applied Grid Transformation Solutions	565	500	-
Grid Hardware, Components, and Systems	23,389	22,832	22,332
Transmission Planning & Permitting	4,000	1,000	1,000
Distribution & Markets	1,000	750	-
Total Pacific Northwest National Laboratory	**59,154**	**53,300**	**48,332**

DEPARTMENT OF ENERGY
Funding by Site Detail
Electricity - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Sandia National Laboratories			
Transmission Reliability and Resilience	5,205	2,250	1,000
Energy Delivery Grid Operations Technology	5,125	3,731	3,800
Resilient Distribution Systems	2,442	-	-
Cyber Resilient & Secure Utility Communications Network (SecureNet)	-	1,000	1,000
Grid Controls and Communications	12,772	6,981	5,800
Energy Storage R&D	25,104	19,391	19,391
Energy Storage	25,104	19,391	19,391
Transformer Resilience and Advanced Components	7,150	5,000	5,000
Applied Grid Transformation Solutions	2,435	-	-
Grid Hardware, Components, and Systems	34,689	24,391	24,391
Total Sandia National Laboratories	**47,461**	**31,372**	**30,191**
Savannah River National Laboratory			
Transformer Resilience and Advanced Components	1,200	800	800
Grid Hardware, Components, and Systems	1,200	800	800
Total Savannah River National Laboratory	**1,200**	**800**	**800**
SLAC National Accelerator Laboratory			
Energy Storage R&D	2,000	1,000	1,000
Energy Storage	2,000	1,000	1,000
Grid Hardware, Components, and Systems	2,000	1,000	1,000
Total SLAC National Accelerator Laboratory	**2,000**	**1,000**	**1,000**
Washington Headquarters			
Transmission Reliability and Resilience	10	-	-
Resilient Distribution Systems	20	-	-
Grid Controls and Communications	30	-	-
Energy Storage R&D	16,937	16,138	6,713
Energy Storage	16,937	16,138	6,713
Grid Hardware, Components, and Systems	16,937	16,138	6,713
Transmission Planning & Permitting	4,000	750	500
Distribution & Markets	2,000	-	-
Program Direction - OE	17,114	5,375	-
Total Washington Headquarters	**40,081**	**22,263**	**7,213**

DEPARTMENT OF ENERGY
Funding by Site Detail
Electricity - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Other			
Transmission Reliability and Resilience	521	2,230	1,100
Energy Delivery Grid Operations Technology	233	-	-
Resilient Distribution Systems	1,626	1,650	1,650
Cyber Resilient & Secure Utility Communications Network (SecureNet)	2,900	-	-
Grid Controls and Communications	5,280	3,880	2,750
Energy Storage R&D	1,929	1,140	303
Energy Storage	1,929	1,140	303
Transformer Resilience and Advanced Components	100	400	400
Applied Grid Transformation Solutions	669	500	500
Grid Hardware, Components, and Systems	2,698	2,040	1,203
Program Direction - OE	3,854	13,773	17,346
Total Other	**11,832**	**19,693**	**21,299**
Undesignated LPI			
Transmission Reliability and Resilience	1,291	3,355	10,200
Energy Delivery Grid Operations Technology	393	3,520	5,200
Resilient Distribution Systems	10,968	10	-
Cyber Resilient & Secure Utility Communications Network (SecureNet)	2,326	800	500
Grid Controls and Communications	14,978	7,685	15,900
Energy Storage R&D	17,314	23,038	-
Energy Storage	17,314	23,038	-
Transformer Resilience and Advanced Components	1,000	-	-
Applied Grid Transformation Solutions	1,712	10,000	9,450
Grid Hardware, Components, and Systems	20,026	33,038	9,450
Transmission Planning & Permitting	5,250	-	-
Distribution & Markets	2,500	-	-
Program Direction - OE	868	4,686	924
Total Undesignated LPI	**43,622**	**45,409**	**26,274**
Total Funding by Site for TAS_0318 - Electricity	**339,750**	**259,750**	**203,477**

Baseload Power

Baseload Power
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
N/A	N/A	3,500,000	+3,500,000

Overview

The Budget requests $3.5 billion to preserve approximately 9 GW and add approximately 9-13 GW of firm baseload power. This investment will expand our domestic energy supply and lower prices for Americans. Program funding for this effort will be derived from unobligated, repurposed Infrastructure Investment and Jobs Act balances and is not part of DOE's annual discretionary funding topline.

The United States has abundant firm, dispatchable resources such as coal, natural gas, geothermal, nuclear and hydropower. However, the accelerated retirement of existing generation capacity and the insufficient pace of firm, dispatchable generation additions will result in the Nation's power grid being unable to meet projected demand for manufacturing, re-industrialization, and data centers driving artificial intelligence innovation. Currently, 104 GW of firm capacity is set for retirement by 2030. Projections indicate this capacity will be replaced by 209 GW of new generation by 2030; however, only 22 GW of this would be from firm baseload generation sources[1]. DOE has conducted numerous studies detailing how generation retirements and less dependable replacement generation is inconsistent with winning the AI race and ensuring affordable energy for all Americans. Sustaining and enhancing baseload power generation, including the construction of new facilities and pipelines, is critical to increase capacity for electricity generation, infrastructure upgrades and equipment. Overall strengthening of grid reliability (including cybersecurity protections) is critical for reducing the cost of electricity for American families.

On April 8, 2025, President Trump issued Executive Order 14262, "Strengthening the Reliability and Security of the United States Electric Grid." EO 14262 builds on EO 14156, "Declaring a National Emergency (Jan. 20, 2025)," stating that a precariously inadequate and intermittent energy supply and increasingly unreliable grid will require swift action. The integrity and expansion of our Nation's energy infrastructure, from coast to coast, is an immediate and pressing priority for the protection of the United States' national and economic security. It is imperative that the Federal government puts the physical and economic wellbeing of the American people first.[2]

This new initiative will draw across the resources of multiple DOE offices, including Hydrocarbons & Geothermal Energy; Nuclear Energy; Electricity; Critical Minerals & Energy Innovation; and Cybersecurity, Energy Security & Emergency Response.

[1] Report on Resource Adequacy Report Evaluating the Reliability and Security of the United States Electric Grid, U.S. Department of Energy, July 7, 2025
[2] Declaring a National Energy Emergency – The White House: https://www.whitehouse.gov/presidential-actions/2025/01/declaring-a-national-energy-emergency/

Baseload Power
Funding by Program Activity ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Coal, Oil, and Gas, and Geothermal Power Activities	-	-	1,940,000	+1,940,000	N/A
Nuclear Power Activities	-	-	300,000	+300,000	N/A
Cybersecurity Activities	-	-	10,000	+10,000	N/A
Grid and Electric Power Activities	-	-	750,000	+750,000	N/A
Hydropower Activities	-	-	500,000	+500,000	N/A
Total, Baseload Power[1]	-	-	**3,500,000**	**+3,500,000**	**N/A**

Highlights of the FY 2027 Request

Coal, Oil and Gas, and Geothermal Power Activities
Coal- and natural gas-fired power plants remain crucial baseload generators due to their ability to provide continuous, reliable, and dispatchable electricity, which is essential for grid stability and meeting consistent demand, particularly when renewable energy sources are unavailable. These plants operate steadily year-round and contribute to grid stability by maintaining voltage and frequency levels, thereby preventing outages, and have historically demonstrated their reliability during extreme weather events, such as Winter Storm Fern in January 2026, by compensating for shortfalls from other energy sources. Their output is unaffected by seasonal or weather changes, allowing them to quickly increase generation during periods of high demand caused by cold snaps or heat waves. Economically, their continuous operation makes them a cost-effective option for meeting baseline demand, and ongoing technological advancements enable continued efficiency gains. In essence, coal and natural gas-fired power plants continue to be a vital component of the U.S. power system, ensuring reliable baseload supply through uninterrupted, weather-independent, and dispatchable generation.

Geothermal energy is an essential baseload power source due to its continuous reliability, high-capacity factor, minimal land use, long-term sustainability, and flexible generation, operating at over 90% capacity. Geothermal plants have a small land footprint while offering a high energy yield. They draw on the Earth's nearly limitless internal heat, with infrastructure lasting 20-50 years. Geothermal plants are also dispatchable, meaning they can be ramped up or down to meet fluctuating demand.

The FY 2027 Budget Request would preserve 4 GW and add 2 GW of firm coal-fired baseload and preserve 5 GW and add 3 GW through natural gas plant and pipeline infrastructure upgrades to increase efficiency and harden the fuel sources for generation. The work may include but is not limited to upgrading existing coal power generation facilities, adding fuel storage near critical power generation facilities, expanding natural gas pipeline infrastructure, and adding heat recovery systems to simple cycle thermal units. Funding would also repower geothermal capacity at existing sites by installing binary or flash units and by drilling new wells or reworking existing geothermal wells to increase fluid flow at underutilized reservoirs can add about 0.1 to 0.2 GW while using existing infrastructure and grid interconnections.

[1] The FY 2027 Request for Baseload Power repurposes prior year unobligated IIJA funding.

Nuclear Power Activities
Nuclear reactors are highly reliable, operating at over 90% capacity for extended periods between refueling, making them ideal for meeting consistent baseline energy. Nuclear plants contribute significantly to grid stability by providing a constant, stable output that helps maintain grid frequency and voltage, which is crucial as more variable renewable energy sources are integrated. Innovations like Small Modular Reactors and Generation IV reactors offer enhanced scalability, safety, and efficiency, allowing nuclear power to adapt to increasing energy demands and integrate with various energy systems.

The FY 2027 Budget Request would support nuclear energy and the nuclear energy supply chain with equipment upgrades, plant efficiency, and fuel performance improvements to bolster the energy grid with 0.5-0.75 GW. This work may include but is not limited to uprates at existing facilities, improved fuels, and digital solutions to improve the management and operation of facilities.

Grid and Electric Power Activities
New transmission lines can take 5–15 years to build, with long permitting and environmental delays. Reconductoring upgrades existing lines in approximately 18–36 months, often at less than half the cost of new builds because it reuses towers, rights-of-way, and avoids new environmental clearances. This speed is critical for baseload projects, which need stable, long-term grid access. Reconductoring is the process of replacing existing transmission lines with newer, high-capacity materials, and offers a rapid and economical method to expand grid capacity, thereby allowing more baseload generation to reach load centers and deferring the need for costly new infrastructure. This approach significantly shortens project timelines, primarily by reusing existing infrastructure and avoiding extensive permitting and environmental hurdles.

Reconductoring alleviates grid congestion, which can otherwise force baseload plants to operate at higher costs or reduce output. The use of stronger, lighter, and less-sagging advanced conductors also enhances grid resilience, improves safety, and mitigates wildfire risks, which is crucial for continuous baseload operation and extreme weather resistance. Efficient expansion of grid capacity through reconductoring is particularly vital for supporting the growing demands of electrification and data centers, offering a swift solution without the lengthy delays associated with new transmission projects.

The FY 2027 Budget Request would reconductor existing transmission lines with advanced conductors to unlock approximately 3–6 GW of incremental transfer capacity on constrained corridors. A second round of the Speed to Power through Accelerated Reconductoring and other Key Advanced Transmission Technology Upgrades (SPARK) funding opportunity is planned to catalyze electricity investments to meet electricity demand growth and resource adequacy, while reducing costs for American households and businesses. This will continue the momentum building from the first SPARK round, announced in March 2026, to invest in reconductoring efforts to increase the power-carrying capability of existing transmission corridors. SPARK round two will continue prioritizing reconductoring projects that can be implemented quickly to accelerate the delivery of baseload generation to meet the rising demand for affordable, reliable, and secure energy.

Cybersecurity Activities
Cybersecurity for baseload power will focus on the targeted application of cybersecurity principles. Bolstering baseload power without ensuring its resilience introduces significant downstream risks, which can be proactively mitigated with modest upfront investment in dedicated testing. DOE identifies and addresses vulnerabilities through rigorous testing and comprehensive risk analysis. Therefore, funding for activity would be specifically allocated to testing components developed or deployed to support expanded baseload power. These components must be tested for resilience to cyber attacks, a process effectively carried out by the established CyTRICS program.

Hydropower Activities

Hydropower is a crucial baseload electricity source due to its reliability and renewability, providing a steady and continuous power supply that meets constant demand. Hydropower facilities offer significant firm capacity, ensuring a stable supply even during periods of peak demand. Economically, hydropower plants have low operating costs and long lifespans once constructed, leading to stable electricity prices over many decades. Furthermore, by generating power domestically, hydropower enhances energy security and can quickly ramp up output to provide critical backup during disruptions. Hydropower is also highly flexible, with units able to start up and reach full load in minutes, making them more responsive than most other energy sources for meeting peak demands.

The domestic hydropower fleet has an average age of 65 years, making modernization and rehabilitation essential to maximizing potential and ensuring reliability. Federal hydropower facilities account for more than 40% of U.S. hydropower generation capacity and are characterized by large-scale units when compared to the private sector fleet. Directing federal resources toward the modernization of federal hydropower assets will not only rehabilitate the existing fleet, ensuring we maintain the over 40 GW of essential baseload hydropower generation these facilities already provide, but also deliver opportunities for permanent increases in generation capacity (uprates) through system or equipment modifications.

The FY 2027 Budget Request would uprate 12–15 federal hydropower projects, adding 0.5–1.6 GW of new firm capacity to the grid. The Office of Critical Minerals & Energy Innovation would accomplish this by working with federal partners who own and operate federal hydropower facilities—U.S. Army Corp of Engineers, U.S. Bureau of Reclamation, and Tennessee Valley Authority—to identify and select projects that include rewinds, turbine replacements, and unit additions at conclusion of replacement/renewal that would result in the greatest capacity increases.

Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Baseload Power	**3,500,000**	**+3,500,000**
No funding enacted.	The Request will support an investment to preserve 9 GW and add 9-13 GW of firm baseload power, such as coal, natural gas, geothermal, nuclear, and hydropower, to counter the projected retirement of 104 GW of firm capacity by 2030 and ensure grid reliability for future demand.	Funding will draw across the resources of multiple DOE offices, including Hydrocarbons & Geothermal Energy; Nuclear Energy; Electricity; Critical Minerals & Energy Innovation; and Cybersecurity, Energy Security & Emergency Response.

DEPARTMENT OF ENERGY
Funding by Site Detail
Baseload Power - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Undesignated LPI			
Baseload Power	-	-	3,500,000
Total Undesignated LPI	**-**	**-**	**3,500,000**
Total Funding by Site for TAS_NEW_BP - Baseload Power	**-**	**-**	**3,500,000**

Energy Dominance Financing

Office of Energy Dominance Financing

Mission

The Office of Energy Dominance Financing (EDF) provides financing to American energy and manufacturing projects that meaningfully contribute to U.S. energy security, grid reliability, and lowering electricity costs for all Americans. EDF empowers the private sector to invest in the future, win the AI race, bring back jobs, strengthen industry, and restore American energy dominance.

Overview

EDF's Budget Request is structured to reflect the three Programs administered by EDF, described further in the following Congressional Justification sections: the Advanced Technology Vehicles Manufacturing Loan Program (ATVM), the Title 17 Innovative Technology Loan Guarantee Program (Title 17), and the Tribal Energy Loan Guarantee Program (TELGP).

Appropriation Summary by Program
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				($)	(%)
Administrative Expenses	13,000	9,500	9,500	-	-
Loan Subsidy Cancellation*	-	-	-2,324,245	-2,324,245	N/A
Advanced Technology Vehicles Manufacturing Loan Program	**13,000**	**9,500**	**-2,314,745**	**-2,324,745**	**-24466%**
Administrative Expenses	55,000	35,000	59,270	+24,270	69%
Offsetting Collections	-84,140	-91,753	-69,000	+22,753	N/A
Loan Subsidy Cancellation	-	-	-10,682	-10,682	N/A
Title 17 Credit Subsidy (base)	-	-	200,000	+200,000	N/A
Title 17 Credit Subsidy*	-	150,000	-	-150,000	-100%
Title 17 Innovative Technology Loan Guarantee Program	**-29,140**	**93,247**	**179,588**	**+86,341**	**N/A**
Administrative Expenses	6,300	6,300	2,000	-4,300	-68%
Tribal Energy Loan Guarantee Program	**6,300**	**6,300**	**2,000**	**-4,300**	**-68%**
Total, Energy Dominance Financing	**-9,840**	**109,047**	**-2,133,157**	**-2,242,204**	**N/A**

NOTE: The FY27 proposed ATVM cancelation and the FY26 Title 17 credit subsidy are emergency designated balances. The ATVM balances were originally appropriated in FY09 and the Title 17 funds were derived by transfer of Infrastructure Investment and Jobs Act advanced appropriations from the Fossil Energy account.

Advanced Technology Vehicles Manufacturing Loan Program
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
13,000	9,500	9,500	-

Proposed Appropriation Language

For Department of Energy administrative expenses necessary in carrying out the Advanced Technology Vehicles Manufacturing Loan Program, $9,500,000, to remain available until September 30, 2028: Provided, That the unobligated balances available from amounts appropriated for the cost of direct loans in section 129 of Division A of the Consolidated Security, Disaster Assistance, and Continuing Appropriations Act, 2009 (Public Law 110-329) are hereby permanently cancelled.

Public Law Authorizations

- P.L. 110-140, Energy Independence and Security Act of 2007, as amended
- P.L. 110–329, Consolidated Security, Disaster Assistance, and Continuing Appropriations Act of 2009
- P.L. 117-58, Infrastructure Investment and Jobs Act
- P.L. 117-169, Inflation Reduction Act of 2022
- P.L. 117-328, Consolidated Appropriations Act, 2023
- P.L. 119-4, Full-Year Continuing Appropriations and Extensions Act, 2025

Overview

The Advanced Technology Vehicles Manufacturing (ATVM) Loan Program was created to provide loans for the cost of establishing, re-equipping, or expanding manufacturing facilities in the United States to produce advanced technology vehicles or qualified components and for associated engineering integration costs. As of September 30, 2025, the ATVM portfolio comprised 10 active loans. Since program inception, ATVM has obligated $37 billion (net of deobligations), with $20 billion disbursed to date. ATVM borrowers have repaid almost $9 billion in principal and over $1 billion in interest. The program has recorded roughly $0.2 billion in losses due to default, or 1% of funds disbursed.

ATVM has primarily subsidized the financing of electric vehicle and related components manufacturing projects in a manner inconsistent with Executive Order 14154, *Unleashing American Energy*. Therefore, the FY 2027 Budget Request proposes the elimination of discretionary unobligated credit subsidy balances originally appropriated in 2009. With the rescission of available credit subsidy, the Office of Energy Dominance Financing does not anticipate originating or underwriting new loans. The $9.5 million requested for administrative expenses is to continue the program's portfolio monitoring responsibilities.

Advanced Technology Vehicles Manufacturing Loan Program
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				($)	(%)
Administrative Expenses	13,000	9,500	9,500	-	-
Loan Subsidy Cancellation[1]			-2,324,245	-2,324,245	NA
Advanced Technology Vehicles Manufacturing Loan Program	**13,000**	**9,500**	**-2,314,745**	**-2,324,745**	**-24466%**

Explanation of Changes for ATVM

FY 2027 Budget Request provides $9.5 million for administrative expenses, unchanged from FY 2026 Enacted, and proposes to rescind $2.32 billion of unobligated credit subsidy balance appropriated by the Consolidated Security Disaster Assistance, and Continuing Appropriations Act, 2009. The administrative expenses funding supports monitoring of the program's existing portfolio. Federal full-time equivalent (FTE) positions are planned to be kept the same as FY 2026 Enacted level of 20 FTEs.

Administrative Expenses
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Salaries & Benefits	8,745	4,800	4,620
Travel	78	40	40
Support Services	3,330	3,830	4,010
Other Related Expenses	847	830	830
Total, Administrative Expenses	**13,000**	**9,500**	**9,500**
Mission Support	*2,416*	*2,980*	*3,040*
IT Support	*914*	*850*	*970*
Total, Management and Professional Support Services	3,330	3,830	4,010
Total, Support Services	**3,330**	**3,830**	**4,010**
Communication and Misc. Charges Related to IT	40	50	50
Other Services	-	-	-
Working Capital Fund	592	570	580
Operation and Maintenance of Facilities	100	100	100
Supplies, Subscriptions and Publications	100	60	90
Equipment	15	50	10
Total, Other Related Expenses	**847**	**830**	**830**
Federal FTEs	**39**	**20**	**20**

[1] The FY 2027 Budget proposes to cancel $2.32 billion in unobligated balances appropriated by the Consolidated Security, Disaster Assistance, and Continuing Appropriations Act, 2009 (P.L. 110-329). These balances are designated emergency and therefore do not offset the FY 2027 Budget Request.

Administrative Expenses
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Salaries & Benefits		
4,800	**4,620**	**-180**
Provided salaries and benefits for 20 full-time equivalent employees.	Provides for salaries and benefits of 20 full-time equivalent employees.	Reflects DRP costs in FY 2026 absent in FY 2027.
Travel		
40	*40*	-
Supports the travel of staff to attend meetings, conferences, and site visits if needed.	Supports the travel of staff to attend meetings, conferences, and site visits if needed.	Significant change is not expected.
Support Services		
3,830	*4,010*	*+180*
Supports a range of contract services including administrative support, training, subject matter experts, legal services, information technology, credit analysis, and market assessments.	Supports a range of contract services including administrative support, training, subject matter experts, legal services, information technology, credit analysis, and market assessments.	Increase is due to impermanent increase in contractor utilization to manage workload.
Other Related Expenses		
830	*830*	-
Funds DOE Working Capital Fund (WCF), software, equipment, other services including conferences attendance fees, and publications.	Funds DOE WCF, software, equipment, other services including conferences attendance fees, and publications. WCF cost of $580K is included.	Increase in WCF is offset with reduced costs in Equipment.

Tribal Energy Loan Guarantee Program
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
6,300	6,300	2,000	-4,300

Proposed Appropriation Language

For Department of Energy administrative expenses necessary in carrying out the Tribal Energy Loan Guarantee Program, $2,000,000, to remain available until September 30, 2028.

Overview

The Tribal Energy Loan Guarantee Program (TELGP)[1] was authorized by Section 2602 of the Energy Policy Act of 1992, as amended, to support energy development by Indian tribes, Alaska Native corporations, and other qualified entities.

The FY 2027 Budget Request proposes $2 million in administrative expenses to provide continued management and oversight of the activities within the existing loan portfolio, and to maintain responsiveness to tribal entities interested in pursuing federal loan financing.

Tribal Energy Loan Guarantee Program
Appropriation Level and Program Level ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				($)	(%)
Administrative Expenses	6,300	6,300	2,000	-4,300	-68%
Tribal Energy Loan Guarantee Program	**6,300**	**6,300**	**2,000**	**-4,300**	**-68%**

Explanation of Changes

The FY 2027 Budget Request provides $2 million for administrative expenses, a decrease of $4.3 million from the FY 2026 Enacted. These administrative expenses will be used to fund the monitoring of one loan currently in the TELGP portfolio as well as limited outreach and origination activities. The Budget includes no change in Federal FTE.

[1] DOE prefers to use the name Tribal Energy Financing program since, in addition to guaranteeing private sector loans, the program has the authority to provide 100% guarantees of Federal Financing Bank loans which are treated as Direct Loans.

Administrative Expenses
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Salaries & Benefits	1,121	1,150	1,150
Travel	10	10	10
Support Services	4,619	4,870	710
Other Related Expenses	550	270	130
Total, Administrative Expenses	**6,300**	**6,300**	**2,000**
Mission Support	*3,711*	*1,460*	*620*
IT Support	*908*	*3,410*	*90*
Total, Management and Professional Support Services	4,619	4,870	710
Total, Support Services	**4,619**	**4,870**	**710**
Communication and Misc. Charges Related to IT	110	10	10
Other Services	105	80	30
Working Capital Fund	150	150	60
Operation and Maintenance of Facilities	-	-	-
Supplies, Subscriptions and Publications	100	20	20
Equipment	85	10	10
Total, Other Related Expenses	**550**	**270**	**130**
Federal FTEs	**5**	**5**	**5**

Administrative Expenses
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Salaries & Benefits		
1,150	**1,150**	**-**
Provided for salaries and benefits of 5 full-time equivalent employees in support of the TELGP program across all LPO divisions.	Provides for salaries and benefits of 5 full-time equivalent employees.	Five full-time equivalent employees to manage portfolio risks and sustain outreach activities.
Travel		
10	*10*	*-*
Supports the travel of staff to attend meetings, conferences, and site visits if needed.	Supports the travel of staff to attend meetings, conferences, and site visits if needed.	Significant change is not expected.
Support Services		
4,870	*710*	*4,160*
Supports a range of contract services including administrative support, training, subject matter experts, legal services, information technology, credit analysis, and market assessments.	Supports a range of contract services including administrative support, training, subject matter experts, legal services, information technology, credit analysis, and market assessments.	Mission support cost is expected to be significantly reduced.
Other Related Expenses		
270	*130*	*-140*
Supports DOE Working Capital Fund (WCF), software, equipment, other services including conferences attendance fees, and publications.	Supports DOE WCF, software, equipment, other services including conferences attendance fees, and publications. WCF cost of $60K is included.	Decrease follows reduction in mission support cost.

Title 17 Innovative Technology Loan Guarantee Program
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
-29,140	93,247	179,588	+86,341

Through Title 17, the Energy Dominance Financing (EDF) provides access to debt capital for high-impact, large-scale infrastructure projects and commercial-scale deployments in the United States. Eligible projects must offer a reasonable prospect of repayment of the principal and interest on the guaranteed obligation and meet additional eligibility requirements specific to the appropriate project category. Through Title 17 borrowers can access direct loans from U.S. Treasury's Federal Financing Bank (FFB) backed by 100% DOE guarantees or DOE partial guarantees of commercial debt.

The 2027 Budget requests $200 million in appropriated credit subsidy for the cost of loan guarantees to support the construction of small modular reactors or advanced nuclear reactors. The Budget also cancels all loan limitation and credit subsidy made available in prior appropriations acts while proposing $30 billion in new loan limitation for projects eligible under a subset of specific categories listed in section 1703(b) of the Energy Policy Act of 2005, as amended. In addition, the budget requests $59,270,000 for administrative expenses to operate the Title 17 program including the origination of new guaranteed loans and monitoring of the existing portfolio. The Department estimates that $69,000,000 will be received from fees pursuant to section 1702(h) of the Energy Policy Act of 2005 and credited as offsetting collection.

Proposed Appropriation Language

Such sums as are derived from amounts received from borrowers pursuant to section 1702(b) of the Energy Policy Act of 2005 under this heading in prior Acts, shall be collected in accordance with section 502(7) of the Congressional Budget Act of 1974: Provided, That for necessary administrative expenses of the Title 17 Innovative Technology Loan Guarantee Program, as authorized, $59,270,000 is appropriated, to remain available until September 30, 2028: Provided further, That up to $59,270,000 of fees collected in fiscal year 2027 pursuant to section 1702(h) of the Energy Policy Act of 2005 shall be credited as offsetting collections under this heading and used for necessary administrative expenses in this appropriation and shall remain available until September 30, 2028: Provided further, That to the extent that fees collected in fiscal year 2027 exceed $59,270,000, those excess amounts shall be credited as offsetting collections under this heading and available in future fiscal years only to the extent provided in advance in appropriations Acts: Provided further, That the sum herein appropriated from the general fund shall be reduced (1) as such fees are received during fiscal year 2027 (estimated at $69,000,000) and (2) to the extent that any remaining general fund appropriations can be derived from fees collected in previous fiscal years that are not otherwise appropriated, so as to result in a final fiscal year 2027 appropriation from the general fund estimated at $0: Provided further, That the Department of Energy shall not subordinate any loan obligation to other financing in violation of section 1702 of the Energy Policy Act of 2005 or subordinate any Guaranteed Obligation to any loan or other debt obligations in violation of section 609.8 of title 10, Code of Federal Regulations: That the Department of Energy shall not subordinate any loan obligation to other financing in violation of section 1702 of the Energy Policy Act of 2005 or subordinate any Guaranteed Obligation to any loan or other debt obligations in violation of section 609.8 of title 10, Code of Federal Regulations: Provided further, That the unobligated balances from amounts made available in the first proviso of section 1425 of the Department of Defense and Full-Year Continuing Appropriations Act, 2011 (Public Law 112-10) for the cost of loan guarantees under section 1703 of the Energy Policy Act of 2005 are hereby permanently cancelled: Provided further, That all authority for commitments to guarantee loans for eligible projects under title XVII of the Energy Policy Act of 2005

provided under this heading in the Omnibus Appropriations Act, 2009 (Public Law 111-8, as amended) and the Consolidated Appropriations Act, 2023 (Public Law 117-328), in section 20320 of the Continuing Appropriations Resolution, 2007 (Public Law 109-289, as amended), and in section 1425 of the Department of Defense and Full-Year Continuing Appropriations Act, 2011 (Public Law 112-10), is hereby permanently cancelled: Provided further, That for the cost of loan guarantees for the construction of small modular reactors or advanced nuclear reactors eligible under section 1703(b)(4) of the Energy Policy Act of 2005, as amended, (42 U.S.C. 16513(b)(4)), $200,000,000 is appropriated, to remain available until expended: Provided further, That, subject to section 502 of the Congressional Budget Act of 1974, commitments to guarantee loans for eligible geothermal, hydropower, or bioenergy projects under section 1703(b)(1) (42 U.S.C. 16513(b)(1)), eligible transmission and distribution projects under section 1703(b)(6) (42 U.S.C. 16513(b)(6)), and eligible projects under section 1703(b)(2), (4), (10), and (13) of the Energy Policy Act of 2005, as amended, (42 U.S.C. 16513(b)(2), (4), (10), and (13)) shall not exceed a total principal amount of $30,000,000,000, to remain available until committed: Provided further, That the amounts provided pursuant to the previous two provisos are in addition to those provided in any other Act: Provided further, That for amounts collected pursuant to section 1702(b)(2) of the Energy Policy Act of 2005, the source of such payment received from borrowers may not be a loan or other debt obligation that is guaranteed by the Federal Government.

Overview

Under the Title 17 Innovative Technology Loan Guarantee Program (Title 17), as authorized under Title XVII of the Energy Policy Act of 2005, the Department of Energy can finance large-scale and high-impact energy infrastructure, energy supply chain, and energy innovation projects in the United States that meaningfully contribute to U.S. energy security, grid reliability, and lowering energy costs for all Americans. The Title 17 Program is organized in four categories: 1) Innovative Energy, financing for projects that deploy New or Significantly Improved Technology that is technically proven but not yet widely commercialized in the United States; 2) Innovative Supply Chain, financing for projects that employ a new or significantly improved technology in the manufacturing process for a qualifying energy technology or for projects that manufacture a new or significantly improved technology; 3) State Energy Financing Institution-supported, financing for projects that support deployment of qualifying energy technology and receive meaningful financial support or credit enhancements from an entity within a state agency or financing authority; and 4) Energy Dominance Financing, for projects that retool, repower, repurpose, or replace energy infrastructure that has ceased operations; enable operating energy infrastructure to increase capacity output; or support or enable the provision of known or forecastable electric supply to maintain or enhance grid reliability or other system adequacy needs.

As of September 30, 2025, the Title 17 portfolio comprised 32 active loans and loan guarantees. Since program inception, original obligations at loan closing total more than $55 billion, with $29 billion disbursed to date. Title 17 borrowers have repaid over $8 billion in principal and nearly $5 billion in interest. The program has recorded nearly $1 billion in losses due to default, or 3% of funds disbursed. More information on EDF's portfolio can be found at EDF Portfolio Performance | Department of Energy (https://www.energy.gov/edf/edf-portfolio-performance).

Applicant interest in the Title 17 Program remains strong. As of September 30, 2025, the Program had $189 billion in requested financing across 88 applications, 60 under Section 1703 totaling $93 billion and 28 under Section 1706 totaling $96 billion. The Department expects to obligate approximately $1 billion of Title 17 Section 1703 loan authority in FY 2026 and approximately $6 billion of this authority in FY 2027. For Title 17 Section 1706, the Department expects to obligate approximately $36 billion in FY 2026 and approximately $70 billion in FY 2027.

The FY 2027 Budget Request proposes $200 million in credit subsidy funding to implement the Administration's energy priorities and ensure affordable, reliable, secure baseload power for the country.

Additionally, the Budget Request cancels all currently available Section 1703 loan guarantee commitment authority, replacing it with $30 billion in new loan guarantee commitment authority, eliminating previous technology-specific restrictions and providing EDF more flexibility to underwrite new loans across priority areas in to support of the Administration's Energy Dominance Agenda.

The Budget requests $59.27 million, wholly offset by an estimated $69 million in collected fees, for administrative expenses for the Office of Energy Dominance Financing Title 17 Program. Proposed funding will support monitoring of the existing portfolio, as well as new origination and underwriting activities, for all Title 17 projects.

Title 17 Innovative Technology Loan Guarantee Program
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				($)	(%)
Administrative Expenses	55,000	35,000	59,270	+24,270	69%
Offsetting Collections	-84,140	-91,753	-69,000	+22,753	N/A
Subtotal, Title 17 Innovative Technology Loan Guarantee Program	**-29,140**	**-56,753**	**-9,730**	**+47,023**	**N/A**
Loan Subsidy Cancellation[1]	-	-	-10,682	-10,682	N/A
Title 17 Credit Subsidy	-	150,000	200,000	+50,000	33%
Total, Title 17 Innovative Technology Loan Guarantee Program	**-29,140**	**93,247**	**179,588**	**+86,341**	**93%**

Explanation of Changes

The FY 2027 Budget Request proposes $200 million in new credit subsidy authority to remain available until committed, partially offset by the cancelation of $10.6 million in unobligated credit subsidy balance.

The FY 2027 Budget Request proposes $59.27 million for administrative expenses, an increase of $24.27 million from FY 2026 Enacted, wholly offset by an estimated $69 million in collected fees. EDF anticipates receiving approximately $15 million in maintenance fees from the current portfolio and $54 million in fees from loan guarantees expected to close in FY 2027. The Budget Request proposal assumes 115 Federal FTEs.

[1] The FY 2027 Budget proposes to permanently cancel all unobligated balances from amounts made available in the first proviso of section 1425 of the Department of Defense and Full-Year Continuing Appropriations Act, 2011 (Public Law 112-10) for the cost of loan guarantees under section 1703 of the Energy Policy Act of 2005; and all authority for commitments to guarantee loans for eligible projects under title XVII of the Energy Policy Act of 2005 provided under this heading in the Omnibus Appropriations Act, 2009 (Public Law 111-8, as amended) and the Consolidated Appropriations Act, 2023 (Public Law 117-328), in section 20320 of the Continuing Appropriations Resolution, 2007 (Public Law 109-289, as amended), and in section 1425 of the Department of Defense and Full-Year Continuing Appropriations Act, 2011 (Public Law112-10).

Administrative Expenses
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Salaries & Benefits	28,769	18,810	26,560
Travel	257	160	230
Support Services	21,168	11,920	25,690
Other Related Expenses	4,806	4,110	6,790
Total, Administrative Expenses	**55,000**	**35,000**	**59,270**
Mission Support	*13,806*	*9,080*	*18,190*
IT Support	*7,362*	*2,840*	*7,500*
Total, Management and Professional Support Services	21,168	11,920	25,690
Total, Support Services	21,168	11,920	25,690
Communication and Misc. Charges Related to IT	334	210	310
Other Services	642	400	580
Working Capital Fund	1,948	2,280	3,650
Operation and Maintenance of Facilities	1,162	770	1,590
Supplies, Subscriptions and Publications	400	250	370
Equipment	320	200	290
Total, Other Related Expenses	4,806	4,110	6,790
Federal FTEs	**128**	**80**	**115**

Administrative Expenses
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Salaries & Benefits		
18,810	**26,560**	**+7,750**
Provided salaries and benefits expenses for 80 full-time equivalent employees in support of the Title 17 program across the Loans Programs Office.	Provides salaries and benefits expenses for 115 full-time equivalent employees in support of the Title 17 program across the Loans Programs Office.	Reflects an increase of 35 FTE.
Travel		
160	*230*	*+70*
Supported the travel of staff to attend meetings, conferences, and site visits if needed.	Supports the travel of staff to attend meetings, conferences, and site visits if needed.	Increase reflects travel of additional staff.
Support Services		
11,920	*25,690*	*+13,770*
Supported a range of contract services including administrative support, training, subject matter experts, legal services, information technology, credit analysis, and market assessments.	Supports a range of contract services including administrative support, training, subject matter experts, legal services, information technology, credit analysis, and market assessments.	Increase in expanded program area requires additional specialized contract support to meet mission need.
Other Related Expenses		
4,110	*6,790*	*+2,680*
Supports DOE Working Capital Fund (WCF), software expenses, equipment, laboratories funding, and other services including conferences attendance fees, and publications.	Supports DOE WCF, software expenses, equipment, laboratories funding, and other services including conferences attendance fees, and publications. WCF cost of $3.65 million is included.	Increase primarily reflects $1.37 million increase in WCF cost and increased engagement of laboratories.

DEPARTMENT OF ENERGY
Funding by Site Detail
Energy Dominance Financing - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
National Energy Technology Lab			
Loan Guarantee Program	500	300	300
Total National Energy Technology Lab	**500**	**300**	**300**
National Laboratory of the Rockies			
Loan Guarantee Program	800	300	300
Total National Laboratory of the Rockies	**800**	**300**	**300**
Oak Ridge National Laboratory Site Office			
Loan Guarantee Program	200	300	900
Total Oak Ridge National Laboratory Site Office	**200**	**300**	**900**
Washington Headquarters			
Loan Guarantee Program	53,500	34,100	57,770
Total Washington Headquarters	**53,500**	**34,100**	**57,770**
Undesignated LPI			
Title XVII Loan Guarantee Credit Subsidy	-	150,000	200,000
Total Undesignated LPI	**-**	**150,000**	**200,000**
Total Funding by Site for TAS_0208 - Title 17 Innovative Technology Loan Guarantee Program	**55,000**	**185,000**	**259,270**
National Laboratory of the Rockies			
Advanced Technology Vehicle Manufacturing Loan Program	100	-	-
Total National Laboratory of the Rockies	**100**	**-**	**-**
Oak Ridge National Laboratory			
Advanced Technology Vehicle Manufacturing Loan Program	100	100	100
Total Oak Ridge National Laboratory	**100**	**100**	**100**
Washington Headquarters			
Advanced Technology Vehicle Manufacturing Loan Program	12,800	9,400	9,400
Total Washington Headquarters	**12,800**	**9,400**	**9,400**
Total Funding by Site for TAS_0322 - Advanced Technology Vehicles Manufacturing Loan Program Account	**13,000**	**9,500**	**9,500**

DEPARTMENT OF ENERGY
Funding by Site Detail
Energy Dominance Financing - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Oak Ridge National Laboratory			
Administrative Expenses - Tribal Energy Loan Guarantee Program	10	-	-
Total Oak Ridge National Laboratory	**10**	**-**	**-**
Washington Headquarters			
Administrative Expenses - Tribal Energy Loan Guarantee Program	6,290	6,300	2,000
Total Washington Headquarters	**6,290**	**6,300**	**2,000**
Total Funding by Site for TAS_0350 - Tribal Energy Loan Guarantee Program Fund	**6,300**	**6,300**	**2,000**

Indian Energy Policy and Programs

Office of Indian Energy Policy and Programs
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
70,000	75,000	50,038	-24,962

Proposed Appropriation Language

For necessary expenses for Indian Energy activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), $50,038,000, to remain available until expended: *Provided,* That, of the amount appropriated under this heading, $10,038,000 shall be available until September 30, 2028, for program direction.

Mission

The mission of the Office of Indian Energy Policy and Programs (45 U.S.C. § 7144e) is to: promote Tribal energy development, efficiency, and use; reduce or stabilize energy costs, enhance and strengthen Tribal energy and economic infrastructure; and bring electricity to Indian lands and homes. The Office carries out this mission within the scope of DOE's mission and in accordance with Tribal self-determination policies.

Overview

The Office of Indian Energy Policy and Programs (IE) partners with federally recognized Indian Tribes and Alaska Native Corporations to catalyze the development of affordable, reliable, and secure energy on Tribal lands. These efforts support economic development in Tribal communities while contributing to broader American energy dominance efforts.

The FY 2027 Budget Request will focus on the following priorities:

- Expand the development of affordable, reliable, and secure energy in federally recognized Indian Tribes and Alaska Native Corporations.
- Leverage IE's competitive grant making authority to fund energy infrastructure planning and deployment
- Provide expert assistance to Tribes for productive engagement with project developers to unleash American energy
- Increase access for Tribes to technical resources through collaboration with National Laboratories
- Improve electricity access for Tribes

Office of Indian Energy Policy and Programs
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Assistance Program	56,000	61,000	40,000	-21,000	-34%
Program Direction	14,000	14,000	10,038	-3,962	-28%
Total, Office of Indian Energy	**70,000**	**75,000**	**50,038**	**-24,962**	**-33%**

Assistance Programs

Overview

IE serves all 575 federally recognized Indian Tribes, in addition to Alaska Native Regional Corporations and Village Corporations, Tribal and Intertribal organizations, and Tribal energy development organizations. Numerous factors challenge Indian Tribes interested in developing their vast energy resources. Energy and infrastructure development in Indian Country is constrained due to limited funding and financing, inadequate infrastructure, limited technical capacity, and a complicated legal and regulatory structure governing Indian lands. As a result, the highest energy burden for Tribes is over 4x greater than that of the average national energy burden.[1] Alaska Natives spend more than 10% of their income on energy. IE offers financial and technical assistance to American Indian and Alaska Native communities to advance energy development on Indian lands:

Financial assistance to increase affordable, reliable and secure power: IE provides competitive funding opportunities for reliable energy infrastructure deployment to federally recognized Indian Tribes and Alaska Native Corporations across the Nation.

Technical Assistance to overcome energy development barriers: IE provides technical assistance at no cost to federally recognized Indian Tribes and Alaska Native Corporations to develop a tangible product or specific deliverable to address a need or barrier and move energy projects forward, and to enable a competitive business environment for energy development in Indian Country. The FY 2027 budget request enables IE to continue this assistance which leverages DOE's network of subject matter experts and local partner organizations to unleash Tribal energy development.

Highlights and Major Changes in the FY 2027 Budget Request

IE's FY 2027 budget streamlines the Office of Indian Energy focus while expanding energy development in Indian Country.

Assistance Programs
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Technical Assistance	5,000	10,000	10,000
Financial Assistance	51,000	51,000	30,000
Total, Assistance Programs	**56,000**	**61,000**	**40,000**

Explanation of Changes for Assistance Programs

Technical assistance funding will enable the expansion of technical assistance offerings, enable the continued use of local providers, and increase Tribal access to technical and scientific resources through collaboration with National Laboratories. The decrease in financial assistance funding focuses support on affordable, reliable, and secure energy infrastructure.

[1] LEAD Tool; Tribal Energy Access and Reliability Report to Congress -2023

Program Direction

Overview

Program direction provides federal staff responsible for the management and execution of IE's programs and activities, as well as the associated support contractors, rent, supplies, travel, and other related expenses. The staff is responsible for providing overall guidance and direction for DOE program offices on Tribal energy activities and initiatives necessary to achieve IE's mission and provides day-to-day management of financial assistance, technical assistance, and capacity building efforts. Program direction also provides managerial support for the reporting, compliance, and other statutory responsibilities.

Salaries and Benefits support federal employees who provide management and programmatic and project oversight, Tribal affairs and engagement, and analysis for the effective implementation of IE program. The FY 2027 Budget anticipates 24 federal staff.

Travel includes expenses allowing IE to effectively deliver on its mission. Major drivers of travel include the need to support Tribal energy engagement and capacity building, enhance energy planning and management while advancing energy deployment on Tribal lands, and raising awareness among Tribes of IE and DOE services and resources to unleash American energy through effective partnership with Tribes.

Support Services include contractor support to perform administrative and analytical tasks in support of IE's mission.

Other Related Expenses include DOE's Working Capital Fund (WCF) support, information technology services, equipment purchases, upgrades, and replacements, office furniture, commercial credit card purchases, general and advanced training, security clearances, and other miscellaneous expenditures.

Highlights and Major Changes in the FY 2027 Budget Request

This budget request accounts for FTEs, supports project management and procurement across IE's portfolio of projects, and supports effective Tribal engagement and consultation across DOE programs.

Program Direction
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Salaries and Benefits	5,036	5,036	4,700
Travel	265	265	200
Support Services	5,396	5,396	2,800
Other Related Expenses	3,303	3,303	2,338
Total, Program Direction	**14,000**	**14,000**	**10,038**
Federal FTEs	29	34	24
Total, IE Funded FTEs	**29**	**34**	**24**

Program Direction
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Program Direction		
14,000	**10,038**	**-3,962**
Salaries and Benefits		
5,036	*4,700*	*-336*
Provided salaries and benefits for 34 full-time equivalents (FTEs) that provide executive management, programmatic oversight, and analysis for the effective implementation of the IE program.	Provides salaries and benefits for 24 FTEs that provide executive management, programmatic oversight, and analysis for the effective implementation of the IE program.	The decrease is due to a lower number of FTEs as a result of streamlined hiring.
Travel		
265	*200*	*-65*
Provided for travel, subsistence and incidental expenses of FTEs to support the 575 federally recognized Indian Tribes throughout the nation, many of which are in remote and rural areas.	Provides travel, subsistence and incidental expenses of FTEs to support the 575 federally recognized Indian Tribes throughout the nation, many of which are in remote and rural areas.	Decreased due to streamlined travel.
Support Services		
5,396	*2,800*	*-2,596*
Provided for management, administrative, and operations support to monitor grants, support execution of technical assistance, and outreach.	Provides for management, administrative, and operations support to monitor grants, support execution of technical assistance, support to DOE program offices on Tribal matters, energy access strategy and execution, and outreach.	Decreased due to streamlined scope of technologies.
Other Related Expenses		
3,303	*2,338*	*-965*
Computer hardware and software provided through the Office of Chief Information Officer (OCIO), WCF, office space, registration fees, supplies, and small purchases through the micro-purchase credit card.	Computer hardware and software provided through the OCIO, WCF, office space, registration fees, supplies, and small purchases through the micro-purchase credit card.	Decreased due to anticipated costs for EITS, WCF, other IT systems and cost sharing.

DEPARTMENT OF ENERGY
Funding by Site Detail
Office of Indian Energy Policy and Programs - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Undesignated LPI			
Indian Energy Policy & Programs	56,000	51,000	40,000
Program Direction - Indian Energy Program	14,000	14,000	10,038
Total Undesignated LPI	**70,000**	**65,000**	**50,038**
Total Funding by Site for TAS_0342 - Office of Indian Energy Policy and Programs	**70,000**	**65,000**	**50,038**

Power Marketing Administrations (PMAs)

Southeastern Power Administration
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
Gross	94,468	105,030	105,030	-
Offsets	-94,468	-105,030	-105,030	-
Net Budget Authority	-	-	-	-

Proposed Appropriation Language

For expenses necessary for operation and maintenance of power transmission facilities and for marketing electric power and energy, including transmission wheeling and ancillary services, pursuant to section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), as applied to the southeastern power area, $9,285,000, including official reception and representation expenses in an amount not to exceed $1,500, to remain available until expended: Provided, That notwithstanding 31 U.S.C. 3302 and section 5 of the Flood Control Act of 1944, up to $9,285,000, collected by the Southeastern Power Administration from the sale of power and related services shall be credited to this account as discretionary offsetting collections, to remain available until expended for the sole purpose of funding the annual expenses of the Southeastern Power Administration: Provided further, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year 2027 appropriation estimated at not more than $0: Provided further, That, notwithstanding 31 U.S.C. 3302, up to $81,819,000 collected by the Southeastern Power Administration pursuant to the Flood Control Act of 1944 to recover purchase power and wheeling expenses shall be credited to this account as offsetting collections, to remain available until expended for the sole purpose of making purchase power and wheeling expenditures: Provided further, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred (excluding purchase power and wheeling expenses).

Mission

Southeastern Power Administration (Southeastern or SEPA) markets and delivers Federal hydroelectric power at the lowest possible cost, consistent with sound business principles, to public bodies and cooperatives in accordance with Section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s).

Overview

Southeastern strives to carry out the functions assigned by the Flood Control Act of 1944 in the southeastern United States in a professional, innovative, customer-oriented manner, while continuing to meet the challenges of an ever-changing electric utility environment through continuous improvement. Southeastern provides 471 public power customers with 3,392 megawatts of hydroelectric capacity from 22 Federal multipurpose projects, operated by the U.S. Army Corps of Engineers (Corps) at cost-based rates.

Annually, Southeastern produces an average of 7,717 gigawatt-hours of clean renewable hydroelectric energy. Southeastern maintains and upgrades its energy infrastructure to ensure reliable and efficient delivery of Federal power. Southeastern promotes sound management of the dispatch and distribution of Federal hydroelectric power resources in the southeastern United States while also meeting national utility performance standards and balancing the diverse interests of other water resource stakeholders. Federal hydropower supports the Nation's grid and complements other generation to create stability as the industry faces energy production changes, organized market evolution and increased threats to the grid. Hydroelectric power is a domestic energy source that helps America achieve energy dominance. This budget submission enables Southeastern to promote the

effective management of hydroelectric resources through two budget control lines fully offset through receipts from power sales.

Southeastern Power Administration
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Purchase Power and Wheeling (PPW)	86,019	95,745	95,745	-	-
Offsetting Collections, PPW	-71,850	-81,819	-81,819	-	-
Alternative Financing, PPW	-14,169	-13,926	-13,926	-	-
Program Direction (PD)	8,449	9,285	9,285	-	-
Offsetting Collections, PD	-8,449	-9,285	-9,285	-	-
Total, Southeastern Power Administration	**-**	**-**	**-**	**-**	**-**

Purchase Power and Wheeling

Overview

Purchase Power and Wheeling authority provides funding for acquisition of transmission and ancillary services, pumping energy for the Richard B. Russell and Carters Pumped Storage units, and replacement energy when required. Southeastern must purchase power on the open market when Federal generating assets cannot provide enough power. Southeastern does not own or operate any transmission infrastructure. Interconnected transmission service providers are used to deliver power from hydropower projects to power customers. The FY 2027 request uses customer receipts and net billing to pay for purchase power and wheeling expenses at no cost to the Federal Treasury. Some customers, acting independently or in partnerships, acquire transmission services directly from suppliers. Southeastern will continue to assist its customers by arranging transmission service, as needed.

Southeastern has access to a continuing fund for emergency expenses necessary to ensure continuity of service. Southeastern has implemented a plan to repay any Purchase Power and Wheeling expenditures made through the Continuing Fund within one year, if used.

Highlights of the FY 2027 Budget Request

The PPW subprogram supports Southeastern's mission to market and deliver reliable, cost-based hydroelectric power and related services. PPW enables Southeastern to wheel Federal power to preference customers, purchase replacement power, and acquire pumping energy to maximize the efficiency and benefits of Southeastern's hydropower resources. Power and services are marketed at rates designed to provide recovery of expenses and Federal investment, as established by law.

Purchase Power and Wheeling
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Replacement Power	*115*	*145*	*145*
Russell Project pumping power	*13,405*	*15,180*	*15,180*
Carters Project pumping power	*12,303*	*15,165*	*15,165*
Total, Purchase Power	25,823	30,490	30,490
Wheeling charges	*55,456*	*60,155*	*60,155*
Ancillary Services	*4,740*	*5,100*	*5,100*
Total, Wheeling	60,196	65,255	65,255
Subtotal, Purchase Power and Wheeling	**86,019**	**95,745**	**95,745**
Net Billing	-14,169	-13,926	-13,926
Offsetting Collections Realized	-71,850	-81,819	-81,819
Total, Purchase Power and Wheeling	-	-	-

Explanation of Changes for Purchase Power and Wheeling

None

Program Direction

Overview

Program Direction (PD) provides resources for the Federal staffing and facilities required to provide overall direction and execution of Southeastern. Provision is made for negotiation and administration of transmission and power contracts, collections of revenues, accounting and budget activities, development of wholesale power rates, amortization of the Federal power investment, investigation and planning of proposed water resources projects, scheduling and dispatch of power generation, scheduling storage and release of water, administration of contractual operation requirements, and determination of methods of operating generating plants individually and in coordination with others to obtain maximum allowable utilization of resources.

Highlights of the FY 2027 Budget Request

The FY 2027 Budget Request provides for the continuation of Southeastern's activities related to PD at the level necessary to meet mission requirements.

Program Direction Funding
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Salaries and Benefits	6,075	6,390	6,390
Travel	120	130	130
Support Services	-	70	70
Other Related Expenses	2,254	2,695	2,695
Subtotal, Southeastern Power Administration	**8,449**	**9,285**	**9,285**
Offsetting Collections (annual expenses)	-8,449	-9,285	-9,285
Total, Program Direction	-	-	-
Federal FTEs	**44**	**44**	**44**

Program Direction
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Program Direction		
9,285	**9,285**	**-**
Salaries and Benefits		
6,390	*6,390*	-
The funding supports Federal salaries and benefits for 44 FTEs who market Federal hydropower, administrative support, and workloads in cyber-security and operational reliability.	The funding supports Federal salaries and benefits for 44 FTEs who market Federal hydropower, administrative support, and workloads in cyber-security and operational reliability. These estimates are derived from the current year budgeted salaries, plus cost-of-living adjustments, promotions, within-grade increases, overtime, DOE-cascading performance awards, retirement payouts for unused leave, and newly hired FTEs.	None
Travel		
130	*130*	-
Funding supports transportation and per diem expenses incurred for preference customer meetings, relocation expenses for new FTEs, contract negotiations, rate forums, Congressional hearings, site visits, and operations meetings with industry organizations.	Funding supports transportation and per diem expenses incurred for preference customer meetings, relocation expenses for new FTEs, contract negotiations, rate forums, Congressional hearings, site visits, and operations meetings with industry organizations.	None
Support Services		
70	*70*	-
Advisory and assistance services contract to support SEPA market operations.	Advisory and assistance services contract to support SEPA market operations.	
Other Related Expenses		
2,695	*2,695*	-

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Funding provides administrative support for headquarters office, emergency control center, communications, maintenance, utilities, contract services, supplies, materials, training, equipment and support for cyber and physical security. Training expenses for power operator certification and support for installation of electronic hardware and software for the operations center which provides maintenance to integrate real-time data from the control area and provides the data to other transmission operators and NERC.	Funding provides administrative support for headquarters office, emergency control center, communications, maintenance, utilities, contract services, supplies, materials, training, equipment and support for cyber and physical security. Training expenses for power operator certification and support for installation of electronic hardware and software for the operations center which provides maintenance to integrate real-time data from the control area and provides the data to other transmission operators and NERC.	None

DEPARTMENT OF ENERGY
Funding by Site Detail
Southeastern Power Administration (SEPA) - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Undesignated LPI			
Purchase Power and Wheeling - SEPA	86,019	95,745	95,745
Program Direction - SEPA	8,449	9,285	9,285
Total Undesignated LPI	**94,468**	**105,030**	**105,030**
Total Funding by Site for TAS_0302 - Southeastern Power Administration (SEPA)	**94,468**	**105,030**	**105,030**

Southwestern Power Administration
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
Gross	189,737	201,887	196,158	-5,729
Offsets	-178,297	-191,487	-185,758	+5,729
Net Budget Authority	**11,440**	**10,400**	**10,400**	**-**

Proposed Appropriation Language

For expenses necessary for operation and maintenance of power transmission facilities and for marketing electric power and energy, for construction and acquisition of transmission lines, substations and appurtenant facilities, and for administrative expenses, including official reception and representation expenses in an amount not to exceed $1,500 in carrying out section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), as applied to the Southwestern Power Administration, $61,798,000 to remain available until expended: Provided, That notwithstanding 31 U.S.C. 3302 and section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), up to $51,398,000 collected by the Southwestern Power Administration from the sale of power and related services shall be credited to this account as discretionary offsetting collections, to remain available until expended, for the sole purpose of funding the annual expenses of the Southwestern Power Administration: Provided further, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year 2027 appropriation estimated at not more than $10,400,000: Provided further, That notwithstanding 31 U.S.C. 3302, up to $80,000,000 collected by the Southwestern Power Administration pursuant to the Flood Control Act of 1944 to recover purchase power and wheeling expenses shall be credited to this account as offsetting collections, to remain available until expended for the sole purpose of making purchase power and wheeling expenditures: Provided further, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred (excluding purchase power and wheeling expenses).

Mission

Southwestern Power Administration's (Southwestern) mission is to market and reliably deliver Federal hydroelectric power, with preference to public bodies and cooperatives. This is accomplished by maximizing the use of Federal assets to repay the Federal investment, participating with other water resource users to balance diverse interests with power needs within broad parameters set by the U.S. Army Corps of Engineers (Corps), and implementing public policy.

Overview

Southwestern markets and delivers power at wholesale rates to 78 municipal utilities, 33 rural electric cooperatives, and 3 military installations in the six states of Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas. In turn, these customers distribute that power to approximately 10 million end users in the six-state area. To integrate the operation of the Federal hydroelectric generating plants and to transmit power from 24 multi-purpose Corps dams to customers, Southwestern operates and maintains 1,381 miles of high-voltage transmission lines, 26 substations/switchyards, and 51 microwave and very high frequency (VHF) radio sites. Southwestern is headquartered in Tulsa, Oklahoma, and has maintenance facilities in Gore, Oklahoma; Jonesboro, Arkansas; and Springfield, Missouri. In addition, around-the-clock power scheduling and dispatching are conducted by staff in Southwestern's Operations Centers located in southwest Missouri.

- Southwestern markets Federal hydropower to customers at-cost and provides full repayment of the taxpayer investment. Southwestern's marketing services and delivery capability provide for recovery of all annual operating costs, including the Corps' hydropower related costs, and for repayment of taxpayer investment in all assets and facilities that support the Federal hydropower program. Hydropower is an important part of the Nation's domestic energy portfolio, providing capacity, energy, and critical ancillary services. Federal hydropower supports the Nation's grid and complements other generation to create stability as the industry faces energy production changes, organized market evolution and increased threats to the grid. Southwestern markets an average of 5,570 gigawatt-hours of hydroelectric energy annually.

- Southwestern delivers Federal hydropower safely and securely. Southwestern's construction and operation and maintenance programs ensure ongoing maintenance and replacement of aging transmission infrastructure while balancing changing and increasing demands for availability. The potential for malicious physical and cyber-attacks on Southwestern's assets remains a primary concern. These attacks on a utility's operation would threaten electric system reliability and potentially result in large scale power outages. Southwestern bolsters grid resilience and its cyber and physical security postures using best-available technologies, in cooperation with Department of Energy (DOE) and industry partners, to protect the Federal transmission system and the Nation's power grid. Ongoing assessments, investments in the cyber and physical security programs, and infrastructure protection improvements enable Southwestern to continue to provide a safe and reliable product. Southwestern will continue to emphasize security, both cyber and physical, as an agency priority.

- Southwestern provides stability and reliability of the Nation's electric grid. Southwestern participates in the Southwest Power Pool (SPP) Regional Transmission Organization (RTO) and the Midcontinent Independent System Operator (MISO) RTO, which reinforces Southwestern's role as part of the Nation's interconnected generation and transmission system. In participation with the RTOs, Southwestern works on regional and interregional transmission initiatives in response to the evolution of the electric utility industry. Furthermore, Southwestern coordinates its varied utility activities in conjunction with a broader group of stakeholders. As the demand for energy capacity and the transmission of power increases across regional and interregional footprints, maintaining and improving the Nation's energy infrastructure through improvements, replacements, interconnections, and coordination with the RTOs in Southwestern's marketing area has become more critical than ever. Southwestern assures the efficient and reliable delivery of Federal hydropower, thus serving a critical role in fulfilling the Nation's energy security for the present as well as for future generations.

- Southwestern ensures preparedness for challenges. Southwestern is increasingly challenged by a changing and complex transmission and energy industry, and the additional requirements those changes bring to its workforce. Southwestern must compete with the rest of the electric utility industry to attract and retain the quality workforce needed to provide a reliable power supply and transmission service. The Corps water resources projects from which Southwestern markets the hydropower are all multi-purpose. As the demand for water for other purposes increases, energy generation and operating capacity of the hydropower units can be impacted by loss of water storage and availability as well as required operational changes. Additionally, extreme regional weather events have demonstrated increased price volatility for potential replacement energy purchases necessary to meet contractual power delivery obligations. Southwestern utilizes forecasting, modeling, and other resource management tools, as well as employes purchase power strategies daily and long-term, to ensure optimized use of resources and funds to fulfill the Federal hydropower contractual obligations.

Southwestern Power Administration
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Operation and Maintenance (O&M)	16,759	19,590	20,734	+1,144	+6%
Construction (CN)	8,048	14,879	6,950	-7,929	-53%
Purchase Power and Wheeling (PPW)	120,000	120,000	120,000	-	-
Program Direction (PD)	44,930	47,418	48,474	1,056	+2%
Subtotal, Operation and Maintenance	**189,737**	**201,887**	**196,158**	**-5,729**	**-3%**
Offsetting Collections (Annual Expenses), O&M	-8,884	-10,373	-11,193	-820	+8%
Offsetting Collections (Annual Expenses), PD	-32,002	-38,993	-40,205	-1,212	+3%
Offsetting Collections “up to”, PPW	-80,000	-80,000	-80,000	-	-
Alternative Financing, O&M	-4,388	-6,103	-5,649	+454	-7%
Alternative Financing, CN	-8,048	-10,953	-3,050	+7,903	-72%
Alternative Financing, PPW	-40,000	-40,000	-40,000	-	-
Alternative Financing, PD	-4,975	-5,065	-5,661	-596	+12%
Net Budget Authority, Operation and Maintenance	**11,440**	**10,400**	**10,400**	**-**	**-**

Operations and Maintenance

Overview

The activities of the Operations and Maintenance (O&M) subprogram are critical components in maintaining the reliability of the Federal power system, which is part of the Nation's interconnected generation and transmission system. By marketing and delivering hydroelectric energy, Southwestern makes a meaningful contribution of reliable and secure energy to our Nation. Given Southwestern's important role in meeting electricity demand by supplying hydroelectric energy to its customers, there is a critical need to repair, maintain, and improve transmission and generation facilities to ensure safety, security, resilience, and reliability of the Nation's energy infrastructure. Southwestern must maintain constant preparedness to ensure response and recovery from natural disasters and extreme weather events. Southwestern's planned operation and maintenance projects are subject to change due to unanticipated equipment failure, customer needs, and weather conditions. The realities of maintaining a complex interconnected electric power system periodically require unforeseen reprioritizations of planned projects. All projects share the commonality of maintaining, repairing, and improving the aging infrastructure to ensure the resilience and reliability of the Federal power system.

Highlights of the FY 2027 Budget Request

- **Power Marketing.** The Power Marketing activity funds technical and economic studies to support Southwestern's transmission planning, water resources management, and communication functions. Technical and economic studies provide data to analyze and evaluate the impacts of proposed operational changes and decision-making based on cost-benefit analysis. Funding is also required for Southwestern's coordination with the RTOs and to provide regional power restoration assistance to other non-hydropower generation sources during electric power grid emergencies. Studies to identify any constraints on Southwestern's system will continue to be conducted. These studies show how the marketing and delivery of power is operationally impacted. The funding level for this activity is derived from Southwestern's engineering plan and the number of studies required per year.

- **Operations**. The Operations activity funds communication functions associated with the dispatch and delivery of power; environmental, safety, and health activities; and other transmission activity costs such as physical security, cybersecurity, and day-to-day power dispatch functions. The Operations activity includes three subactivities:

    - Communications. This subactivity funds telemetering improvements, technical support to protect cyber infrastructure, an e-tagging system that electronically schedules power for customers, load forecasting, digital test equipment, the radio frequency spectrum fee, and supplies and materials. The telemetering improvements include replacement of obsolete power and energy accounting equipment and modification of existing remote terminal units that improve the reliability of the power system, specifically in the areas of monitoring and control. Funding is required for upgrades that enable Southwestern to meet the goals of the Energy Policy Act (EPACT) and North American Energy Reliability Corporation (NERC) by replacing aging infrastructure while assuring reliability and continuing to coordinate with the RTOs in its marketing area. Southwestern will continue to strengthen cyber and physical security postures using strong and proven technologies that are part of the Continuous Diagnostics and Mitigation (CDM) program. In addition to CDM, Southwestern continues to look for other technologies that can be leveraged to ensure compliance with applicable laws and standards to protect the Federal transmission system and the Nation's power grid.

- Environmental, Safety, and Health. This subactivity funds environmental activities including waste disposal and clean-up of transformers, grounding and drainage, cultural resource reviews, and environmental assessments for threatened and endangered species such as the American Burying Beetle, various endangered bats, and the Leopard Darter. Additionally, Southwestern may have environmental activities it performs as a Consulting Agency or participating agency resulting from a Biological Opinion or Biological Assessment, or as a participant on an interagency committee or working group. This subactivity also funds property transfers, wetland assessments, environmental library access, Toxic Substance Control Act and Resource Conservation Recovery Act compliance, contractor services, and requirements of the Environmental Protection Program as identified in DOE Order 450.1. The Safety and Health Program activities require funding for aviation safety, industrial hygiene, medical examinations, medical officer, wellness program, safety equipment, and first aid equipment and supplies.

- Other Transmission. This subactivity funds physical security, field utility costs, and day-to-day power expenses of the two operations and dispatch centers.

- **Maintenance.** The Maintenance activity funds routine repair, maintenance, and improvement of Southwestern's substations/switchyards and high-voltage transmission lines and ensures delivery of reliable, efficient, and clean power to its customers. Southwestern's initial facilities, which were built approximately 60 years ago, are constantly evaluated. Internal and external factors that impact Southwestern's maintenance activities and the asset replacement plan include obsolescence of technology and unavailability of replacement parts. By replacing aging equipment and removing constraints that impede power flows, Southwestern ensures the provision of a reliable Federal transmission system. The maintenance activity includes two subactivities:

  - Substation Maintenance. This subactivity funds power circuit breakers, disconnect switches, instrument transformers, protective relays and related equipment, computer aided drafting and design, revenue meters, vehicle maintenance, fuel, and other equipment to reliably perform general maintenance projects.

  - Transmission Line Maintenance. This subactivity funds the purchase and maintenance of wood and steel structures, crossarms and braces, right-of-way (ROW) clearing, herbicide application, aerial patrol of the transmission system to identify maintenance needs, routine vehicle repair and maintenance, tractors, equipment, and fuel. The number of steel or wood poles and crossarms and high-voltage insulators replaced is derived from internal maintenance information system criteria. Emphasis has been placed on ROW clearing since NERC identified improper/insufficient ROW clearing as a major factor in potential blackouts. The funding level is appropriate for the number of structures and components to be replaced and the miles of ROW to be cleared as set forth by Southwestern's maintenance plan for meeting the goals of the EPACT and NERC to maintain a reliable transmission system.

- **Capitalized Moveable Equipment.** This activity funds the replacement of vehicles, tractor-trailers, and heavy equipment used for the maintenance and repair of the transmission system and facilities. These vehicles and equipment have exceeded their useful lives and require high levels of maintenance. The vehicle cost estimates are derived from General Services Administration (GSA) pricing schedules.

Operation and Maintenance
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Power Marketing	200	200	300
Operations	9,215	11,016	10,935
Maintenance	5,294	5,529	6,000
Capitalized Moveable Equipment	2,050	2,845	3,499
Subtotal, Operation and Maintenance	**16,759**	**19,590**	**20,734**
Offsetting Collections (Annual Expenses)	-8,884	-10,373	-11,193
Alternative Financing	-4,388	-6,103	-5,649
Total, Operation and Maintenance	**3,487**	**3,114**	**3,892**

Explanation of Changes for Operations and Maintenance

The increase in the Power Marketing subactivity is due to increased activity with new and upgraded interconnections with Southwestern's transmission system. The decrease in the Operations subactivity is due to the decrease in funds needed for audits and surveys that are cyclical (will not be conducted in 2027), which is offset some by an increase in funds needed for a planned hardware refresh at both operations and dispatch centers. The increase in the Maintenance subactivity reflects increasing cost of materials. The increase in the Capitalized Moveable Equipment subactivity is due to the planned replacement of higher cost equipment that support transmission system and ROW maintenance, including a digger truck, tree trimmer, and mulcher.

Construction

Overview

The activities of the Construction subprogram enable Southwestern to market and deliver Federal hydropower in the most reliable, safe, efficient, and cost-effective manner to meet the operational criteria required by NERC while avoiding transmission infrastructure deterioration. Southwestern's planned construction projects are subject to change based on unanticipated equipment failure, customer needs, and weather conditions. The realities of maintaining a complex interconnected power system include unforeseen priority projects which arise periodically, causing a reprioritization of planned projects. All projects share the commonality of replacing aging infrastructure necessary to maintain the resilience and reliability of the Federal power system. Southwestern supports grid reliability and resilience through improved response and recovery controls aimed to reduce the impact of various potential natural disaster risks to the transmission system.

Highlights of the FY 2027 Budget Request

- **Transmission System.** This activity funds current construction projects that require expansion of, or additions to, existing facilities. Southwestern ensures system reliability and resiliency by replacing aging equipment and removing constraints that limit power flows. The projects outlined below address Southwestern's efforts to reduce the risk of extended service outages, avoid more costly replacements in the future, and support the increased transmission system usage. The funding level for this activity is derived from internal and external management decisions and field crew observations. System age, risk of equipment failure, life-cycles, obsolescence of technology and unavailability of spare parts, cost, and demand for more capacity are also considered in these budgeting decisions. These variables are assessed and incorporated into Southwestern's ten-year construction plan. The transmission activity includes three subactivities:

    - Substation Upgrades. This subactivity funds the construction and upgrade of the substations and the components necessary to provide improved system reliability and reduce future maintenance and equipment costs. Southwestern owns and operates 26 substation/switching stations. Many of these facilities were designed and constructed over 60 years ago. The equipment which will be replaced or upgraded includes power transformers, circuit breakers, and control equipment, as well as the structural components necessary to sustain reliable power delivery and support a stable, flexible interconnected power grid.

    - Communication Upgrades. This subactivity funds all communication equipment planned to provide improved system reliability and reduce future maintenance and equipment costs. This subactivity also provides funding for microwave radios and microwave tower additions, replacements, and modifications that will increase the reliability of communications with generating plants and substations. The communication system provides for the transfer of voice and data traffic to allow monitoring and control of power system generation and transmission assets.

    - Transmission Upgrades. This subactivity funds transmission system upgrades. Much of the conductor, optical ground wire (OPGW), and static wire on Southwestern's transmission lines has reached the end of its original assumed service life. With this assumed service life, approximately 20 to 30 miles of transmission line, including the conductor, OPGW, static wire, and structures, will need to be replaced each year. As Southwestern replaces the conductor, Southwestern will use the opportunity to increase line capacity where practical to accommodate increased loads in the region.

- **Spectrum Relocation.** There is no FY 2027 budget request for this subactivity. The Commercial Spectrum Enhancement Act of 2004 (CSEA, Title II of P.L. 108-494) created the Spectrum Relocation Fund (SRF) to streamline the relocation of Federal systems from existing spectrum bands and accommodate commercial use by facilitating reimbursement of relocation costs to affected agencies. Southwestern has received $46.8 million in spectrum relocation funds, as approved by the Office of Management and Budget, and as reported to Congress. Southwestern has completed 100 percent of the tower installation project and anticipates completing antenna and radio installation and obtaining comparable capability within FY 2027. These mandatory funds will remain available until expended, and Southwestern will return any amounts received in excess of actual relocation costs to the SRF. Spectrum relocation activities were funded from spectrum auction proceeds; thus, no funding is requested in this subactivity.

Construction
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Construction			
Transmission System			
Substation Upgrades	701	722	3,900
Communication Upgrades	2,980	2,800	2,800
Transmission Upgrades	4,367	11,357	250
Subtotal, Construction	8,048	14,879	6,950
Alternative Financing	-8,048	-10,953	-3,050
Total, Construction	**-**	**3,926**	**3,900**

Explanation of Changes for Construction

The Substation Upgrades subactivity increase reflects a planned transformer replacement project, as well as an increase in the cost of equipment and materials. The Communication Upgrades subactivity has no change. The Transmission Upgrades subactivity decrease reflects use of prior year funds for planned transmission line replacements due to previous delays in contract awards longer lead times.

Purchase Power and Wheeling

Overview

The Purchase Power and Wheeling (PPW) subprogram provides for the purchase of capacity and energy to meet peaking power contractual obligations and the delivery of Federal power, as well as provides for the purchase of transmission to integrate marketed hydropower resources. Except for contractual arrangements pertaining to a few electrically-isolated hydropower projects, Southwestern's power sales contracts provide for 1200-hours of peaking power per year delivered from its interconnected system of hydropower projects. At times, due to below average water conditions or hydropower unit outages, Southwestern must purchase power when the hydropower projects cannot produce enough to fulfill its 1200-hour contract obligations. Blending purchased power with the Federal hydropower provides a reliable product while ensuring contract fulfillment occurs. Extreme regional weather events in recent years have demonstrated increased price volatility for potential replacement energy purchases. Availability of requested PPW funding levels supports rate stability. Rate stability is increasingly important as regional utility customers face challenges with their evolving energy portfolios.

Southwestern assesses its purchase power needs based on hydrologic conditions and anticipated hydropower unit outages. Hydrologic conditions can vary widely and change rapidly, such that purchase power needs are assessed at least seasonally and can change daily. Unit outages for major rehab and replacement work are known years in advance so that purchase power needs can be planned; however, forced outages or delays in units returning to service can cause sudden changes to anticipated purchase power needs. Power purchases are typically made through contractual arrangements but may also be made on the spot market when conditions are more severe than anticipated or otherwise unexpected. Delivery of purchase power to Southwestern's system is made via the SPP RTO, MISO RTO, or Southwestern's own transmission system.

Southwestern's budget request for the PPW subprogram reflects the maximum anticipated need to ensure adequate funding to fulfill its 1,200-hour peaking power contractual obligations considering volatile market prices, unknown forced generation outages, and all but the most severe hydrological conditions. Southwestern will continue to use offsetting collections and alternative financing arrangements, which include net billing and/or reimbursable authority (customer advances), to fund this subprogram. When hydropower generation falls significantly below normal due to severe drought conditions or major outages, Southwestern will consider the need to utilize the Continuing Fund for emergency PPW expenses.

Southwestern employs a risk mitigation strategy to ensure continuous operations during periods of significant drought. The strategy involves maintaining an unobligated reserve balance of funds from receipts credited as offsetting collection for PPW, in order to respond to rapid-developing severe drought conditions. Any receipts retained are available until expended and are available only for PPW expenses. As of the end of FY 2025, Southwestern's PPW reserve balance was $107 million.

Highlights of the FY 2027 Budget Request

- **System Support.** This activity funds Southwestern's purchase power requirements needed to fulfill all 1200-hour contractual peaking power obligations with customers. System support requirements depend on the conditions of the interconnected system of hydropower projects which is affected by weather, unit operational condition, power market prices (which can be volatile), and limited availability of energy banks. Since the rates Southwestern charges its customers are based on full cost recovery, Southwestern has a built-in incentive to minimize expenditures for purchase power.

- **Other Contractual Services.** This activity funds other contractual services that provide for wheeling associated with the purchase of transmission service to meet limited peaking power obligations and for the integration of projects for the delivery of Federal power. Wheeling services help to optimize the operation of the hydropower facilities marketed by Southwestern. The funding level is derived from contractual wheeling requirements. The FY 2027 funding request reflects the projected cost for wheeling services based on contractual pricing and delivery terms.

Purchase Power and Wheeling
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
System Support	111,800	111,800	111,800
Other Contractual Services	8,200	8,200	8,200
Subtotal, Purchase Power and Wheeling	**120,000**	**120,000**	**120,000**
Offsetting Collections (PPW)	-80,000	-80,000	-80,000
Alternative Financing	-40,000	-40,000	-40,000
Total, Purchase Power and Wheeling	-	-	-

Explanation of Changes for Purchase Power and Wheeling

There is no change.

Program Direction

Overview

Southwestern's Program Direction subprogram ensures continued reliability of the Federal power system by utilizing Federal staffing resources and associated funds required to provide overall direction and execution of Southwestern's Operation and Maintenance Program.

The Program Direction subprogram supports DOE's and Southwestern's missions by providing compensation and all related expenses for its workforce, including those employees that operate and maintain Southwestern's high-voltage interconnected transmission system and associated facilities; those that plan, design, and supervise the construction of replacements, upgrades, and additions (capital investments) to the transmission facilities; those that market the power and energy produced to repay annual expenses and capital investment; those that perform cyber and physical security roles; and those that administratively support these functions.

Southwestern will use available programs and develop new strategies to ensure it maintains a highly skilled workforce of engineers, cyber and physical security specialists, power system dispatchers, high voltage electricians, and linemen. These initiatives will ensure the resiliency of these valuable resources through the ever-expanding demands on the electric utility industry, such as compliance with NERC and Federal Information Security Management Act (FISMA) standards.

Southwestern trains all employees on a continuing basis in occupational safety and health regulations, policies, and procedures to keep the safety culture strong. Accidents are always reviewed to ensure lessons are learned and proper work protocol is in place.

Program Direction is mainly funded from offsetting collections. Other funding utilized for Program Direction is appropriations and if necessary alternative financing arrangements.

Highlights of the FY 2027 Budget Request

Southwestern's team of technical experts perform the critical work of ensuring Southwestern's transmission system is operated and maintained effectively and safely, and that the domestic Federal hydropower energy resources is reliably and efficiently delivered to customers that serve over 10 million homes and businesses in a six-state region. Program Direction funding is crucial to sustain a skilled, trained, and dedicated workforce that can provide reliable, resilient, secure, and affordable power for the American people.

Program Direction
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Salaries and Benefits	34,537	33,887	35,258
Travel	1,988	2,095	2,142
Support Services	4,058	5,362	5,541
Other Related Expenses	4,347	6,074	5,533
Subtotal, Program Direction	**44,930**	**47,418**	**48,474**
Offsetting Collections (Annual Expenses)	-32,002	-38,993	-40,205
Alternative Financing	-4,975	-5,065	-5,661
Total, Program Direction	**7,953**	**3,360**	**2,608**
Technical Support	4058	5362	5541
Management Support	-	-	-
Total, Support Services	**4,058**	**5,362**	**5,541**
Communication, Utilities, Misc.	908	883	705
EITS	40	35	4
Printing and Reproduction	45	45	12
Other Services	1,080	2,141	1,594
Training	368	390	407
Power Marketing Liaison	358	145	150
Financial Audit	526	625	650
Supplies and Materials	138	133	122
Equipment	513	917	1,146
Working Capital Fund	371	760	743
Total, Other Related Expenses	**4,347**	**6,074**	**5,533**
Federal FTEs	**194**	**194**	**194**

Program Direction
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Program Direction		
47,418	**48,474**	**+1,056**
Salaries and Benefits		
33,887	*35,258*	*+1,371*
Supports 194 Federal employees that operate and maintain Southwestern's high-voltage interconnected transmission system and associated facilities; plan, design, and supervise the construction of replacements, upgrades, and additions; power marketing, billing, and rate setting; cyber and physical security roles; and administrative support. Includes overtime, awards, relocation, workers' compensation, recruitment incentives, retention pay, and advanced in-hire rates.	Supports 194 Federal employees that operate and maintain Southwestern's high-voltage interconnected transmission system and associated facilities; plan, design, and supervise the construction of replacements, upgrades, and additions; power marketing, billing, and rate setting; cyber and physical security roles; and administrative support. Includes overtime, awards, relocation, workers' compensation, recruitment incentives, retention pay, and advanced in-hire rates.	The increase reflects recruitment and retention of technical hard to fill positions.
Travel		
2,095	*2,142*	*+47*
Funds all related travel and per diem expenses for mission-related travel to maintain the integrity and reliability of Southwestern's geographically dispersed power system, largely driven by the daily requirement of field maintenance personnel to maintain 1,381 miles of transmission lines, 26 substations/switchyards, 51 microwave/radio sites, and communications networks.	Funds all related travel and per diem expenses for mission-related travel to maintain the integrity and reliability of Southwestern's geographically dispersed power system, largely driven by the daily requirement of field maintenance personnel to maintain 1,381 miles of transmission lines, 26 substations/switchyards, 51 microwave/radio sites, and communications networks.	The increase is due to increased costs of hotels, airfare, and other travel expenses.

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Support Services		
5,362	*5,541*	*+179*
Funds contracted management support services largely entailing information technology support, including critical transmission system operations support, and administrative/records management support. The funding level for this activity is derived from the most recent negotiated contract for support services essential to achieve Southwestern's mission.	Funds contracted management support services largely entailing information technology support, including critical transmission system operations support, and administrative/records management support. The funding level for this activity is derived from the most recent negotiated contract for support services essential to achieve Southwestern's mission.	The increase is due to negotiated contract terms that include incremental cost increases, for information technology and administrative management support services to achieve Southwestern's mission.
Other Related Expenses		
6,074	*5,533*	*-541*
Funds facility security, financial audit, Power Marketing Liaison Office, Human Resources Shared Service Center, working capital fund, technology refresh in the areas of personal computers, hardware and software, printing and reproduction, and training and tuition fees in support of highly technical workforce and NERC requirements.	Funds facility security, financial audit, Power Marketing Liaison Office, Human Resources Shared Service Center, working capital fund, technology refresh in the areas of personal computers, hardware and software, printing and reproduction, and training and tuition fees in support of highly technical workforce and NERC requirements.	The reduction is due to reduced contract scope of onsite security services.

Southwestern Power Administration
Revenues and Receipts
Funding ($K)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Estimate	FY 2028 Estimate	FY 2029 Estimate	FY 2030 Estimate
Gross Revenues						
Sale and Transmission of Electric Energy	224,180	245,000	245,000	245,000	245,000	245,000
Alternative Financing Credited as an Offsetting Receipt (O&M, CN, PD, PPW), Net Billing	-33,488	-62,121	-54,360	-63,998	-71,726	-68,918
Alternative Financing Credited as an Offsetting Receipt (Section 212), Net Billing[1]	-107,742	-52,500	-58,000	-46,500	-36,500	-39,000
Offsetting Collections, Annual Expenses (Net Zero)	-40,886	-49,366	-51,398	-53,100	-55,374	-55,861
Offsetting Collections, Purchase Power and Wheeling ('up to' ceiling)[2]	-39,000	-80,000	-80,000	-80,000	-80,000	-80,000
Total Proprietary Receipts	3,065	1,013	1,242	1,402	1,400	1,221
Percent of Sales to Preference Customers	100%	100%	100%	100%	100%	100%
Energy Sales from Power Marketed (billions of kilowatt hours)	5.3	2.8	5.3	5.3	5.3	5.3

[1] Actual Alternative Financing in estimated years may be more than estimated to provide funding to the WRDA 2000 Section 212 Customer Funding Program, as authorized, dependent upon available receipts based on actual revenues from the sale and transmission of electric energy and utilization of PPW offsetting collections and/or Alternative Financing for PPW in each FY.

[2] For FY 2026 through FY 2030, the estimated amount of offsetting collections for PPW is equivalent to the "up to" amount requested or anticipated to be requested in the budget. The PPW offsetting collections limit requested (when matched with PPW receipts), along with alternative financing used for PPW, could potentially fund a drought for one year or replenish unobligated balances after a drought has occurred. This will also allow funding to be collected in case the drought persists for more than a year.

Southwestern Power Administration
Estimate of Offsetting Collections for Reimbursable Work and Work for Others[1]
Funding ($K)

	FY 2026	FY 2027
Offsetting Collections for Reimbursable Work[2]		
Alternative Financing		
Operations and Maintenance	6,103	5,649
Construction	10,953	3,050
Purchase Power and Wheeling	40,000	40,000
Program Direction	5,065	5,661
Subtotal, Alternative Financing	62,121	54,360
Offsetting Collections not anticipated for obligation in budget year	-	-
Subtotal, Offsetting Collections for Reimbursable Work	62,121	54,360
Offsetting Collections for Reimbursable Work-for-Others[3]		
Non-Federal	12,879	14,640
Federal	6,000	6,000
Total, Offsetting Collections for Reimbursable	**81,000**	**75,000**

[1] Southwestern received permanent non-Federal reimbursable authority pursuant to 16 USC 825s-4. Table is shown for transparency purposes.
[2] Southwestern relies significantly on alternative financing arrangements with customers to finance much of its direct mission work on a reimbursable basis.
[3] Southwestern utilizes various forms of Federal and non-Federal reimbursable agreements. Work-for-Others agreements include interconnection requests, system upgrades for reliability, relocation of structures for State and Federal highways and work for other Federal agencies.

Southwestern Power Administration
System Statistics

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Estimate	FY 2028 Estimate	FY 2029 Estimate	FY 2030 Estimate
Generating Capacity (kilowatts)						
Installed Capacity	2,242,500	2,242,500	2,242,500	2,242,500	2,242,500	2,242,500
Marketed Capacity	2,068,538	2,068,538	2,068,538	2,068,538	2,068,538	2,068,538
Generating Station Projects (Number)	24	24	24	24	24	24
Substations/Switchyards (Number)	27	27	27	27	27	27
Substations/Switchyards (kVA Capacity)	1,026,900	1,026,900	1,026,900	1,026,900	1,026,900	1,026,900
Available Energy[1] (megawatt-hours)						
Energy Generated	5,024,662	2,593,302	5,027,900	5,027,900	5,027,900	5,027,900
Energy Received	227,646	255,600	250,600	250,600	250,600	250,600
Total, Energy Available for Marketing	5,252,308	2,848,902	5,278,500	5,278,500	5,278,500	5,278,500
Transmission Lines (circuit miles)						
161-KV	1,118	1,118	1,118	1,118	1,118	1,118
138-KV	164	164	164	164	164	164
69-KV	99	99	99	99	99	99
Total, Transmission Lines	1,381	1,381	1,381	1,381	1,381	1,381

[1] Available Energy: actual available energy data is net of losses and other non-marketed energy; estimate data comes from Southwestern's 2025 power repayment studies.

Southwestern Power Administration
Power Marketed, Wheeled, or Exchanged by Project

State	No. of Plants	Installed Capacity (kW)	Marketed Capacity (kW)	FY 2025 Actual Energy (GWh)	FY 2026 Est. Energy (GWh)	FY 2027 Est. Energy (GWh)	FY 2028 Est. Energy (GWh)	FY 2029 Est. Energy (GWh)	FY 2030 Est. Energy (GWh)
Power Marketed									
Integrated System:									
Missouri	4	470,000	675,700	2,059	981	1,808	1,808	1,808	1,808
Arkansas	9	1,058,050	376,000	1167	578	1,065	1,065	1,065	1,065
Oklahoma	7	514,100	408,488	1178	661	1,218	1,218	1,218	1,218
Texas	2	141,000	251,000	578	204	376	376	376	376
Louisiana	-	-	144,000	308	158	292	292	292	292
Kansas	-	-	154,000	438	220	405	405	405	405
Subtotals	22	2,183,150	2,009,188	5,728	2,802	5,164	5,164	5,164	5,164
Isolated:									
(Sam Rayburn and Robert D. Willis Projects)									
Texas	2	59,350	56,660	206	45	110	110	110	110
Louisiana	-	-	2,690	8	2	4	4	4	4
Subtotals	2	59,350	59,350	214	47	114	114	114	114
Total, Power Marketed[1]	24	2,242,500	2,068,338	5,942	2,849	5,279	5,279	5,279	5,279
Power Wheeled (MW)[2]				750	788	788	788	788	788

[1] Total, Power Marketed: Actual energy data is the energy delivered and therefore net of losses and other non-marketed energy; estimate data comes from Southwestern's 2025 power repayment studies.
[2] Power Wheeled (MW): Actual power wheeled is the non-coincidental peak or contractual value of non-Federal transmission service across Southwestern's system; estimate data comes from Southwestern's 2025 power repayment studies.

DEPARTMENT OF ENERGY
Funding by Site Detail
Southwestern Power Administration (SWPA) - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Undesignated LPI			
Operation And Maintenance - SWPA	16,910	19,590	20,734
Construction - SWPA	3,681	14,879	6,950
Purchase Power And Wheeling - SWPA	120,000	120,000	120,000
Program Direction - SWPA	42,300	47,418	48,474
Subtotal, SWPA	182,891	201,887	196,158
Total Undesignated LPI	**182,891**	**201,887**	**196,158**
Total Funding by Site for TAS_0303 - Southwestern Power Administration (SWPA)	**182,891**	**201,887**	**196,158**

Western Area Power Administration
Construction, Rehabilitation, Operation and Maintenance (CROM)
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
99,872	63,372	63,388	+16

Proposed Appropriation Language

For carrying out the functions authorized by title III, section 302(a)(1)(E) of the Act of August 4, 1977 (42 U.S.C. 7152), and other related activities including conservation and renewable resources programs as authorized, $321,775,000, including official reception and representation expenses in an amount not to exceed $1,500, to remain available until expended, of which $321,775,000 shall be derived from the Department of the Interior Reclamation Fund: Provided, That notwithstanding 31 U.S.C. 3302, section 5 of the Flood Control Act of 1944 (16 U.S.C. 825s), and section 1 of the Interior Department Appropriation Act, 1939 (43 U.S.C. 392a), up to $258,387,000 collected by the Western Area Power Administration from the sale of power and related services shall be credited to this account as discretionary offsetting collections, to remain available until expended, for the sole purpose of funding the annual expenses of the Western Area Power Administration: Provided further, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year 2026 appropriation estimated at not more than $63,388,000 of which $63,388,000 is derived from the Reclamation Fund: Provided further, That notwithstanding 31 U.S.C. 3302, up to $350,000,000 collected by the Western Area Power Administration pursuant to the Flood Control Act of 1944 and the Reclamation Project Act of 1939 to recover purchase power and wheeling expenses shall be credited to this account as offsetting collections, to remain available until expended for the sole purpose of making purchase power and wheeling expenditures: Provided further, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred (excluding purchase power and wheeling expenses).

Mission

WAPA's mission is to market and reliably deliver cost-based Federal hydroelectric power. WAPA markets power in 15 central and western states from Federally owned power plants operated primarily by the U.S. Army Corps of Engineers, U.S. Bureau of Reclamation and the Department of State's International Boundary and Water Commission. WAPA operates and maintains a high-voltage, integrated transmission system, including approximately 17,000 circuit-miles of high-voltage transmission lines, more than 300 substations/switchyards and associated power system controls, and communication and electrical facilities.

Overview

WAPA markets and delivers reliable, cost-based Federal hydroelectric power and related services. WAPA's marketing efforts and delivery capability provide for recovery of annual operational costs, including the generating agencies' hydropower related costs, and repayment of taxpayer investment in the Federal hydropower program. WAPA repays the Federal investment for which it is responsible within the timeframes established by law and regulations.

WAPA's Construction, Rehabilitation, Operation and Maintenance Account (CROM) is comprised of four subprograms:

- Operation and Maintenance (O&M)
- Construction and Rehabilitation (C&R)
- Purchase Power and Wheeling (PPW)
- Program Direction (PD)

WAPA's subprograms are funded using a variety of financing methods including appropriations, alternative financing (primarily customer advances), and use of receipt authorities.

Construction, Rehabilitation, Operation and Maintenance (CROM)
Funding Table by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Operation and Maintenance	42,076	22,830	29,520	+6,690	+29%
Construction and Rehabilitation	-	-	-	-	-
Purchase Power and Wheeling (net)	-	-	-	-	-
Program Direction	57,796	40,542	33,868	-6,674	-16%
Total, CROM	99,872	63,372	63,388	+16	-

Operations and Maintenance

Overview

The Operation and Maintenance (O&M) subprogram provides the supplies, materials, equipment, and infrastructure necessary for WAPA to continue to deliver on its mission of providing reliable, resilient domestic energy to 4 million Americans across its 15-state footprint.

Operations and Maintenance ($29.5 million)

Regular Operation and Maintenance Supplies and materials necessary to respond to routine and emergency situations across WAPA's 17,000 miles of high voltage interconnected transmission system will be purchased. This includes miscellaneous equipment and software used for power billing, transmission planning, e-tagging, and energy scheduling, as well as supplies and materials such as wood poles (individual pole replacement only; excludes whole line replacements), instrument transformers, meters, relays, etc. Additionally, cyber and physical security audits and monitoring as well as grid operations and monitoring are provided through this activity, funded primarily through offsetting collections and alternative customer financing.

Replacements, Additions & Upgrades Equipment and infrastructure investments necessary to maintain required service levels across WAPA's footprint. Planned replacements, additions & upgrades activity is based on cyber and physical security audits, assessments of condition and criticality of equipment, maintenance, and frequency of problems on individual items of equipment, availability of replacement parts, safety of the public and WAPA's personnel, environmental concerns, and an orderly work plan. Cost estimates are based on analysis of system operation and maintenance requirements, customer-coordinated work plans, actual costs of recent similar projects, and bottom-up budgeting techniques. Planned activity is detailed by category below.

Operations and Maintenance
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Regular Operation and Maintenance	76,763	42,412	44,926	+2,514	+6%
Replacements, Additions & Upgrades	76,366	76,387	91,057	+14,670	+19%
Subtotal, Operation and Maintenance	**153,129**	**118,799**	**135,983**	**+17,184**	**+14%**
Alternative Financing	-79,848	-59,732	-69,898	-10,166	+17%
Colorado River Dam Fund	-1,756	-2,592	-1,862	+730	-28%
Offsetting Collections	-29,449	-33,645	-34,703	-1,058	+3%
Use of Prior Year Balances	-	-	-	-	-
Total, Operation and Maintenance (Budget Authority)	**42,076**	**22,830**	**29,520**	**+6,690**	**+29%**

Explanation of Changes for Operations and Maintenance

O&M increases required to support assets and structures which have exceeded their life expectancy and have an increased risk of failure which may result in reduced system reliability and increased risk to other substations and transmission line components, or the safety of the public.

Purchase Power and Wheeling

Overview

The Purchase Power and Wheeling (PPW) subprogram continues to support WAPA's marketing efforts and delivery capability which spans a 1.3 million square mile area serving a diverse group of several hundred wholesale customers, including municipalities, cooperatives, public utility and irrigation districts, Federal and state agencies, and Native American tribes. No appropriated budget authority is necessary.

For a historical perspective, WAPAs PPW subprogram is highly variable; it is affected by reservoir storage levels, annual and long-term drought conditions, downstream flow concerns due to icing, flooding, environmental, health and safety, recreation, irrigation, and navigation requirements. WAPA's budget request reflects anticipated requirements utilizing current information on hydro conditions, generation, contractual commitments, and power pricing.

Purchase Power and Wheeling ($350 million)

Central Valley Project WAPA continues to deliver on its contractual power commitments to customers under the Central Valley Project's Post 2004 Marketing Plan. The budget request assumes current full load service customers will continue to choose service from WAPA through "Custom Product" contractual agreements. WAPA also purchases power to support variable resource customers on a pass-thru basis. If project net generation is not sufficient, WAPA may also purchase to support project use load, First Preference Customer load, and sub-control area reserve requirements. As part of the Order 741, FERC promulgated guidance requiring RTO/ISOs to take physical title/ownership to the energy bought/sold in their respective markets, making it necessary for WAPA to acknowledge that customers receive the financial, and not the physical benefit of their federal power allocations. In order to provide service in the state, WAPA is voluntarily participating in the California greenhouse gas cap-and-trade program which became effective January 1, 2013.

Pick-Sloan Missouri Basin and Other Programs The budget request continues to support long-term firm power commitments to customers of the eastern and western divisions of the Pick-Sloan Missouri Basin Program, the Fryingpan-Arkansas Project, and the Parker-Davis Project commensurate with the levels of average firm hydroelectric energy marketed by WAPA. The request also provides transmission support for the Pacific Northwest-Southwest Intertie Project. The total program estimates shown are based primarily on market pricing of short-term firm energy, negotiated transmission rates, and WAPA and generating agency's forecasts.

Purchase Power and Wheeling
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Central Valley	257,035	365,567	298,480	-67,087	-18%
Pick-Sloan Missouri Basin and other Programs	381,310	379,604	280,978	-98,626	-26%
Subtotal, Purchase Power and Wheeling	**638,345**	**745,171**	**579,458**	**-165,713**	**-22%**
Alternative Financing Needed	-163,345	-270,171	-229,458	+40,713	-15%
Offsetting Collections	-475,000	-475,000	-350,000	+125,000	-26%
Total, Purchase Power and Wheeling (Budget Authority)	**-**	**-**	**-**	**-**	**-**

Explanation of Changes for Purchase Power and Wheeling

Program amounts are financed through offsetting collections (from WAPA receipts) and alternative financing (to include net billing, bill crediting, energy exchanges and direct customer funding); no direct appropriations are requested for this activity. There is no change to the Net BA.

Program Direction

Overview

WAPA's Program Direction subprogram provides compensation and all related expenses for its workforce, including those employees that operate and maintain WAPA's high-voltage interconnected transmission system and associated facilities; those that plan, design, and supervise the construction of replacements, upgrades and additions (capital investments) to the transmission facilities; those that market the power and energy produced to repay annual expenses and capital investment; and those that administratively support these functions.

Program Direction ($33.8 million)

The Program Direction subprogram supports DOE's and WAPA's mission of operating and maintaining a resilient and secure energy grid by attaining and developing a critical highly skilled workforce of engineers, dispatchers, linemen, power system operators, and high voltage electricians. The Program Direction subprogram also includes the administrative staff, including those positions that monitor, detect, and deter physical and cyber-attacks on WAPA's infrastructure.

WAPA trains its employees on a continuing basis in occupational safety and health regulations, policies, and procedures, and conducts safety meetings at employee, supervisory and management levels to keep the safety culture strong. Accidents are reviewed to ensure lessons are learned and proper work protocol is in place. In consultation with its customers, WAPA reviews required replacements and upgrades to its existing infrastructure to sustain reliable power delivery to its customers and to contain annual maintenance expenses. The timing and scope of these replacements and upgrades are critical to ensure that WAPA's facilities remain a reliable and resilient component of the nation's interconnected power grid. WAPA pursues opportunities to join with neighboring utilities to jointly finance activities, which avoid redundant facilities and result in realized cost savings and/or increased efficiencies for all participants

Program Direction
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Salaries and Benefits	219,572	232,959	243,401	+10,442	+4%
Travel	10,336	8,965	11,666	+2,701	+30%
Support Services	35,737	34,951	38,283	+3,332	+10%
Other Related Expenses	43,095	41,862	49,782	+7,920	+19%
Subtotal, Program Direction	**308,740**	**318,737**	**343,132**	**+24,395**	**+8%**
Use of Alternative Financing	-57,657	-54,476	-75,360	-20,884	+38%
Use of Receipts from Colorado River Dam Fund	-9,319	-9,701	-10,220	-519	+5%
Offsetting Collections, Other Expenses	-183,968	-214,018	-223,684	-9,666	+5%
Use of Prior Year Balances	-	-	-	-	-
Total, Program Direction (Budget Authority)	**57,796**	**40,542**	**33,868**	**-6,674**	**-16%**
Technical Support	-	-	-	-	-
Economic and Environmental Analysis	*15,777*	*14,731*	*17,191*	*+2,460*	*+17%*
Total, Technical Support	15,777	14,731	17,191	+2,460	+17%
Management Support	-	-	-	-	-
Automated Data Processing	*11,525*	*12,009*	*12,534*	*+525*	*+4%*
Training and Education	*3,000*	*2,614*	*2,839*	*+225*	*+9%*
Reports and Analysis, Management and General Administrative Support	*5,435*	*5,597*	*5,719*	*+122*	*+2%*
Total, Management Support	19,960	20,220	21,092	+872	+4%
Total, Support Services	**35,737**	**34,951**	**38,283**	**+3,332**	**+10%**
Rent to GSA	2,423	2,524	905	-1,619	-64%
Communication, Utilities, Misc.	7,140	5,712	7,461	+1,749	+31%
Printing and Reproduction	65	69	58	-11	-16%
Other Services	17,874	16,750	19,461	+2,711	+16%
Training	-	-	-	-	-
Purchases from Gov. Accounts	924	996	1,059	+63	+6%
Operation and Maintenance of Equipment	7,273	7,650	12,591	+4,941	+65%
Supplies and Materials	2,076	2,369	2,512	+143	+6%
Equipment	2,603	2,875	2,976	+101	+4%
Working Capital Fund	2,717	2,917	2,759	-158	-5%
Total, Other Related Expenses	**43,095**	**41,862**	**49,782**	**+7,920**	**+19%**
Federal FTEs	**1,215**	**1,208**	**1,217**	**+9**	**+1%**

Program Direction
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Program Direction		
318,737	**343,132**	**+24,395**
Salaries and Benefits		
232,959	*243,401*	*+10,442*
Salary and benefits provide for Federal employees who construct and replace, operate, and maintain and secure, on a continuing basis, WAPA's high voltage interconnected transmission system. Salary and benefits fund those FTEs assigned to this account, including those salaries determined through negotiations.	Salary and benefits provide for Federal employees who construct and replace, operate, and maintain and secure, on a continuing basis, WAPA's high voltage interconnected transmission system. Salary and benefits fund those FTEs assigned to this account, including those salaries determined through negotiations.	The salary and benefits reflect known and anticipated increases for Within Grade Increases, Wage Board and Administratively Determined employees.
Travel		
8,965	*11,666*	*+2,701*
This activity funds all travel, and related expenses associated with WAPA's mission-related operation and maintenance activities, and those functions that support them.	Request funds all travel, and related expenses associated with WAPA's mission-related operation and maintenance activities, and those functions that support them.	Request reflects variabilities in scope and location associated with mission related operation and maintenance travel, and travel for cross-functional collaboration among various internal and external programs.
Support Services		
34,951	*38,283*	*+3,332*
Support Services funded in this category include information technology, job related training and education, engineering, miscellaneous advisory and reporting services, and general administrative support.	Support Services funded in this category include information technology, job related training and education, engineering, miscellaneous advisory and reporting services, and general administrative support.	Request reflects contractual inflationary increases across all support services including miscellaneous advisory and reporting services, engineering and general administrative support, and training.
Other Related Expenses		
41,862	*49,782*	*+7,920*
Other related expenses include rental space, utilities, supplies and materials, telecommunications, information technology modernization (data/network), printing and reproduction, training tuition, and DOE's Working	Request funds rental space, utilities, supplies and materials, telecommunications, information technology modernization (data/network), printing and reproduction, training tuition, and DOE's Working Capital Fund	The increase is attributable to customer funded engineering service contracts, operations maintenance of equipment, and DOE's Working Capital Fund.

Capital Fund distribution. Rental space costs assume the General Services Administration's (GSA) inflation factor. Other costs are based on historical usage and actual cost of similar items.	distribution. Rental space costs assume the General Services Administration's (GSA) inflation factor. Other costs are based on historical usage and actual cost of similar items.	

Falcon and Amistad
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
228	228	228	-

Proposed Appropriation Language

For operation, maintenance, and emergency costs for the hydroelectric facilities at the Falcon and Amistad Dams, $6,422,000 to remain available until expended, and to be derived from the Falcon and Amistad Operating and Maintenance Fund of the Western Area Power Administration, as provided in section 2 of the Act of June 18, 1954 (68 Stat. 255): Provided, That notwithstanding the provisions of that Act and of 31 U.S.C. 3302, up to $6,194,000 collected by the Western Area Power Administration from the sale of power and related services from the Falcon and Amistad Dams shall be credited to this account as discretionary offsetting collections, to remain available until expended for the sole purpose of funding the annual expenses of the hydroelectric facilities of these Dams and associated Western Area Power Administration activities: Provided further, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year 2027appropriation estimated at not more than $228,000: Provided further, That for purposes of this appropriation, annual expenses means expenditures that are generally recovered in the same year that they are incurred: Provided further, That for fiscal year 2027, the Administrator of the Western Area Power Administration may accept up to $1,872,000 in funds contributed by United States power customers of the Falcon and Amistad Dams for deposit into the Falcon and Amistad Operating and Maintenance Fund, and such funds shall be available for the purpose for which contributed in like manner as if said sums had been specifically appropriated for such purpose: Provided further, That any such funds shall be available without further appropriation and without fiscal year limitation for use by the Commissioner of the United States Section of the International Boundary and Water Commission for the sole purpose of operating, maintaining, repairing, rehabilitating, replacing, or upgrading the hydroelectric facilities at these Dams in accordance with agreements reached between the Administrator, Commissioner, and the power customers.

Mission

WAPA's mission is to market and reliably deliver cost-based Federal hydroelectric power. WAPA markets power in 15 central and western states from Federally owned power plants operated primarily by the U.S. Army Corps of Engineers, U.S. Bureau of Reclamation and the Department of State's International Boundary and Water Commission. WAPA operates and maintains a high-voltage, integrated transmission system, including approximately 17,000 circuit-miles of high-voltage transmission lines, more than 300 substations/switchyards and associated power system controls, and communication and electrical facilities.

Overview

The Falcon and Amistad Operating and Maintenance fund (Maintenance Fund) was established in the Treasury of the United States as directed by the Foreign Relations Authorization Act, FYs 1994 and 1995. The Maintenance Fund is administered by WAPA's Administrator for use by the Commissioner of the U.S. Section of the International Boundary and Water Commission (IBWC) to defray administrative, O&M, replacement, and emergency costs for the hydroelectric facilities at the Falcon and Amistad Dams. IBWC owns and operates the U.S. portion of the projects, and Federal staff funded under this program continues to be allocated to the U.S. Section of IBWC by the Department of State. The Falcon and Amistad project supports WAPA's program

goals by providing power to rural electric cooperatives through WAPA. With the exception of monies received from the Government of Mexico, all revenues collected from the sale of electric power generated at the Falcon and Amistad Dams are credited to the Maintenance Fund. Monies received from the Government of Mexico are credited to the General Fund of the U.S. Treasury. Revenues collected in excess of operating expenses are used to repay, with interest, the cost of replacements and original investments. Full funding will support 24-hour/day operation and maintenance of the two power plants to ensure response to ever-changing water conditions, customer demand, and continual coordination with operating personnel of the Government of Mexico.

Highlights of the FY 2027 Budget Request

WAPA's request has been formulated to meet its power marketing and contractual power delivery obligations. Revenue collected from customers to recover the costs of the Federal Power Program will be sufficient to provide for planned expenses for the facilities operated by the IBWC. Also included is the continuation of WAPA's request to allow for U.S. customer(s) of the Falcon and Amistad Dams to contribute funds for use by the IBWC in fulfilling their duties in accordance with agreements between WAPA, IBWC, and the power customers. The contributed funds are planned to predominantly assist in capitalized replacement projects.

Falcon and Amistad
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
IBWC O&M	6,147	9,221	6,617	-2,604	-28%
IBWC Capital Investment	1,913	1,300	1,600	+300	+23%
WAPA Marketing, Contracts, Repayment	50	61	77	+16	+26%
Subtotal, Falcon & Amistad Operating and Maintenance Fund	**8,110**	**10,582**	**8,294**	**-2,288**	**-22%**
Offsetting Collections	-3,197	-6,282	-6,194	+88	-1%
Use of Prior Year Balances	-3,000	-3,000	-	+3,000	-100%
Alternative Financing	-1,685	-1,072	-1,872	-800	+75%
Total, Falcon and Amistad Operating and Maintenance Fund	**228**	**228**	**228**	**-**	**-**

Explanation of Changes for Falcon and Amistad

The request reflects projects in the 10-year work plan that were developed to address recommendations in the U.S. Army Corps of Engineers (USACE)The increase to IBWC O&M is due to the increased need for O&M work on the facilities as identified by the USACE. Failure to properly maintain the facilities could result in safety concerns or findings.

Colorado River Basin Power Marketing Fund

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
-	-	-	-

Mission

WAPA's request has been formulated to meet its power marketing and contractual power delivery obligations. Revenues collected from customers to recover the costs of the Federal Power Program will be sufficient to provide for WAPA's planned expenses for the power systems in the CRBPMF. The budget assumes continued severe drought conditions persist, impacting hydropower generation capability and significantly increasing purchase power and wheeling requirements.

Overview

WAPA operates and maintains the transmission system for the projects funded in this account to ensure an adequate supply of reliable electric power in a clean and environmentally safe, cost-effective manner. The Colorado River Basins Power Marketing Fund Program (CRBPMF) is comprised of the Colorado River Storage Project, including the Dolores, Seedskadee, and Olmsted Projects, and the Fort Peck Project. WAPA is responsible for operation and maintenance, including purchase power and wheeling and capital replacement, additions, and upgrades of facilities for transmitting and marketing the electrical energy generated in these power systems.

Colorado River Basin Power Marketing
Funding by Budget Control ($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Equipment, Contracts and Related Expenses	500,538	362,477	309,979	-52,498	-14%
Program Direction	83,693	89,204	91,743	+2,539	+3%
Subtotal, CRBPMF Program	**584,231**	**451,681**	**401,722**	**-49,959**	**-11%**
Offsetting Collections	-584,231	-451,681	-401,722	+49,959	-11%
Total, CRBPMF	-	-	-	-	-

Explanation of Changes for Colorado River Basin Power Marketing

WAPA's equipment, contracts and related expenses are necessary to operate and maintain this activity. Revenues from the sale of electric energy, capacity and transmission services replenish the fund and are available for expenditure for operation, maintenance, power billing and collection, purchase power and wheeling, interest, emergencies, and other power marketing expenses. Estimates are based on recent actual costs.

Equipment, Contracts and Related Expenses ($309.9 million)

Equipment including circuit breakers, transformers, relays, switches, transmission line equipment, microwave, SCADA, and other communication and control equipment to assure reliable service to WAPA's customers. Provides capitalized Supplies materials, and services necessary to respond to routine and emergency situations

in the transmission system. Planned substation estimates include upgrades, replacement of breakers and circuit switches, and replacement of transformers, test equipment, as well as other aged equipment at various substations. WAPA cyclically replaces older electro-mechanical relays with microprocessor relays. The microprocessor relays assist in finding faults faster in order to restore service more efficiently to customers. Other miscellaneous items required for substation replacements include surge arrestors, batteries and chargers, and monitoring equipment.

Purchase Power Costs for procurement of electrical power, transmission capacity and wheeling services on the open market. The request anticipates persisting drought conditions, and the results of continued low-steady-flow tests conducted at Glen Canyon Dam, as required by the Glen Canyon Dam Environmental Impact Statement Record of Decision. Additionally, the request includes obligation authority to accommodate replacement power purchases for customers served by the Colorado River Storage Project. The replacement power purchases, a provision of the Salt Lake City Area Integrated Projects electric power contracts, are made at the request of power customers at times when WAPA lacks sufficient generation to meet its full contract commitment. The funds for the replacement power purchases are advanced by the requesting customers prior to the purchase.

Generating Agency Activities This activity direct funds the U.S. Army Corps of Engineers for operation and maintenance and procurement of capitalized equipment for the Fort Peck Power Plant. Estimates are based on recent actual costs for supplies needed to maintain generating system reliability.

Program Direction

Overview

Program Direction provides compensation and all related expenses for its workforce, including those employees that operate and maintain WAPA's high-voltage interconnected transmission system and associated facilities; those that plan, design, and supervise the construction of replacements, upgrades and additions (capital investments) to the transmission facilities; those that market the power and energy produced to repay annual expenses and capital investment; and those that administratively support these functions.

The Program Direction subprogram supports DOE's and WAPA's mission of operating and maintaining a resilient and secure energy grid by attaining and developing a critical highly skilled workforce of engineers, dispatchers, linemen, power system operators, and high voltage electricians. The Program Direction subprogram also includes the administrative staff, including those positions that monitor, detect, and deter physical and cyber-attacks on WAPA's infrastructure.

WAPA trains its employees on a continuing basis in occupational safety and health regulations, policies, and procedures, and conducts safety meetings at employee, supervisory and management levels to keep the safety culture strong. Accidents are reviewed to ensure lessons are learned and proper work protocol is in place.

Highlights of the FY 2027 Budget Request

WAPA's request provides for the continuation of WAPA's revolving fund activities related to Program Direction at the level necessary to meet mission requirements.

Program Direction
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Salaries and Benefits	61,586	66,426	66,178	-248	-
Travel	2,966	2,690	3,100	+410	+15%
Support Services	7,940	7,872	7,986	+114	+1%
Other Related Expenses	11,201	12,216	14,479	+2,263	+19%
Total, Program Direction	**83,693**	**89,204**	**91,743**	**+2,539**	**+3%**
Engineering and Technical Services	*2,411*	*2,268*	*2,446*	*+178*	*+8%*
Total, Technical Support	2,411	2,268	2,446	+178	+8%
Automated Data Processing	*3,063*	*3,141*	*3,117*	*-24*	*-1%*
Training and Education	*744*	*726*	*771*	*+45*	*+6%*
Reports and Analyses Management and General Administrative Support	*1,722*	*1,737*	*1,652*	*-85*	*-5%*
Total, Management Support	5,529	5,604	5,540	-64	-1%
Total, Support Services	**7,940**	**7,872**	**7,986**	**+114**	**+1%**
Rent to GSA	187	696	208	-488	-70%
Communication, Utilities, Misc.	1,941	1,804	2,395	+591	+33%
Printing and Reproduction	15	19	15	-4	-21%
Other Services	3,894	3,649	5,977	+2,328	+64%
Training	-	-	-	-	-
Purchases from Gov. Accounts	249	280	274	-6	-2%
Operation and Maintenance of Equipment	2,573	3,105	3,397	+292	+9%
Supplies and Materials	670	691	678	-13	-2%
Equipment	907	838	803	-35	-4%
Working Capital Fund	765	1,134	732	-402	-35%
Total, Other Related Expenses	**11,201**	**12,216**	**14,479**	**+2,263**	**+19%**
Federal FTEs	**302**	**309**	**294**	**-15**	**-5%**

Program Direction
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Program Direction		
89,204	**91,743**	**+2,539**
Salaries and Benefits		
66,426	*66,178*	*-284*
Salary and benefits support General Schedule employees, as well as those salaries determined through negotiations. This activity provides for Federal employees who operate and maintain the Program's high-voltage integrated transmission system and associated facilities; plan, design, and supervise the replacement (capital investments) to the transmission facilities; and market the power and energy produced to repay annual expenses and capital investment.	Salary and benefits support General Schedule employees, as well as those salaries determined through negotiations. This activity provides for Federal employees who operate and maintain the Program's high-voltage integrated transmission system and associated facilities; plan, design, and supervise the replacement (capital investments) to the transmission facilities; and market the power and energy produced to repay annual expenses and capital investment.	Slight decrease driven by reallocation to CROM activities in FY27.
Travel		
2,690	*3,100*	*+410*
This activity funds personnel travel and per diem expenses for essential mission-related activities, including the maintenance of transmission facilities. The request includes estimates for the rent/lease of GSA vehicles and other transportation.	This activity funds personnel travel and per diem expenses for essential mission-related activities, including the maintenance of transmission facilities. The request includes estimates for the rent/lease of GSA vehicles and other transportation.	Request reflects variabilities in scope and location associated with mission related operation and maintenance travel, and travel for cross-functional collaboration among various internal and external programs.
Support Services		
7,872	*7,986*	*+114*

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Support services funded in this category include information technology support, warehousing, computer-aided drafting/engineering, job related training and education, and general administrative support.	Support services funded in this category include information technology support, warehousing, computer-aided drafting/engineering, job related training and education, and general administrative support.	The increase is primarily due to an increase in services that support information technology for Supervisory Control and Data Acquisition (SCADA) activities
Other Related Expenses		
12,216	*14,479*	*+2,263*
Other related expenses include, but are not limited to, DOE's working capital fund distribution, space, utilities and miscellaneous charges, printing and reproduction, training tuition, maintenance of office equipment, supplies and materials, telecommunications, and office equipment to include computers.	Other related expenses include, but are not limited to, DOE's working capital fund distribution, space, utilities and miscellaneous charges, printing and reproduction, training tuition, maintenance of office equipment, supplies and materials, telecommunications, and office equipment to include computers.	The increase to this activity is primarily driven by cyclic requirements for transmission, substation, communication and operation and maintenance services specifically in engineering service contracts.

Transmission Infrastructure Program
($K)

FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted
-	-	-	-

Proposed Appropriation Language

WAPA established the Transmission Infrastructure Program (TIP) and Office to implement Title III, Section 301 of the Hoover Power Plant Act of 1984 as amended by the American Recovery and Reinvestment Act of 2009 (Recovery Act), which provided WAPA borrowing authority of up to $3.25 billion for the purposes of: (1) constructing, financing, facilitating, planning, operating, maintaining, or studying construction of new or upgraded electric power transmission lines and related facilities with at least one terminus within the area served by WAPA; and (2) delivering or facilitating the delivery of power generated by renewable energy resources constructed or reasonably expected to be constructed after the Recovery Act's date of enactment.

Mission

TIP is expected to be an administratively self-sustaining program that relies on funding arrangements with project developers. When developers seek technical assistance, WAPA collects funds from the project developers to support development of eligible projects and to cover the overhead and administrative costs of the program. Reimbursable or Advance Funding Agreements with project developers are required prior to initiating efforts to evaluate the technical and financial merits of a potential project to ensure the full cost of services delivered are paid by project beneficiaries. For projects that are approved for use of WAPA's borrowing authority, the authority to cover the full amount of the loan is apportioned at the outset and cash is borrowed periodically from the Department of the Treasury (Treasury) as needed. The debt is repaid according to the financial agreement terms and conditions of each project.

Overview

As mandated, the TIP program is separate and distinct from WAPA's power marketing program. TIP has one project currently using the borrowing authority for a total of $91 million in loan authority obligated. All other prior project borrowings have been fully repaid with interest.

The program has operated for more than a decade following the initial implementation funding. The collection of non-appropriated funding through completed project loans has been limited and intermittent leading to concern on program sustainability at a critical juncture as the Department of Energy's National Transmission Needs Study finds a "pressing need for additional transmission infrastructure" and associated investment through 2040. TIP is a unique and valuable tool to address this investment need and can provide up to $3.25 billion in debt financing for new and upgraded transmission facilities

Highlights of the FY 2027 Budget Request

Borrowing authority and interest assumptions are only included for projects that have an active loan and/or loan application. While there are numerous other ongoing projects at various stages of development at any given time, the decision and timing for loan applications is dependent on the project sponsors. Advance funding (non-Federal project sponsors) and reimbursable funding (Federal project sponsors) provide authority for development assistance activities prior to loan issuance.

Transmission Infrastructure Program
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
New Borrowing Authority	-	-	-	-	-
Repayment of Borrowing Authority	-	-	-	-	-
Net, Borrowing Authority	**-**	**-**	**-**	**-**	**-**
Operating Expenses	5,930	4,702	4,320	-382	-8%
Interest Payments to Treasury	2,311	3,800	2,541	-1,259	-33%
Other Uses	1,489	1,489	1,489	-	-
Gross, Operating & Debt Service	**9,730**	**9,991**	**8,350**	**-1,641**	**-16%**
Collections from Projects	-9,730	-9,991	-8,350	+1,641	-16%
Net, Operating & Debt Service	**-**	**-**	**-**	**-**	**-**
Total Mandatory	**-**	**-**	**-**	**-**	**-**
Program Direction	6,624	6,386	7,956	+1,570	+25%
Equipment, Contracts and Related Expenses	74	87	77	-10	-11%
Gross, Discretionary	**6,698**	**6,473**	**8,033**	**+1,560**	**+24%**
Advance Funding (Non-Federal)	-5,002	-5,000	-5,233	-233	+5%
Reimbursable Funding (Federal)	-1,250	-1,000	-1,250	-250	+25%
Offsetting Collections	-446	-473	-1,550	-1,077	+228%
Net, Discretionary, Reimbursable Budget Authority	**-**	**-**	**-**	**-**	**-**
Federal FTEs (Mandatory)	**1**	**1**	**1**	**-**	**-**
Federal FTEs (Discretionary)	**3**	**3**	**9**	**+6**	**+200%**

Explanation of Changes for Transmission Infrastructure Program

Borrowing authority, interest assumptions, and program administration are only included for projects that have an active loan and/or loan application.

Program Direction

Overview

WAPA's TIP Program Direction subprogram provides compensation and all related expenses for its workforce, including those employees that are directly assigned to the program as project management, technical experts, finance and administration; those that provide expertise in land acquisition, engineering and environmental compliance; those that provide legal counsel; and those that administratively support these functions.

Unless otherwise provided by law, TIP program direction costs are expected to be offset by customers over time, either through advanced funding agreements or offsetting collections. Advanced funding is provided to TIP from project applicants who use TIP's expertise in the development of their project. The advanced funding agreements fund federal and/or contract staff working on the development of a specific project. Other sources of funds include the overhead rate applied to each active project; service charges; interest rate differentials; and the advance collection of Project Proposal and Business Plan Proposal evaluation expenses. These collections offset the costs of administering the TIP program and provide a risk mitigation reserve.

The Program Direction subprogram supports DOE and WAPA missions, specifically in facilitating delivery of renewable energy resources to market.

Program Direction
($K)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request	FY 2027 Request vs FY 2026 Enacted	
				$	%
Salaries and Benefits	312	375	1,412	+1,037	+277%
Travel	39	29	17	-12	-41%
Support Services	1,917	1,882	1,958	+76	+4%
Other Related Expenses	4,356	4,100	4,569	+469	+11%
Subtotal, Program Direction	**6,624**	**6,386**	**7,956**	**+1,570**	**+25%**
Use of Offsetting Collections	-6,624	-6,386	-7,956	-1,570	25%
Total, Program Direction	-	-	-	-	-
Engineering and Technical Services	1,913	1,881	1,956	+75	+4%
Automated Data Processing	-	-	-	-	-
Training and Education	4	1	2	+1	-
Reports and Analyses, Management and General Administrative Support	-	-	-	-	-
Total, Support Services	**1,917**	**1,882**	**1,958**	**+76**	**+4%**
Communication, Utilities, Misc.	6	-	-	-	-
Other Services	4,350	4,100	200	-3,900	-95%
Working Capital Fund	-	-	-	-	-
Total, Other Related Expenses	**4,356**	**4,100**	**200**	**-3,900**	**-95%**
Federal FTEs (Mandatory)	1	1	1	-	-
Federal FTEs (Discretionary)	3	3	9	+6	+200%
Federal FTEs (Total TIP)	**4**	**4**	**10**	**+6**	**+150%**

Program Direction
Activities and Explanation of Changes
($K)

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
Program Direction		
6,386	**7,956**	**+1,570**
Salaries and Benefits		
375	*1,412*	*+1,037*
Salary and benefits provide for Federal employees that are directly assigned to the TIP program as project management, technical experts, finance and administration; those that provide expertise in land acquisition, engineering and environmental compliance; those that provide legal counsel; and those that administratively support these functions.	Salary and benefits provide for Federal employees that are directly assigned to the TIP program as project management, technical experts, finance and administration; those that provide expertise in land acquisition, engineering and environmental compliance; those that provide legal counsel; and those that administratively support these functions.	In FY25 and FY26, a change was proposed to fund TIP X4404 administrative costs for salary and benefits out of CROM X5068 for $1M. This change was never enacted. The FY27 levels include X4404 administrative costs for salary and benefits in TIP X4404 instead of CROM X5068, consistent with FY24 levels.
Travel		
29	*17*	*-12*
Planned essential travel supports TIP's mission related activities. TIP supports efficient spending initiatives and is cognizant of travel costs associated with general program operations. TIP focuses on using alternative means to conduct meetings and training sessions where appropriate.	Planned essential travel supports TIP's mission related activities. TIP supports efficient spending initiatives and is cognizant of travel costs associated with general program operations. TIP focuses on using alternative means to conduct meetings and training sessions where appropriate.	The decrease is attributed to a greater use of available technology to facilitate TIP activities.
Support Services		
1,882	*1,958*	*-76*
Support services funded in this category include technical support costs directly associated with TIP projects including environmental, lands, engineering, and project management activities; and management support costs including information technology, job related training and education,	Support services funded in this category include technical support costs directly associated with TIP projects including environmental, lands, engineering, and project management activities; and management support costs to include information technology, job related training and	The decrease is due to a reduction in technical support associated with project management and stage of development of projects given revised work scope demands.

FY 2026 Enacted	FY 2027 Request	Explanation of Changes FY 2027 Request vs FY 2026 Enacted
and general administrative support.	education, and general administrative support.	
Other Related Expenses		
4,100	*4,569*	*+469*
Other related expenses include communications, utilities, other services such as outside financial support and legal counsel, and DOE's working capital fund.	Other related expenses include communications, utilities, other services such as outside financial support and legal counsel, and DOE's working capital fund.	The increase is due to anticipated outside financial support and legal counsel.

DEPARTMENT OF ENERGY
Funding by Site Detail
Western Area Power Administration - FY 2027
(Dollars in Thousands)

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Western Area Power Administration Office			
Operation And Maintenance - CROM	153,129	118,799	135,983
Purchase Power And Wheeling - CROM	638,345	745,171	579,458
Program Direction - CROM	308,740	318,737	343,132
Construction, Rehabilitation, Operation, and Maintenance (CROM) - WP	1,100,214	1,182,707	1,058,573
Total Western Area Power Administration Office	**1,100,214**	**1,182,707**	**1,058,573**
Total Funding by Site for TAS_5068 - Western Area Power Administration	**1,100,214**	**1,182,707**	**1,058,573**

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Western Area Power Administration Office			
Falcon And Amistad Operation And Maintenance	8,110	10,582	8,294
Total Western Area Power Administration Office	**8,110**	**10,582**	**8,294**
Total Funding by Site for TAS_5178 - Falcon and Amistad Operating and Maintenance Fund	**8,110**	**10,582**	**8,294**

	FY 2025 Enacted	FY 2026 Enacted	FY 2027 Request
Western Area Power Administration Office			
Program Direction - Colorado River Basins Fund	83,693	89,204	91,743
Equipment, Contracts and Related Expenses - Colorado River Basins Fund	500,538	362,477	309,979
Colorado River Basins Fund	584,231	451,681	401,722
Total Western Area Power Administration Office	**584,231**	**451,681**	**401,722**
Total Funding by Site for TAS_4452 - Colorado River Basins Power Marketing Fund	**584,231**	**451,681**	**401,722**

FY 2027 Expenditure Authorization

Expenditures from the Bonneville Power Administration Fund, established pursuant to Public Law 93-454, are approved for: the Spokane Tribal Fisheries Operations Center. Expenditures are also approved for official reception and representation expenses in an amount not to exceed $5,000, provided that during fiscal year 2027 no new direct loan obligations may be made.

Explanation of Changes

The proposed appropriation language provides expenditure approval to the Bonneville Power Administration Fund for: the Spokane Tribal Fisheries Operations Center. This capital facility is estimated to cost at least $2.5 million, have a useful life exceeding 15 years, and requires expenditure approval under the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act) (Public Law 96-501).

Overview

The Bonneville Power Administration (Bonneville) operates under a business-type budget under the Government Corporation Control Act, 31 U.S.C 9101-10, and on the basis of the self-financing authority provided by the Federal Columbia River Transmission System Act of 1974 (Transmission Act) (Public Law 93-454). Bonneville has authority to borrow from the U.S. Treasury under the Transmission Act and the Northwest Power Act for acquisition of energy conservation, renewable and other power resources, investment in fish facilities, and other purposes, as well as authority under the American Recovery and Reinvestment Act of 2009 (Public Law 111-5), the Infrastructure Investment and Jobs Act of 2021 (Section 40110, Public Law 117-58) and other legislation.

Authority to borrow from the U.S. Treasury is available to Bonneville on a permanent, revolving basis. The principal amount of U.S. Treasury borrowing outstanding at any time may not exceed $17.70 billion. The "obligation" of the $10.0 billion in additional borrowing authority that is made available to the Bonneville Administrator under Section 40110 of Public Law 117-58 cannot exceed $6.0 billion before FY 2028. Bonneville manages its overall debt portfolio by using its power and transmission revenues, and the proceeds of borrowing authority from the U.S. Treasury. Bonneville's estimated FY 2027 obligations and cash transfers total approximately $6.9 billion.

This budget has been prepared in accordance with the Statutory Pay-As-You-Go Act (PAYGO) of 2010. Under PAYGO, all Bonneville budget estimates are treated as mandatory and are not subject to the discretionary caps included in the Budget Control Act of 2011. These estimates support activities that are separate from discretionary activities and accounts. Thus, any changes to Bonneville estimates cannot be used to affect any other budget categories, which have their own dollar caps. Because Bonneville's obligations are and will be incurred under pre-existing legislative authority, Bonneville is not subject to a "pay-as-you-go" test regarding its revision of current law funding estimates.

Please note – the FY 2027 Bonneville OMB Budget submission includes FY 2026 budget estimates.

Bonneville Funding Profile by Subprogram[1/]

See accompanying notes for the tables on the next page.

($K)

	FY 2025 Actual	FY 2026 Original [2/]	FY 2026 Estimate [2/]	FY 2027 Estimate
Associated Project Costs [3/]	261,830	305,000	265,000	308,973
Fish & Wildlife	37,997	50,000	53,218	66,988
Subtotal, Power Services	**299,827**	**355,000**	**318,218**	**375,961**
Transmission Services	745,769	1,649,000	892,784	1,289,501
Capital Equipment, Bond Premium & Capital Overheads	204,240	35,000	238,167	267,130
Total, Capital Obligations [3/]	**1,249,836**	**2,039,000**	**1,449,168**	**1,932,591**
Expensed	3,531,613	3,473,000	3,771,537	3,997,173
Projects Funded in Advance [4/]	26,995	36,000	36,071	30,000
Revenue Financing	89,090	162,000	94,000	168,000
Total, Obligations	**4,897,534**	**5,710,000**	**5,350,776**	**6,127,764**
Capital Transfers (cash)	871,180	655,000	774,434	747,067
Bonneville Total (Obligations & Capital Transfers)	**5,768,714**	**6,365,000**	**6,125,210**	**6,874,831**
Bonneville Net Outlays	**654,000**	**1,195,000**	**471,705**	**906,764**
Full-time Equivalents (FTEs) [5/]	**3,311**	**3,460**	**3,460**	**3,560**

Outyears
($K)

	FY 2028 Estimate	FY 2029 Estimate	FY 2030 Estimate	FY 2031 Estimate
Associated Project Costs [3/]	309,913	304,802	307,409	308,124
Fish & Wildlife	64,094	123,950	47,250	33,200
Subtotal, Power Services	**374,007**	**428,752**	**354,659**	**341,324**
Transmission Services	1,184,604	890,369	884,322	910,949
Capital Equipment, Bond Premium & Capital Overheads	270,636	256,097	250,090	249,388
Total, Capital Obligations [3/]	**1,829,247**	**1,575,218**	**1,489,072**	**1,501,662**
Expensed	4,169,885	4,196,434	4,316,433	4,512,793
Projects Funded in Advance [4/]	30,000	30,000	30,000	30,000
Revenue Financing	169,000	187,000	179,000	193,000
Total, Obligations	**6,198,132**	**5,988,653**	**6,014,504**	**6,237,455**
Capital Transfers (cash)	923,032	768,154	779,648	649,868
Bonneville Total (Obligations & Capital Transfers)	**7,121,165**	**6,756,807**	**6,794,152**	**6,887,323**
Bonneville Net Outlays	**1,392,132**	**1,067,653**	**1,056,504**	**1,210,455**
Full-time Equivalents (FTEs) [5/]	**3,660**	**3,760**	**3,860**	**3,960**

Public Law Authorizations include:
Bonneville Project Act of 1937, Public Law No. 75-329
Federal Columbia River Transmission System Act of 1974, Public Law No. 93-454

Regional Preference Act of 1964, Public Law No. 88-552
Flood Control Act of 1944, Public Law No. 78-543
Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act), Public Law No. 96-501

These notes are an integral part of this table.

1/ This budget has been prepared in accordance with PAYGO. Under PAYGO, all Bonneville budget estimates are treated as mandatory and are not subject to the discretionary caps included in the Budget Control Act of 2011. These estimates support activities that are separate from discretionary activities and accounts. Thus, any changes to Bonneville estimates cannot be used to affect any other budget categories which have their own dollar caps. Because Bonneville's obligations are and will be incurred under pre-existing legislative authority, Bonneville is not subject to a "pay-as-you-go" test regarding its revision of current-law funding estimates.
For BP-1 table, the CJ reflects forecasted outlays while the yearend GTAS reflects the actual outlay in the Budget Appendix.

2/ Original estimates reflect Bonneville's FY 2026 Congressional Budget Submission. Revised estimates, consistent with Bonneville's annual near-term funding review process, provide notification to the Administration and Congress of updated capital and expense funding levels for FY 2026. The BPA estimates in this budget are consistent with the BP-26 IPRs. As the BP 26 IPR estimates were finalized prior to Presidential Memorandum “Stopping Radical Environmentalism to Generate Power for the Columbia River Basin” being issued. The estimates include F&W expenditures for the since rescinded memorandum of understanding (MOU). The estimates for these costs will be removed in the next estimate update cycle.

3/ Includes infrastructure investments to address the long-term electric power- related needs of the Northwest and significant changes affecting Bonneville's power and transmission markets.

4/ In this instance, Projects Funded in Advance represents prepayment of Power customers' bills reimbursed by future credits and third-party non-federal financing for Conservation initiatives. Also this category includes those facilities and/or equipment where Bonneville retains control or ownership which are funded or financed by a third party, revenue, or with Power or Transmission reserves, either in total or in part.

5/ As of 9/30/2025, BPA Human Resources (HR) staff has reported FY 2025 BPA's FTE actuals at 3,311. This number includes 194 FTEs who have accepted the Deferred Resignation Program (DRP).

Additional Notes

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.
Cumulative advance amortization payments as of the end of FY 2024 are $7.2 billion.

Refer to 16 USC Chapters 12B, 12G, 12H, and Bonneville's other organic laws, including P.L. 100-371, Title III, Sec. 300, 102 Stat. 869, July 19, 1988, regarding Bonneville's ability to obligate funds.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving electric utility industry.

Net Outlay estimates are based on current cost savings to date and anticipated cash management goals. They are expected to follow anticipated management decisions throughout the rate period that, along with actual market conditions, will impact revenues and expenses. Actual Net Outlays are volatile and are reported in Report on Budget Execution and Budgetary Resources (SF-133). Actual Net Outlays could differ from estimates due to changing market conditions, streamflow variability, continued restructuring of the electric industry, and other reasons.

Revenue, included in the Net Outlay formulation are calculated consistent with cash management goals and assume a combination of adjustments. Assumed adjustments include the use of a combination of tools, including upcoming rate adjustment mechanisms, a net revenue risk adjustment, debt service refinancing strategies and/or short-term financial tools to manage net revenues and cash. Some of these potential tools will reduce costs rather than generate revenue, causing the same Net Outlay result. Adjustments for depreciation and 4(h)(10)(C) credits of the Northwest Power Act are also assumed.

FY 2026 Net Outlays are calculated using Bonneville's FY 2025 actuals. FY 2027 to FY 2031 Net Outlays are based on BP-26 IPR assumptions and an escalation factor from using the FY 2025 Whitebook Loads and Resources Report.

FTE outyear data are estimates and may change. Bonneville is facing a dynamic and changing energy marketplace and operations, and it is important to continue to attract and retain skilled individuals to meet the growing demands of a competitive and rapidly changing industry. Accordingly, FTE estimates may need to be adjusted in the future.

Amounts in tables and schedules may not add to totals due to rounding.

Major Outyear Considerations

Bonneville's outyear estimates reflect ongoing efforts to achieve its long-term mission and strategic direction. The outyear estimates are developed with consideration and support of Bonneville's multi-year performance targets that lay out the course for achieving Bonneville's long-term objectives. Outyear capital investment levels support Bonneville's infrastructure program, hydro-efficiency program, and its F&W mitigation projects.

Bonneville continues to incorporate the various aspects of the Energy Policy Act of 2005 related to its business, in particular the energy supply, conservation, and new energy technologies for the future that are highlighted in the legislation.

Description of Bonneville Operations & Services

Bonneville markets power, provides transmission services, and acquires energy conservation from its power customers. Bonneville's service territory is defined as the Pacific Northwest, which includes a 300,000-square-mile area encompassing the states of Oregon, Washington, Idaho, western Montana, and small parts of eastern Montana, California, Nevada, Utah, and Wyoming, with a total population of about 14 million people. Bonneville markets the electric power produced from 31 Federal Columbia River Power System (FCRPS) hydro projects in the Pacific Northwest owned by U.S. Army Corps of Engineers (Corps) and Bureau of Reclamation (Reclamation). In addition, Bonneville also acquires power from non-federal generating resources, including the power from a nuclear power plant, the Columbia Generating Station (Columbia).

Bonneville uses the power primarily from the FCRPS hydroelectric projects and Columbia to meet the Administrator's long term firm power sales contract obligations. Bonneville currently maintains and operates 15,179 circuit miles of transmission lines, 259 substations, and associated power system control and communications facilities over which this electric power is delivered. Bonneville has capital and similar leases for certain transmission facilities. Bonneville also supports the protection and enhancement of fish and wildlife, and encourages the development of energy conservation, as part of meeting its obligations to supply power and balance the economic and environmental benefits of the FCRPS.

The organization of Bonneville's FY 2027 Budget reflects Bonneville's business services basis for utility enterprise activities. Bonneville's two major areas of activity on a consolidated budget and accounting basis are Power Services and Transmission Services and include their related administrative costs.

- Power Service's costs include line items for Fish & Wildlife, Energy Conservation, the Residential Exchange Program, Federal Projects Operations & Maintenance (O&M) Costs, and the Northwest Power and Conservation Council (Council).
- Transmission Service's costs include line items for Engineering and O&M for Bonneville's electric transmission system.

Bonneville's mission as a public service organization is to create and deliver federal power and transmission services at cost as it acts to assure its customers in the Pacific Northwest have the following:

- An adequate, efficient, economical, and reliable power supply;
- An open access transmission system that is adequate for integrating and transmitting power from federal and non-federal generating units, providing service to Bonneville's customers, providing interregional interconnections, and maintaining electrical reliability and stability; and
- Mitigation of the impacts on fish and wildlife from the federally owned hydroelectric projects from which Bonneville markets power.

Bonneville's vision is to be an engine of the Northwest's economic prosperity and environmental sustainability by advancing a Northwest power and transmission system that is a national leader in providing high reliability, low rates consistent with sound business principles, responsible environmental stewardship, and accountability to the region, all through a commercially successful business. Bonneville pursues this vision consistent with its four core values of safety, trustworthy stewardship, collaborative relationships, and operational excellence.

Legislative History

The Bonneville Project Act of 1937 provides the statutory basis for Bonneville's power marketing responsibilities and authorities. In 1974, passage of the Federal Columbia River Transmission System Act (Transmission Act) applied provisions of the Government Corporation Control Act (31 U.S.C. §§ 9101-9110) to Bonneville. The Transmission Act provides Bonneville with "self-financing" authority, establishes the

Bonneville Fund (a permanent, indefinite appropriation) allowing Bonneville to use its revenues from electric power and transmission ratepayers to fund all programs without further appropriation, and authorizes Bonneville to sell bonds to the U.S. Treasury.

The 1980 enactment of the Northwest Power Act expanded Bonneville's authorities, obligations, and responsibilities. The purposes of the Act include:

- Encouraging development of electric energy conservation to meet regional electric power loads placed on Bonneville
- Encouraging the development of renewable energy resources within the Pacific Northwest
- Assuring the Northwest has an adequate, efficient, economical, and reliable power supply
- Promoting interregional participation and planning
- Protecting, mitigating, and enhancing the fish and wildlife affected by development and operation of federal hydroelectric projects on the Columbia River and its tributaries.

The Northwest Power Act also established a revised statutory framework for Bonneville's administrative rate-setting process and established judicial review of Bonneville's final actions in the U.S. Court of Appeals for the Ninth Circuit.

The 2022 Infrastructure Investment and Jobs Act added $10 billion to BPA's existing borrowing authority, bringing the total borrowing authority to $17.70 billion. Only up to $13.7 billion of the total may be outstanding at any time through fiscal year 2027. Beginning fiscal year 2028, the remaining $4 billion may be outstanding up to the overall limit of $17.7 billion. The borrowing authority may be used by BPA for any authorized BPA purpose. At the end of FY 2025, Bonneville had revolving U.S. Treasury borrowing authority of $13.7 billion, of which approximately $7.5 billion remained available to be drawn.

Financial Mechanisms

Bonneville's program is treated as mandatory and nondiscretionary. Bonneville is "self-financed" from its own revenues and does not rely on annual appropriations from Congress. Under the Transmission Act, Bonneville funds the expense portion of its budget and repays the federal investment with revenues from electric power and transmission sales. Bonneville's revenues fluctuate for a variety of reasons, including in response to variations in market prices for fuels and stream flow in the Columbia River System caused by variations in weather conditions and fish mitigation needs.

In the FY 2027 budget, the term Bonneville "bonds" refers to the debt instruments under which Bonneville receives advances of funds from the U.S. Treasury. This reference is consistent with Section 13(a) of the Transmission Act, which defines "bonds" as all bonds, notes, and other evidence of indebtedness issued and sold by Bonneville to the U.S. Treasury.

Bonneville and the U.S. Treasury have a comprehensive banking arrangement that covers Bonneville's short- and long-term federal borrowings. This provides Bonneville with the ability to borrow from the U.S. Treasury to finance capital investments and, on a short-term basis, to cover Northwest Power Act-related operating expenses. This latter ability provides Bonneville with much needed liquidity to help manage within-year cash flow needs and mitigate risk. Access to this use of U.S. Treasury borrowing authority has been incorporated into and relied upon in Bonneville's rate-setting process.

Bonneville Functions & Initiatives

Bonneville's mission is to provide an economical and reliable power supply at cost-based rates. The energy BPA delivers over the federal high-voltage transmission system serves homes, businesses and industries driving the Northwest's economy.

Products & Services

Long-Term Power Sale Contracts
As directed by Section 5(b) of the Pacific Northwest Electric Power Planning and Conservation Act, Bonneville is statutorily obligated to offer contracts to sell firm power to meet regional public power utilities and investor-owned utilities (IOU) customers' power requirements in excess of their resources. Bonneville's Provider of Choice initiative began in 2022 to engage these customers and interested parties in a policy and contract-development process to gain an understanding of electric power needs and perspectives. The process established the long-term power sales policy and contracts that follow the current Regional Dialogue contracts that expire in September 2028. The policy phase completed in March 2024. To engage its customers on development of the policy, BPA hosted 28 stakeholder workshops, posted a draft policy and solicited public comment on its draft policy. This culminated in BPA's March 2025 publication of the final policy and a Record of Decision.
The contract drafting phase is underway and nearing completion. BPA held 37 workshops from April 2024 through February 2025. BPA published a draft template for formal comment in March 2025, held a 30-day public comment period, and finalized contract changes in response to comments. The final contract templates were published in June 2025, and BPA began offering individualized contracts following its Contract Record of Decision in August 2025. The Provider of Choice contracts will begin in October 2028.

Market Development
New markets present opportunities to enhance the delivery of reliable, affordable hydropower to Bonneville customers. Bonneville joined the Western Energy Imbalance Market in 2022. Building on that experience, Bonneville participated in the development of two day-ahead market initiatives—the California Independent System Operator's Extended Day-Ahead Market and Southwest Power Pool's Markets Plus (Markets +)—to determine if they will be consistent with Bonneville's statutory obligations and support its customers' needs and interests. In July 2023, Bonneville initiated a public process with customers and the public on its decision to participate in either market option. This process completed in May 2025, with Bonneville's policy direction to pursue participation in Markets+. By pursuing participation in Markets+, BPA will remain competitively positioned with easy access to trading partners and greater potential to market surplus power, which helps the agency maintain low rates for customers. Bonneville is now exploring the development of systems and practices needed to participate in Markets+. This exploration will continue at least through FY 2027.

Over the past six years, entities in the West have come together through an initiative facilitated by the Western Power Pool (WPP) to scope and develop a voluntary, regional resource adequacy compliance program known as the Western Resource Adequacy Program (WRAP). FERC accepted the WRAP tariff in February 2023. Bonneville played a leading role in the development of the WRAP, which is a major step toward ensuring reliability while integrating new resources into the grid and assuring it will have the resources needed to meet demand. WRAP participants have committed to begin fully binding operations in the winter of 2027-2028.

Power & Transmission Rates
Under the Northwest Power Act, Bonneville is required to establish rates using sound business principles for the sale of power and transmission services. Bonneville's rates are designed to recover costs associated with the generation or conservation of electrical power as well as costs associated with the transmission of federal and non-federal power across Bonneville's bulk electric grid.

Bonneville initiated the BP-26 Rate Case as well as the TC-26 Tariff Proceeding with the issuance of Federal Register notices in November 2024. TC-26 concluded on March 7 with a Final Record of Decision that adopted a settlement among all parties. BPA worked with rate case parties to develop settlements for both Power and Transmission rates. Those settlements are reflected in the final record on the BP-26 Rate Case signed and issued by the Administrator in July 2025. The BP-26 rates went into effect in October 2025. The BP-26 Rate Case represents a one-time shift to a three-year rate period to coincide with the close of historic long-term Regional Dialogue power sales contracts.

Transmission Expansion
Bonneville has announced $5 billion in transmission grid reinforcements and new infrastructure for growing load service requests and new generation. The investments enable significant load growth and the addition of more generation. In addition, Bonneville is working with other Transmission Providers to explore potential interregional connections to strengthen the transfer of electricity over a broader footprint.

Transmission Planning & Service
Through its Grid Access Transformation Project, Bonneville is conducting a series of public workshops to craft solutions with customers and interested parties to improve processes it uses to expand the transmission system to meet customer requests for transmission service. Some BPA transmission processes are paused while staff evaluate potential solutions. The goal is to make improvements to ensure the Federal Columbia River Transmission System can cost effectively and reliably meet current and future needs.

In addition to its own planning efforts, Bonneville supports regional and interregional efforts. The Western Transmission Expansion Coalition (WestTEC), which Bonneville helped establish, is developing actionable transmission plans over a longer time horizon than previous planning efforts. WestTEC also has broader representation across the industry sector, states and Tribes. The intent is to help transmission planners study the grid from a "one utility" approach to most efficiently meet future energy needs.

Fish & Wildlife Obligations
The Northwest Power Act of 1980 established requirements for BPA to protect, mitigate and enhance fish and wildlife affected by the development and operation of the FCRPS. BPA fulfills its obligations by implementing fish and wildlife projects that are funded by BPA's power customers through their power rates. To help maintain competitive rates, sustain BPA's financial health and support the agency's obligations to provide power and transmission, BPA's Fish and Wildlife Program ensures mitigation actions secure biological results in a scientifically-sound, cost-effective and efficient manner.

Energy Conservation
In accordance with the Pacific Northwest Electric Power Planning and Conservation Act of 1980, Bonneville acquires and encourages the development of energy conservation to maximize the value of the FCRPS and reduce the agency's need to acquire other resources to supply firm power to its customers. Since the passage of the Power Act in 1980, Bonneville has acquired about 2,593 average megawatts (aMW) of energy savings.

Financial Strength

Cost Review and Capital Planning
Bonneville aggressively manages the costs of operating the federal power and transmission systems, consistent with its mission objectives and statutory obligations. Cost-management discipline remains a key focus, as outlined in the Financial Plan, recognizing it will require balancing different priorities and obligations. Bonneville will rely on input from customers and others through Bonneville's Integrated Program Review (IPR) process, the public forum where Bonneville develops forecast program costs ahead of each rate case. As Bonneville continues to control operating costs, it is equally important to execute Bonneville's capital plans to

ensure Bonneville maintains and preserves the value of the FCRPS. While access to secure, low-cost capital will not be an issue for the near future thanks to Bonneville's recent substantial increase in U.S. Treasury borrowing authority, Bonneville remains committed to disciplined capital investments. Bonneville intends to develop and execute capital plans with the goal of making the right investments in the right assets at the right time, returning the highest possible value for Bonneville's ratepayers and the region.

Management of Treasury Borrowing Authority & Other Capital Leveraging
Financial resilience enables Bonneville to withstand disruptive events and conditions that impact revenues, expenses, or the delivery of power and transmission services and other regional benefits. Bonneville achieves financial resilience by having sufficient liquidity to ensure all bills are paid in full and on time; a prudent amount of leverage to help reduce and stabilize interest costs and maintain a stable cost of service over time; and enough debt capacity to ensure essential and ongoing capital investments are funded with certainty and at low cost.

Investment-Grade Credit Ratings
Bonneville seeks to maintain high investment-grade credit ratings on its non-federal debt from all three major ratings agencies. Strong credit ratings reflect Bonneville's financial strength and help ensure low costs on Bonneville-backed non-federal debt.

Asset Management
The foundation of Bonneville's value is the base of the generating resources from which it markets electricity, and federal transmission assets it owns and operates. Bonneville has made significant progress by adopting the highest international standards for asset management. Bonneville has implemented 10-year Strategic Asset Management Plans for each asset category and tied them to our IPR process to better inform its capital spending forecasts.

Bonneville and its federal generating partners—Corps and Reclamation—established a rolling, 20-year asset plan that identifies opportunities to increase the generating capacity of the FCRPS. Based on the current portfolio, the potential capacity increase across the FCRPS is ~~861~~ 800 megawatts (MW). Bonneville is also investing in hydropower efficiency projects, which can be even more valuable than capacity improvements as they allow existing generators to produce more power with the same amount of water. Additionally, Bonneville—the power capability owner and cost payer—and Energy Northwest—the owner and operator of the Columbia Generating Station nuclear plant—are increasing the capacity of the 1,200-MW plant through an extended power uprate. This cost-effective investment will increase Columbia's generating capacity by about 160 MW.

Safe & Reliable Operations

Bonneville has more than eight decades of experience maintaining safe, reliable power and transmission operations, a feat which required continual adjustment as the Northwest's grid evolved over time. We are prepared to continue this legacy as new and emerging reliability and security risks challenge the grid. Key considerations are the impacts of extreme weather, wildfires, cyber and physical attacks, and the integration of more variable energy resources.

The operation of the interconnected power grid requires a greater level of collaboration and cooperation going forward to ensure Bonneville can operate a reliable, resilient and secure grid for the customers and communities it serves.

Operational Improvements to Support Grid Reliability

BPA is advancing state-of-the-art situational awareness technology to maintain system stability across the Northwest. This includes investments in wildfire and extreme weather preparedness, such as a real-time wildfire map and dynamic line ratings, to maximize grid reliability. In the event of a widescale system disturbance, BPA will be essential to restoring the grid for the safety and economic well-being of the American people.

Mitigate Wildfire Risks

Bonneville implements a multi-level Wildfire Mitigation Plan that emphasizes continuous improvement to ensure deployment of the latest technology and best practices. The first level of BPA's strategy is system hardening, which includes maintenance and capital projects; annual aerial and ground inspections of all 15,000 circuit miles of transmission line; and industry-leading vegetation management. Other elements of Bonneville's wildfire mitigation include situational awareness tools, such as risk modeling; the use of new technology, such as fire-resistant wraps that protect wood poles; and, as a last resort, a Public Safety Power Shutoff procedure to de-energize a line under specific conditions.

Resilience in Preparation for High-Impact Events & System Change

Climate-related risks and security threats—both physical and cyber—have intensified. At the same time, the resource and load mix is changing, with fewer baseload resources available and more variable energy resources connecting to the grid. Bonneville will ensure it is better prepared to respond to and recover from high-impact events as the system continues to change.

Bonneville is hardening facilities and communications systems to enable continued operations through high-impact events and prioritizing proactive actions to improve our ability to respond to disruptive events. This includes developing tools to improve situational awareness for wildfires, cyber threats and storms.

Culture of Compliance

Bonneville anticipates a changing regulatory environment within which it operates. Improvements in internal practices and capabilities will accommodate change and reduce cost, complexity and risk associated with meeting compliance standards. Work will include advancements in internal controls and causal analysis.

Resilience & Security of Information & Operational Technology
Bonneville is constantly reviewing and improving its cybersecurity protections to guard the agency from the latest threats. One area of significant focus is overcoming barriers to real-time threat detection for critical infrastructure, with an eye toward centralized monitoring of substations and substation networks.

Budget Estimates & Planning
This FY 2027 Budget proposes estimated accrued expenditures of $3,997 million for operating expenses, $30 million for Projects Funded in Advance (PFIA), $1,933 million for capital investments, and $747 million for capital transfers in FY 2027.

The estimated spending levels in this budget are still subject to change to accommodate competitive dynamics in the region's energy markets, debt management strategies, continuing changes in the electric industry, and other factors.

This FY 2027 Budget includes capital and expense estimates based on initial approved cost forecasts from Bonneville's BP-26 IPR. Capital investment levels reflect Bonneville's capital asset management process and external factors such as changes affecting the West Coast power and transmission markets, along with planned

infrastructure investments designed to address the long-term needs of the region and national energy security goals.

Bonneville utilizes a structured capital project selection process requiring submission of a standardized business case for review. Each business case consists of a description of the project, a clear statement of objectives, description and mitigation of risks, and a rigorous analysis of project costs and benefits, including a status quo assumption and preferred alternatives. In addition, both annual and end-of-project targets are set for each project covering cost, scope, and schedule. Progress reports on these targets are provided to Bonneville's senior executives at least quarterly.

Overview of Detailed Justifications

In Bonneville's Detailed Justification Summaries, accrued expenditure is the basis of presenting Bonneville's program funding levels in the Power and Transmission ratemaking processes and the basis upon which Bonneville managers control their resources to provide products and services. Accrued expenditures relate period costs to period performance. Traditional budget obligation requirements for Bonneville's budget are assumed on the Program and Financing Summary Schedule prepared in accordance with Office of Management & Budget (OMB) Circular A-11.

The organization of Bonneville's FY 2027 Budget and these performance summaries reflect Bonneville's business services basis for its utility enterprise activities. Bonneville's major areas of activity on a consolidated budget and accounting basis include Power and Transmission, with administrative costs included. Power Services includes line items for fish and wildlife conservation, energy conservation, Residential Exchange Program, associated projects O&M costs, and the Northwest Power Council. Environmental activities are shown in the relevant Power Services and Transmission Services sections, as are reimbursable costs. Bonneville's interest expense, pension and post-retirement benefits, and capital transfers to the U.S. Treasury, are shown by program.

The first section of performance summaries, **Capital Investments**, includes accrued expenditures for investments in electric utility and general plant associated with the FCRPS generation and transmission services, fish and wildlife, and capital equipment. These capital investments are estimated to require budget obligations and expected use of $1,933 million in bonds to be issued and sold to the U.S. Treasury in FY 2027. The near-term forecast of capital funding levels has undergone an extensive internal review through Bonneville's development of asset management plans. These plans encompass project cost management initiatives, capital investment assessments, and categorization of capital projects to be funded based on risk and other factors. Consistent with Bonneville's near-term asset planning process and Bonneville's standard operating budget process, this FY 2027 Budget includes updated capital investment levels for FY 2026 estimated at $1,449 million. Utilizing this review process helps Bonneville in its efforts as a participant in wholesale energy markets. Bonneville will continue to work with Corps and Reclamation to optimize the mix of projects.

The second section of Bonneville's performance summaries, entitled **Annual Operating Expenses**, includes accrued expenditures for services and program activities financed by power sales revenues, transmission sales revenues, and projects funded in advance. For FY 2027, total budget expense and capital obligations are estimated at $6,128 million. The total program requirements of all Bonneville programs, including total obligations and $747 million of capital transfers, are estimated at $6,875 million for FY 2027.

Evidence & Analysis in the Budget

Bonneville has undertaken several initiatives and processes to determine appropriate budget expenditures.

Through Bonneville's IPR process, the public can see all relevant FCRPS expense and capital forecast costs in the same forum. In addition, Bonneville's IPR process allows the public to review and comment on Bonneville's 10-year capital forecasts. IPR occurs prior to each Bonneville rate case and provides the public an opportunity to review and comment on Bonneville's forecast costs prior to being set for inclusion in rate cases. Bonneville conducted the BP-26 IPR, which reviewed forecast costs for the FY 2026, FY 2027, and FY 2028 rate period during the summer of 2024. Overall, BP-26 program costs for the Power business line are projected to be an average of 17.6 percent, or $248 million over BP-24; and Transmission business line costs are projected to be an average of 30.3 percent, or $180 million over BP-24. While this exceeds the average inflation rate of 3.4 percent from BP-24 to BP-26, the risk of not doing this work could be far more costly. In addition, while the cost increases are above inflation in the current period, the overall program cost increases since 2018 are below the rate of inflation. More details can be found on the BP-26 IPR page at BPA.gov. Bonneville issued a closeout report for the BP-26 IPR in October 2024.

Judicial & Regulatory Activity

The Energy Policy Act of 2005 authorized the Federal Energy Regulatory Commission (FERC) to approve and enforce mandatory electric reliability standards with which users, owners, and operators of the bulk electric power system, including Bonneville, are required to comply. These standards became enforceable on June 18, 2007, and compliance is monitored by the North American Electric Regulatory Corporation (NERC) and the regional reliability organizations.

Power Services—Capital
Funding Schedule by Activity
($K)

	FY 2025 Actuals	FY 2026 Estimate	FY 2027 Estimate	FY 2028 Estimate	FY 2029 Estimate	FY 2030 Estimate	FY 2031 Estimate
Associated Projects	263,108	265,000	310,395	314,491	307,196	309,913	310,744
Fish & Wildlife	37,997	53,218	66,988	64,094	123,950	47,250	33,200
AFUDC [1/]	22,055	20,002	20,295	20,498	-	-	-
Total, Power Services - Capital	**323,161**	**338,220**	**397,678**	**399,083**	**431,146**	**357,163**	**343,944**

[1/] Allowance for Funds Used During Construction (AFUDC) is an accounting concept used to recognize the cost of financing construction projects. It capitalizes the cost of borrowing money or using equity to fund new power plants, transmission lines, or other infrastructure, rather than expensing those costs as they occur.

Power Services—Capital

Overview

Under the Power Services – Capital category, there are two subcategories. **Associated Project** costs provide for direct funding of additions, improvements, and replacements of existing Corps and Reclamation hydroelectric projects in the Pacific Northwest. The FCRPS hydro projects produce a large portion of the electric power that is marketed by Bonneville.

Maintaining availability and increasing the efficiency of the FCRPS is critical to ensure the region has an adequate, efficient, economic, and reliable power supply. As noted earlier, the FCRPS represents about 80 percent of Bonneville's firm power supply and includes 31 operating federal hydroelectric projects with over 200 generating units. These projects have an average age of about 50 years, with some that exceed 60 years of age. Through direct funding and the cooperation of the Corps and Reclamation, Bonneville uses its U.S. Treasury borrowing authority and other sources to make investments needed to restore generation availability and improve efficiency, reducing demand on Corps and Reclamation appropriations for power-related investments.

These planned investments, included in the FY 2027 Budget estimates, will maintain the generation performance of the FCRPS.

Fish & Wildlife capital costs incurred by Bonneville are directed at activities that mitigate the impacts of the FCRPS on fish and wildlife resources. Bonneville uses a combination of capital and U.S. Treasury reimbursements to fund projects designed to increase juvenile and adult fish passage through the federal hydrosystem, to increase fish production and survival through construction and operation of hatchery, acclimation and fish monitoring facilities, and to protect wildlife and resident fish populations through land acquisitions and associated habitat maintenance. These capital projects support both Northwest Power Act and ESA priorities and are integrated under the umbrella of Bonneville's Fish & Wildlife Program and implemented consistent with the Council's Columbia Basin Fish and Wildlife Program (Council's Program) to efficiently meet Bonneville's responsibilities under the Northwest Power Act and other statutes to mitigate federal hydrosystem impacts to Columbia River Basin fish and wildlife.

Explanation of Changes

Bonneville's budget includes $397.68 million in FY 2027 for Power Services – Capital, which is an 18 percent increase from the FY 2026 forecasted level. The FY 2027 level allows additional work efforts while continuing to align with Bonneville's strategic asset management plans, which focus on the need for investment in hydroelectric system assets and investments necessary to implement actions associated with applicable Biological Opinions (BiOps), and other Columbia Basin fish and wildlife activities.
The FY 2027 budget increases the levels for Associated Projects by $45.40 million and increases the funding level for Fish & Wildlife by $13.77 million compared to FY 2026.

Bonneville markets available electric power to meet requested load while supporting the achievement of its vital responsibilities for fish and wildlife, energy conservation, renewable resources, and low-cost power in the Pacific Northwest region. Bonneville will continue to implement the following strategies to serve the region:

1. Bonneville coordinates its power operational activities with the Corps, Reclamation, NERC, regional electric reliability councils, its customers, and other stakeholders to provide the most efficient use of federal assets.
2. Ongoing work with the Corps and Reclamation is focused on improving the reliability of the FCRPS, increasing its generation efficiency and optimizing hydro facility operation.

3. Funding efforts to protect, mitigate, and enhance fish and wildlife affected by development and operation of federal hydropower projects in the Columbia River Basin, including fish species listed as threatened or endangered under the ESA and doing so in coordination with the Council, regional fisheries managers, and other federal agencies as appropriate or required by applicable law.
4. Bonneville's utility customers have been, and continue to be, a critical part of Bonneville's collaborative efforts to promote and foster the efficient use of energy.

The following external factors present the most significant risk and impact to overall achievement of the strategies listed above:

1. Continually changing regional economic and institutional conditions;
2. Competitive dynamics; and
3. Ongoing changes in the electric industry.

The following discuss budget specifics under two of the Power Services – Capital subcategories: Associated Projects and Fish & Wildlife Projects.

Associated Projects—Capital

Overview

Bonneville will work with both the Corps and Reclamation to reach mutual agreement on budgeting and scheduling capital improvement projects that are cost-effective and provide system- or site-specific enhancements, increase system reliability, or provide generation efficiencies.

The work is focused on improving the reliability of the FCRPS and on increasing its generation efficiency or capacity through turbine runner replacements, optimizing hydro facility operation, and new unit construction. Also, limited investments may be made in joint-use facilities that are beneficial to both the FCRPS operations and to other Corps and Reclamation project purposes.

Associated Projects
($K)

	FY 2026 Estimate	FY 2027 Estimate
U.S. Army Corps of Engineers Projects	229,000	254,139
Bureau of Reclamation Projects	36,000	54,834

Fish & Wildlife Projects—Capital

Overview

Bonneville continues to develop budgets for a suite of projects to mitigate the effects of the development and operation of the FCRPS on fish and wildlife. Bonneville's funding decisions embrace many of the management objectives and priorities in the Council's Program and continue to integrate ESA compliance as described in the National Oceanic and Atmospheric Association (NOAA) Fisheries' and U.S. Fish and Wildlife's (USFWS) FCRPS BiOps. Coordination continues among Bonneville, the Council, federal resource management agencies, states, Tribes, and others to support the projects that satisfy Bonneville's mitigation responsibilities.

Fish & Wildlife Projects
($K)

	FY 2026 Estimate	FY 2027 Estimate
Fish & Wildlife Projects	53,218	66,988

Bonneville intends to continue implementing the types of capital projects listed below. These projects are based upon the best available science and provide high priority mitigation and protection actions for fish and wildlife populations affected by the construction and operation of the FCRPS dams. Projects and facilities listed below deliver direct, on-the-ground benefits to both ESA listed and non-listed fish and wildlife throughout the Columbia River Basin and have been evaluated and coordinated with the Council, state, federal and Tribal fish and wildlife resource managers, local governments, watershed and environmental groups, and other interested parties to meet Bonneville's statutory obligations. Specifically, as capital construction projects, hatchery facilities typically go through the Council's three-step process, which includes development of a master plan, environmental compliance, ESA consultation, value-engineering analysis, and review by the Council's Independent Scientific Review Panel (ISRP).

The three types of fish and wildlife projects that Bonneville capitalizes are as follows:

1. Fish passage structures—Structures funded with capital that enhance fish access to habitat in the Columbia River Basin including but not limited to wells, ladders, screens, pumping, culverts, diversion (irrigation) consolidation, piping to reduce water loss, irrigation efficiencies (drip irrigation), lining of ditches (seepage reduction), removal of objects impeding fish passage or pushup dams, and construction-related habitat restoration.
2. Facility construction—Projects and activities relating to the construction, improvement, and replacement of fish hatcheries, including related satellite facilities (acclimation ponds and collection weirs). This may also include construction-related habitat restoration.
3. Land acquisition and stewardship—Land acquisition projects that protect, enhance, and maintain fish and wildlife habitat and provide credit to Bonneville, such as acres for wildlife or instream miles for resident fish, to fulfill the legal obligation of Bonneville to mitigate the impacts from construction and operation of the FCRPS.

New capital hatchery projects (enactment of expenditure authority is required) included in this budget include the following:

Spokane Tribal Fisheries Operations Center

This project will assist with the design and construction of a centrally located operation and storage facility to support multiple hatchery projects operated by Spokane Tribal Fisheries for Bonneville mitigation purposes. The facility will serve as the primary location for housing equipment, labs, and staff, allowing for increased operational efficiency and reduce redundancy in programmatic expenses.

Existing/ongoing projects (expenditure authority previously received) included in this budget include the following:

Klickitat Production Expansion

In 2008, the Klickitat River Master Plan was submitted by the Yakama Nation, reviewed by the ISRP, recommended with comments by the Council, and conditionally approved by Bonneville. The plan's original

goals were to protect and increase naturally producing populations of spring Chinook and steelhead and localize brood collection of harvest stocks (fall Chinook and coho), while protecting the biological integrity and the genetic diversity of indigenous fish stocks in the sub-basin. A component of the master plan was implemented in 2009, including the completion of upgrades to Lyle Falls Fishway and Castile Falls Fishway, and the construction of a new bridge at the Klickitat Hatchery. In July 2009, a new Klickitat Hatchery Complex environmental impact statement (EIS) was initiated to examine options for the development and operation of new production and supplementation facilities, acclimation alternatives, and additional upgrades to the existing hatchery facility. The Yakama Nation issued a revised master plan in July 2012, which provided updates to its fish management plans. Bonneville suspended the National Environmental Policy Act (NEPA) process while the Yakama Nation refined its proposal in response to site and budgetary limitations and comments on the draft EIS.

National Marine Fisheries Service (NMFS) completed the Mitchell Act EIS and BiOp, helping inform its funding responsibilities in the sub-basin. Bonneville negotiated a new scope of work with the Yakama Nation, and a revised master plan was submitted to the Council in 2017 and approved in 2018. The new scope of work targets design and construction activities for the expansion of the current spring Chinook program only—from 600,000 to 800,000 smolt—and converting to a wild broodstock collection program, as well as general water supply and water abatement upgrades. Bonneville completed the environmental assessment with a Finding of No Significant Effects and executed a three-way operations and maintenance agreement which affirms that NMFS will remain responsible for providing funding post-construction. Project design was completed, and construction was initiated in the first quarter FY 2025. Construction completion is estimated for the first quarter of FY 2027.

Mid-Columbia Coho Restoration—Trinity Acclimation Facility

The Mid-Columbia Coho Restoration proposal is scoped to re-establish naturally reproducing coho salmon populations in the Wenatchee River and Methow River sub-basins at biologically sustainable levels that also provide significant harvests. The biological objective to develop a mid-Columbia hatchery broodstock includes local adaptation to tributaries in the Wenatchee and Methow Basins and habitat restoration that will benefit coho as well as ESA-listed spring Chinook, steelhead, and bull trout. The fish programming originally included construction of a facility west of Leavenworth on the Wenatchee River near Natapoc Mountain for holding and spawning broodstock, incubating eggs, and rearing juveniles. The Yakama Nation since determined the site to be infeasible for construction, given water quality and budget constraints. In place of this facility, the Tribe continues to use space in existing facilities and capital funding has been directed toward construction of acclimation facilities, additional semi-natural ponds and standard acclimation facilities in the Wenatchee and Methow sub-basins. There is one final site to be completed: Trinity Acclimation. The phase one bridge replacement and road improvements will be in progress during the first quarter of FY 2026, to be followed by acclimation facility construction starting in the second quarter of FY 2026.

Kelt Reconditioning and Reproductive Success Evaluation Research

CRITFC proposed a facility to recondition female steelhead (kelts) after they have spawned. The fish will be held and fed until they have re-matured and then be released into the Snake River where they will contribute to the spawning run. The capital portion of the project is being constructed in the Snake River Basin, at the Nez Perce Tribal Hatchery in Idaho. Pursuant to the 2008 FCRPS BiOp and Supplemental FCRPS BiOps issued in 2010 and 2014, and consistent with the proposed action consulted upon in the 2020 CRS BiOp, Bonneville will implement the kelt reconditioning plan to improve the productivity of Snake River basin B-run steelhead populations that are listed for protection under the ESA. NOAA's analysis of prospective actions indicates that a combination of transportation, kelt reconditioning, and in-stream passage improvements (e.g., spill-flow modifications) could increase kelt returns enough to achieve a targeted 6 percent increase in the number of

returning Snake River B-run steelhead spawners to Lower Granite Dam. Construction began in FY 2024 and is estimated to conclude in the first quarter of FY 2026.

John Day Reprogramming and Construction at Prosser Hatchery

CRITFC proposed this project to improve in-place, in-kind hatchery production mitigating for the effects of John Day and The Dalles dams within the Zone 6 area in the mainstream Columbia River, from the base of McNary Dam downstream to The Dalles Dam. The Tribes, Corps, and Bonneville have proposed to site the project at Prosser Hatchery. Bonneville is funding the construction of new circular tanks utilizing water reuse systems and Corps will take over the O&M for the new infrastructure, which accommodates the reprogramming of hatchery fish. Design and environmental compliance for the project is complete and construction was initiated in the third quarter of FY 2025 and is estimated to be completed in the first quarter of FY 2027.

Columbia River Basin White Sturgeon Hatchery at Marion Drain Complex

This project, also proposed by CRITFC, mitigates the decline of the white sturgeon population caused by consistently poor recruitment upstream of Bonneville Dam. Bonneville is funding the construction of new and renovated infrastructure to produce 15,000-30,000 yearling white sturgeon per year. The final project will include the collection, holding, and spawning of broodstock, rearing of wild-spawned juveniles, and the acclimation of juveniles prior to release. The project is located at the Yakama Nation's existing Marion Drain Complex near Toppenish, Washington. The project team is completing planning and estimates initiating design and environmental compliance in the first quarter of FY 2026. Construction is estimated to occur from the first quarter of FY 2028 through the third quarter of FY 2029.

Shoshone Paiute Trout Hatchery

The Shoshone Paiute Tribes of the Duck Valley Reservation, Idaho, have proposed that Bonneville fund the purchase or construction of a trout hatchery. The Tribes would own and operate the hatchery to produce trout to stock the Duck Valley Reservation reservoirs. The hatchery would meet contemporary aquaculture standards and achieve fish production goals. The Tribes believe they can reduce federal reservoir stocking costs, some of which Bonneville currently pays on an annual basis. Design for the project has not begun and the expected start date is yet to be determined.

Construction-related habitat restoration projects that require capital funds in FY 2027 include the following:

Svensen Island

The Svensen Island Restoration Project would reconnect the 320-acre island, east of Astoria, Oregon, directly to the mainstream Columbia River to increase ecological function and provide refuge and rearing capacity for out-migrating juvenile salmon and steelhead. Specifically, the project would remove and lower approximately 1.5 miles of existing levee and remove approximately 100 pile dikes on the northern side of the island to provide unobstructed access to 40 acres of re-connected and newly excavated floodplain and tributary habitats for salmonids and lamprey. The Columbia Restoration Group is leading the project, in partnership with the Columbia Land Trust. This estuary project ranks high on the list of priorities in the estuary and will help to meet the proposed action consulted upon in the 2020 NOAA Fisheries BiOp for CRS Operations. This project requires the environmental compliance process be completed, which may impact implementation timeframes; the project is currently expected to start construction in FY 2026.

Nason Creek Floodplain Restoration Project

This restoration project includes removing 0.65 mile of state-managed highway (State Route 207) out of the Nason Creek floodway so that over 1.3 miles of high-priority stream habitat can be protected and restored as productive spawning and rearing habitat for endangered spring Chinook salmon and steelhead. This project also includes removing floodplain habitat fish passage impediments caused by State Route 207 and restoring connectivity of roughly 15 acres of floodplain habitat, including groundwater-fed side channels that are critical as salmonid habitat during times of thermal stress. Multiple Washington State Department of Transportation (WSDOT) Chronic Environmental Deficiency sites identified along State Route 207 will be fully removed from the Nason Creek corridor, three non-fish-passable culverts will be fully removed, and habitat restoration including the placement of 16 habitat wood structures and improvement and protection of nearly 2 miles of critical side channel rearing habitats will occur. In total, 33 acres of floodplain and stream corridor habitat will benefit from this project, which is anticipated to cost roughly $15 million over multiple years of project implementation.

Based on overlapping resource interests, and through the development of innovative Tribal-led partnerships, the Yakama Nation is working with WSDOT and the U.S. Forest Service to accomplish this project. Major implementation project phases include: Phase 1 (FY 2026)—creation and dedication of a new, 0.85-mile highway alignment on U.S. Forest Service-managed lands outside of the Nason Creek floodplain; Phase 2 (FY 2027)—stream and floodplain habitat restoration in the upper half of the project area that includes removal of the old 0.65-mile highway infrastructure from the Nason Creek floodplain; and Phase 3 (FY 2028)—stream and floodplain habitat restoration in the lower half of the project area, including on adjacent lands managed by Chelan County under the Nason Ridge Community Forest.

Riverside Road Project

Bonneville funds provided to the Federal Highway Administration (FHWA) under an Interagency Agreement (IAA 7600) will allow for the construction of an elevation increase to Riverside Road for approximately 0.75 mile within the existing floodplain of the USFWS Kootenai National Wildlife Refuge. This will allow for increased inundation of the floodplain to improve habitats for wildlife and fish. The raising of the roadway would further support the floodplain and river reconnection efforts to improve habitat conditions for ESA listed Kootenai White Sturgeon, bull trout, and other native fish and wildlife.

UmaBirch Conservation Easement Project

Bonneville is currently working with the Confederated Tribes of the Umatilla Reservation to design a stream and floodplain restoration on property planned to be protected by a Bonneville-funded conservation easement. Much of the instream and floodplain improvements would occur at the confluence of the Umatilla River and Birch Creek to benefit multiple life stages of salmonids and lamprey. Actions likely would include added complexity for 1 mile of the Umatilla River and 0.3 mile of Birch Creek; removal of 1.3 miles of agricultural berms and removal of 0.3 mile of Corps levee; reconnection of tens of acres (exact acreage TBD) of floodplain-rearing habitat; and the restoration of over 100 acres of riparian vegetation. The project would help implement the proposed action consulted upon in the 2020 NOAA Fisheries BiOp for CRS Operations and the project sponsor, the Confederated Tribes of the Umatilla Indian Reservation, has designated the project a high priority due to linkages with the Umatilla Habitat Program Objectives and Umatilla River Vision. The project is currently underway and is expected to completed in FY 2026.

Catherine Creek/Hall Ranch

This project is intended to improve off-channel rearing habitat complexity for Chinook, steelhead, and bull trout by restoring dynamic channel geomorphology and habitat-forming processes in Catherine Creek and Milk Creek. It would improve floodplain connectivity through removal and relocation of 1 mile of Washington State Route 203, and re-connecting 50 acres of the historic Catherine Creek free floodplain and channel network. The request is for a project-funding match of $3,294,616 from Bonneville to leverage additional project investment from other federal and state partners, for a total projected cost of $5,994,616. This project has multiple coordination points and requires the environmental compliance process be completed, which may impact implementation timeframes; the project is currently expected to start construction in FY 2027.

Chesnimnus Creek Restoration Project

The goals of this project are to improve fish passage connectivity and restore floodplain habitat for steelhead, lamprey, and other aquatic, amphibious, and terrestrial species by restoring dynamic channel geomorphology and habitat forming processes in Chesnimnus Creek. The project reach has been straightened, incised, and confined, resulting in a lack of floodplain connectivity. Combined with a homogenous channel bed and seasonally limited stream flow, the project reach presently provides little quantity and quality habitat value to juvenile steelhead. The project is intended to improve off channel rearing habitat complexity and floodplain habitat and passage connectivity through the restoration of hydraulic and riparian processes and the enhancement of beaver habitat. The project area is located on private land along Chesnimnus Creek abutting U.S. Forest Service land approximately 35 miles northeast of Enterprise, Oregon. Chesnimnus Creek is a designated Major Spawning Area for the Joseph Creek Steelhead Population, which is the most viable wild steelhead population within the Snake River Basin. The project will help Bonneville fulfill mitigation responsibilities under both the Northwest Power Act and Endangered Species Act.

Rocky Reach Kelt Facility

Yakama Nation has proposed expansion of an existing facility for the purposes of collecting and reconditioning localized steelhead kelt. Steelhead are currently collected at Rock Island Hydro bypass and trucked to Methow National Fish Hatchery for reconditioning. Localizing the reconditioning facility could improve sub-basin capture, collection and effectiveness of release. This project is still in negotiation for Bonneville funding.

Colville Acclimation Building Enclosures

The Colville Tribes operate Chief Joseph Hatchery to restore and enhance depleted runs of spring and summer/fall Chinook salmon for release into the Columbia and Okanogan rivers. Juvenile salmon are transferred from the hatchery and then reared, acclimated, and released to acclimation facilities. The Tribe has proposed construction of roof enclosures for the Omak and Riverside acclimation facilities. The enclosures are intended to keep ice-cover off the ponds and to allow picking of mortalities throughout the winter for improved pond hygiene and reduced occurrence of disease.

Colville Tribes Resident Fish Hatchery Expansion

Constructed to produce 50,000 pounds of trout annually, this facility is unable to meet all its annual spring stocking goals for Buffalo, North Twin, South Twin, and Rufus Woods lakes as identified in the 2020 Fisheries Management Plan. To meet annual stocking goals for these four lakes, the hatchery began contracting with a commercial net pen operator in 2010 to rear a component of the hatchery's Rainbow Trout in net pens located in Lake Rufus Woods. Poor net pen water quality conditions have consistently contributed to annual mortality

rates between 33-50 percent. The Confederated Tribes of the Colville Reservation is exploring the feasibility of expanding on-site hatchery rearing vessels to increase on-site production and reduce net pen rearing. The expansion would allow the hatchery to utilize clean, cool, pathogen-free water and intended to increase trout survival, helping meet stocking objectives identified in the management plan. In 2021, the Colville Tribe hired a licensed engineering firm to complete a conceptual design and construction cost estimates for a facility capable of producing 25,000 triploid rainbow trout at a maximum size of 2 pounds each. The documents produced will provide the Colville Tribes Fish and Wildlife Department with a plan and construction cost estimate that will assist in determining if the project should continue to the next phase. Design for the project has been completed and the expected construction start date is yet to be determined.

Chief Joseph Hatchery Water Quality Project

The Colville Tribes operate the Chief Joseph Hatchery to restore and enhance depleted runs of spring and summer/fall salmon Chinook salmon for release into the Columbia and Okanogan rivers. Current infrastructure/operational constraints are preventing the hatchery from achieving full production of 2.9 million Chinook smolts; Bonneville and Colville Tribal staff are developing a coordinated approach and plan to address water temperature and production issues at the hatchery. Design for the project has not begun and the expected start date is yet to be determined. Bonneville funded the construction of the Chief Joseph Hatchery pursuant to its 2008 Accord commitment with the Tribe; construction began in FY 2010, with fish production starting in 2013.

Umatilla Hatchery Facility and Acclimation Facilities

Bonneville funds the Oregon Department of Fish and Wildlife (ODFW) to operate Umatilla Hatchery and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) to operate acclimation facilities supporting the hatchery.

Congress originally authorized Bonneville expenditure authority for construction of the Umatilla Hatchery and acclimation facilities under P.L. 98-360, 98 STAT. 403, 415 (July 16, 1984). The Council recommended that Bonneville construct the Umatilla Hatchery, just east of the town of Irrigon, Oregon, and acclimation facilities on the Umatilla River, to mitigate for the loss of salmon and steelhead habitat and migration blockage resulting from the Columbia River System (CRS). Umatilla River anadromous fish had been largely extirpated in the early 1900s by irrigation dams, prior to construction of the CRS dams. Current hatchery production includes 810,000 spring Chinook, 600,000 fall Chinook, 500,000 coho, and 150,000 native summer steelhead.

Construction of the Umatilla Hatchery was completed in 1991 and cost $14 million. Bonneville built juvenile salmonid acclimation facilities at Minthorn, Imeques, C-mem-ini-kem, Thornhollow, and Pendleton locations, all within the Umatilla River basin from 1985 to 1999 to place juvenile fish back in the basin to imprint on the Umatilla River water, so that adult fish would return to their natal waters.

At the hatchery, the available water supply never met expected production levels, and water supply has continued to deteriorate over time. To preserve and improve fish production at the hatchery, Bonneville is exploring options to address the water supply issue. Contracting to assess the condition of the hatchery's primary Ranney water supply well is underway.

At the acclimation facilities, due to their locations and configurations, water intakes have experienced clogging from debris and ice, resulting in emergency releases of juvenile salmon and steelhead and poor survival to adulthood. Alternatives to the current facility intake configurations will be designed to address these issues. It appears costs of upgrades at the hatchery and acclimation sites will exceed the statutory threshold of $2.5 million and have an estimated life of 15 years or more, thus triggering the need to obtain expenditure

authority from Congress, prior to commencing construction, as required by 16 U.S.C. 839b(h)(10)(B) and amended by Section 307 of the FY 2012 Consolidated Appropriations Act, P.L. 112–74 125 STAT. 877. (Dec. 23, 2011). Congress originally authorized Bonneville expenditure authority for construction of the Umatilla Hatchery under P.L. 98-360, 98 STAT. 403, 415 (July 16, 1984).

Crystal Springs and Waterwheel Shoshone-Bannock Hatchery Facilities

The Tribes' proposal, originally named Crystal Springs Hatchery, included production of spring/summer Chinook and Yellowstone cutthroat trout, a resident fish, at the Crystal Springs location near the American Falls Reservoir in southern Idaho. In 2019, water quality limitations were confirmed rendering the location unsuitable for traditional smolt anadromous production and an alternative planning approach was initiated. In an effort to maintain production goals, a new location—Waterwheel Hatchery on the Portneuf River—has been identified for renovation, including a rearing, out-planting facility for up to 30,000 annually produced trout for a put-and-take Tribal fishery.

The facility would also be the location of a pilot adult Chinook broodstock grow-out program. These broodstock would provide eggs that would be planted in several watersheds, reared in eggboxes, and volitionally released with the goal of increasing the abundance of spring/summer Chinook returns to those drainages. If successful, the Shoshone-Bannock proposes future development of the Crystal Springs site for the anadromous program. Crystal Springs water quality would not be an impediment to anadromous production with this strategy, because eggs would not remain on site long enough to acclimate to that water, but instead would acclimate to the water quality where the eggboxes were placed. The facilities are sponsored by the Shoshone-Bannock Tribes, which are expected to operate and manage them once complete. The project is estimated to progress to design in FY 2026 and construction in late 2027.

Power Services—Capital: Activities, Milestones and Explanation of Changes
($K)

	FY 2026 Estimate	FY 2027 Estimate	Explanation of Changes FY 2027 vs FY 2026 Estimate
Power Services – Capital	**338,220**	**397,678**	**+59,458/ +18%**
Associated Projects	265,000	310,395	+45,395/ +17%
	Milestones – Expected completion of the following projects: McNary 3rd Street Replacement McNary Spillway Lifting Auxiliary Beam Palisades Generator CO2 Fire Suppression Upgrade The Dalles Intake Gantry Crane The Dalles Transformers T9-T11 Interim Repair Chief Joseph Exciters Replacement Chief Joseph Intake Gantry Crane Chief Joseph Units 17-27 Switchgear Replacement Cougar Spillway Gates Dexter Service Building HVAC Modernization Grand Coulee Powerplant Battery Replacement Grand Coulee Underground Feeders Replacement Grand Coulee Transformer Digital Gas Analyzers Installation Hungry Horse Audio Visual Infrastructure Upgrade Ice Harbor Energy Imbalance Market Metering Additions Ice Harbor Units 1-3 Turbine Runner Design and Replacement Ice Harbor Units 1-3 Stator Winding Replacement	Milestones – Expected completion of the following projects: Chief Joseph 480V switchgear Chief Joesph Upgrades for Station Service Units Chief Joseph Power Bus Chief Joesph Powerhouse Sump Pump and Controls Libby Unit 6 Libby Generation Data Acquisition Control System (GDACS) Bonneville 1 Digital Governors Bonneville 1 Trashracks Bonneville Generation Step Up Transformers Bonneville Spillway Gate Repair and Storage Pits The Dalles Intake and Tailrace Crane Rails The Dalles Oil Accountability McNary Machine Shop Temporary Roof Repair McNary Digital Governor Upgrade McNary Exciters Upgrade McNary Governor Mechanical System Upgrade McNary Powerhouse Control System Upgrade McNary Transformer Oil Leak Repair Ice Harbor Powerhouse Service Bay Space Utilization Lower Monumental Intake Gate Rehabilitation	The increase reflects additional work efforts while continuing to align with Bonneville's strategic asset management plans.

	FY 2026 Estimate	FY 2027 Estimate	Explanation of Changes FY 2027 vs FY 2026 Estimate
	Black Canyon Dam Trash Rake System Bonneville 1 Headgate Repair Pit Rehabilitation Bonneville 1 Spillway Rock Mitigation Bonneville 2 Bradford Island Service Building Switchgear Upgrade Bonneville 2 Tailrace Gantry Crane John Day Turbine Pit Pumps Little Goose Stilling Basin Sediment Removal Little Goose Unit 3 Hub Shaft Seal Repair Little Goose Unit 5 Rotor Frame and Bracket Repair Libby Sluice Gate and Cylinder Rehab Libby System Control Console Libby T1 Transformer Replacement Lower Monumental Direct Current (DC) System and Low Voltage (LV) Switchgear Upgrade Lost Creek Plant Automation Lower Granite Direct Current (DC) System and Low Voltage (LV) Switchgear Upgrade Lower Granite Generator Step Up (GSU) Transformers Repair and Digital Gas Analyzers Installation	Lower Monumental Isolated-Phase Bus Upgrade McNary Spillway Gate Dogging Mechanism Repairs Grand Coulee Left and Right Powerhouse Cyclops Semi-Gantry Crane Replacement Anderson Ranch Turbine Runner Replacement	
Fish & Wildlife	**53,218**	**66,988**	**+13,769/ +26%**
	Milestones – Continuing implementation of the Program, BiOps and applicable agreements.	Milestone – Continue implementation of the Program, BiOps and applicable agreements.	Fish & Wildlife will continue long-term, planned efforts to reshape funding necessary to implement the BiOps,

	FY 2026 Estimate	FY 2027 Estimate	Explanation of Changes FY 2027 vs FY 2026 Estimate
			applicable agreements related to Columbia River Basin fish and wildlife activities.

Transmission Services—Capital
Funding Schedule by Activity
($K)

Transmission Services - Capital	FY 2025 Actual	FY 2026 Estimate	FY 2027 Estimate	FY 2028 Estimate	FY 2029 Estimate	FY 2030 Estimate	FY 2031 Estimate
Main Grid	77,263	33,059	324,709	291,226	182,851	171,314	160,986
Area & Customer Services	70,417	134,295	140,000	131,600	95,400	92,302	89,604
Upgrades & Additions	153,071	217,197	302,848	181,439	106,694	103,796	96,404
System Replacements	446,103	516,872	535,292	587,778	507,818	519,414	566,575
Projects Funded in Advance (PFIA)	26,995	36,071	30,000	30,000	30,000	30,000	30,000
Capital General & Administrative (G&A)/Indirects [1/]	176,054	182,225	209,744	211,341	173,993	178,316	182,749
Total, Transmission Services - Capital	**949,904**	**1,119,720**	**1,542,593**	**1,433,384**	**1,096,756**	**1,095,142**	**1,126,318**

[1/] Capital support service costs that are not allocated to capital categories.

Transmission Services—Capital

Overview
Transmission Services operates and maintains more than 15,000 circuit miles of high-voltage transmission in the Pacific Northwest. Transmission Services provides funding for all additions and upgrades ("expand" investments), and replacements ("sustain" investments) to the Bonneville transmission system, resulting in reliable service to Northwest generators and transmission customers. The Bonneville transmission system also facilitates the delivery of power under sales and exchange agreements to and from the Pacific Northwest Region. The Transmission Services Capital Program is structured with a balanced focus on expand and sustain investments.

In addition to replacing aging and obsolete equipment, Transmission Services continues to make significant infrastructure improvements and additions to the system to assure continued reliable transmission in the Northwest. These improvements and additions will help the Bonneville transmission system continue to comply with national reliability standards and remove constraints that limit economic trade or the ability to maintain the system. Some of the proposed Transmission Services projects may be funded through Bonneville lease-purchase agreements. The lease-purchases obligate Bonneville to make expenditures to acquire the use of the related facilities and are identified on an as-needed basis. Bonneville may also make related expenditures to facilitate lease-purchase opportunities.

Strategic Asset Management
Transmission Services' efforts are coordinated through Transmission's Strategic Asset Management Plan (SAMP) development. Based on Bonneville's strategic goals, Transmission Services implements integrated, detailed asset management plans to guide the following activities:

1. Improvements to system adequacy, reliability, and availability. These projects address multiple challenges, such as integration of variable energy resources, the need to relieve several congested transmission paths, the challenge to keep up with growing energy demands, and the need to meet changing regulatory and customer requirements.
2. An open access policy in support of competitive markets for load and generation.
3. Replacement of aging assets, which is vital to the reliability of the existing transmission system. To that end, Transmission Services has developed the following asset programs:
    a. Steel Lines—Transmission lines with steel structures including footings, insulators assemblies, vibration dampers, grounding systems, conductor, ground wire.
    b. Wood Lines—Transmission lines with wood structures including cross arm systems, insulator assemblies, vibration dampers, grounding systems, conductor, ground wire.
    c. Rights-of-Way—Real property including land parcels, easements, use right, access roads.
    d. AC Substations—Substations managing alternating current (AC), including transformers, reactors, shunt capacitors, power circuit breakers, circuit switchers, series capacitors, disconnect switches.
    e. Power System Controls and System Telecommunications—Control and communication equipment including Supervisory Control and Data Acquisition (SCADA), transfer trips, fiber, communications, telecommunications transport, Remedial Action Schemes (RAS).
    f. System Protection and Control—Control equipment including relays, control houses, meters.
    g. DC Substations—Celilo direct current (DC) converter station, static VAR compensators, DC control systems.
    h. Control Centers—Various control equipment and software.
    i. Tools and Equipment Acquisition Program (TEAP)—tools, equipment, fleet.
    j. Facilities—Non-electric facilities including warehouses, operational structures, hangar, and maintenance centers

The following external factors present the strongest impact to overall achievement of Transmission Services' asset management goals:

- Competitive dynamics including long-term regional resource adequacy, transmission availability and reliability combined with a mix of generation resources and potential load impacts.
- Ongoing regulatory and technology changes in the electric industry.
- Increased physical security and cyber-security attacks.
- Increasing material costs and lead times.
- Workforce talent acquisition and retention, which continues to be challenging to meet system and customer needs.

The following text discusses expansion investments first, following by "sustain" (maintenance) investments.

Expand Investments

Expand (or expansion) investments continue to make significant infrastructure improvements and additions to the Bonneville transmission system to ensure reliable transmission operations in the Northwest and fall into two categories:

1. Internally driven expansion requests, which are derived from system engineering studies, technology innovation research, system operations and maintenance functions, and system event analysis.
2. Externally driven expansion investment requests, which are derived from governmental initiatives and regulations, customer demand, and the interconnection/integration of customer load service and generation needs.

These investments are further categorized into:

1. **Main Grid—**System investments affecting the major interties or internal paths and flowgates that transfer bulk power across the system.
2. **Area & Customer Service—**System investments related to geographical load service areas.
3. **Upgrades & Additions**—Upgrades are system investments that replace existing assets to increase capacity, reliability, or functionality, while additions are net new assets added to the system.
4. **Projects Funded in Advance (PFIA)—**Expand system investments that are requested, and funded in advance, by customers.

The remainder of the projected increase in generation interconnection requests and corresponding increase in transmission demand is the result of the Renewable Portfolio Standard (RPS) and other legislation enacted by Oregon and Washington that require retail utilities to acquire more than 8,000 MW of new generation resources in the Northwest by 2025, some of which will connect to Bonneville. Exports of power from the Northwest to California are currently limited by California laws to 2,000-2,500 MW. If California chooses to allow more exports from the Northwest, the exports will be limited to about 6,000 MW by the ratings of the physical infrastructure between the Northwest and California. Bonneville could possibly expect another 1,000 to 2,000 MW to connect to Bonneville's system in that event. Also in the Bonneville transmission interconnection request queue is approximately 2,500 MW of natural gas-fired generation.

See the Power Services – Capital section for information on proposals expected to provide generation in the FCRPS and increase transmission demand.

Sustain Investments

Sustain investments (identified as **System Investments** in the table) are made to maintain the health of the existing infrastructure to ensure reliable transmission in the Pacific Northwest. These investments enable continued compliance with national reliability standards, replacement of aging and obsolete equipment, the removal of constraints that limit economic trade or the ability to maintain the transmission system. Acknowledging that the rate of asset replacements needs to increase, Transmission Services has been working to ramp up the Sustain budget since FY 2024 and will continue a ramp up through FY 2027.

Transmission Services' sustain program asset programs include:

1. Steel Lines—Transmission lines with steel structures including footings, insulators assemblies, vibration dampers, grounding systems, conductor, ground wire.
2. Wood Lines—Transmission lines with wood structures including cross arm systems, insulator assemblies, vibration dampers, grounding systems, conductor, ground wire.
3. Rights-of-Way—Real property including land parcels, easements, use right, access roads.
4. AC Substations—Substations managing AC current including transformers, reactors, shunt capacitors, power circuit breakers, circuit switchers, series capacitors, disconnect switches.
5. Power System Controls and System Telecommunications—Control and communication equipment including SCADA, transfer trips, fiber, communications, telecommunications transport, RAS.
6. System Protection and Control—Control equipment including relays, control houses, meters.
7. DC Substations—Celilo DC converter station, static VAR compensators, DC control systems.
8. Control Centers—Various control equipment and software, including the Vancouver Control Center construction.
9. Tools and Equipment Acquisition Program (TEAP)—Tools, equipment, fleet.
10. Facilities—Non-electric facilities including warehouses, operational structures, hangar, and maintenance centers.

Explanation of Changes

Bonneville's budget includes $1,542.59 million in FY 2027 for Transmission Services – Capital needs, which is a 37 percent increase from the FY 2026 forecasted level. The FY 2027 budget increases the funding levels for Main Grid by $291.7 million, Area & Customer Service by $5.7 million, Upgrades & Additions by $85.7 million, System Replacements by $18.4 million, and Transmission G&A/Indirect by $27.5 million. Funding decreases for PFIA by $6 million.

The following pages discuss budget specifics under the six Transmission Services subcategories noted above: Main Grid, Area & Customer Services, Upgrades & Additions, System Replacements, and PFIA.

Main Grid

Overview
Bonneville's strategic objectives for Main Grid projects are to ensure compliance with the NERC and WECC reliability criteria, provide voltage support, provide a reliable transmission system for open access, and provide for relief of transmission system congestion. During this budgeting period, the planned program will provide transmission reinforcement and voltage support to major load areas that are primarily west of the Cascade Mountains.

Main Grid
($K)

FY 2026 Estimate	FY 2027 Estimate
33,059	324,709

Area & Customer Service

Overview
Bonneville's strategic objective for Area & Customer Service projects is to ensure that Bonneville meets reliability standards and contractual obligations to its load service areas.

Area & Customer Service
($K)

FY 2026 Estimate	FY 2027 Estimate
134,295	140,000

Continued investments in Area & Customer Service assets program includes preliminary engineering and design for miscellaneous facilities required to meet contractual obligations and maintain reliable service for Bonneville's service area.

Upgrades & Additions

Overview
Bonneville's strategic objectives for Upgrades & Additions are to replace communications and controls with needed newer technology, including fiber optics, to maintain or enhance the capabilities of the transmission

system, to implement special remedial action control schemes to accommodate new generation and mitigate immediate operational and market-constrained paths, and to support communications, among other proposals.

Upgrades & Additions
($K)

FY 2026 Estimate	FY 2027 Estimate
217,197	302,848

During this budget period, Bonneville will complete design, material acquisition, construction, and activation of several fiber optics facilities to provide bandwidth capacity and high-speed data transfers to eventually replace microwave analog radios, which are technologically obsolete and nearing the end of their useful life. Temporarily, in some areas, excess dark fiber capacity is being offered for a term to telecommunications providers or to public entities such as public utilities, schools, libraries, and hospitals, providing them access to high-speed telecommunication services as a public benefit.

System Replacements

Overview
Bonneville's strategic objectives for the Sustain Program are to replace high-risk, obsolete, and maintenance-intensive facilities and equipment and to reduce the chance of equipment failure by: 1) replacing high voltage transformers and power circuit breakers which are at or near the end of their useful life; 2) replacing risky, outdated and obsolete control and communications equipment and systems, including mandated replacements due to legislation; and 3) replacing all other existing high-risk equipment and facilities affecting the safety and reliability of the transmission system.

System Replacements
($K)

FY 2026 Estimate	FY 2027 Estimate
516,872	535,292

Projects Funded in Advance

Overview
The PFIA subcategory includes those facilities and/or equipment where Bonneville retains control or ownership but which are funded either in total or in part by a third party. These projects may be classified as either Expand or Sustain. PFIA includes generation and line/load interconnections in accordance with Bonneville's Open Access Transmission Tariff (OATT), as well as non-tariff projects.

Projects Funded in Advance
($K)

FY 2026 Estimate	FY 2027 Estimate
36,071	30,000

Grid Expansion & Reinforcement Portfolio (GERP)

Overview
Included in the Transmission Services Capital estimates above are the GERP projects. Bonneville's generating and transmission portfolio consists primarily of emissions-free sources and is the backbone of an electricity system that is relied on by tens of millions of people throughout the Western United States. DOE estimates that the Pacific Northwest will need to add 56 percent more transmission capacity by 2040. The Council calculates the region will need 3,500 MW of new generation by 2027 and an additional 14,000 MW by 2040.

Grid expansion and reinforcement projects include:

Cross Cascades North: Schultz – Raver Reconductor
- FY 2026. Continue design
- FY 2027. Continue design

Cross Cascades South: Big Eddy – Chemawa 500kV Rebuild
- FY 2026. Continue design
- FY 2027. Continue design

Raver Paul: Chehalis – Cowlitz Tap 230kV Rebuild
- FY 2026. Complete design and begin construction
- FY 2027. Construction

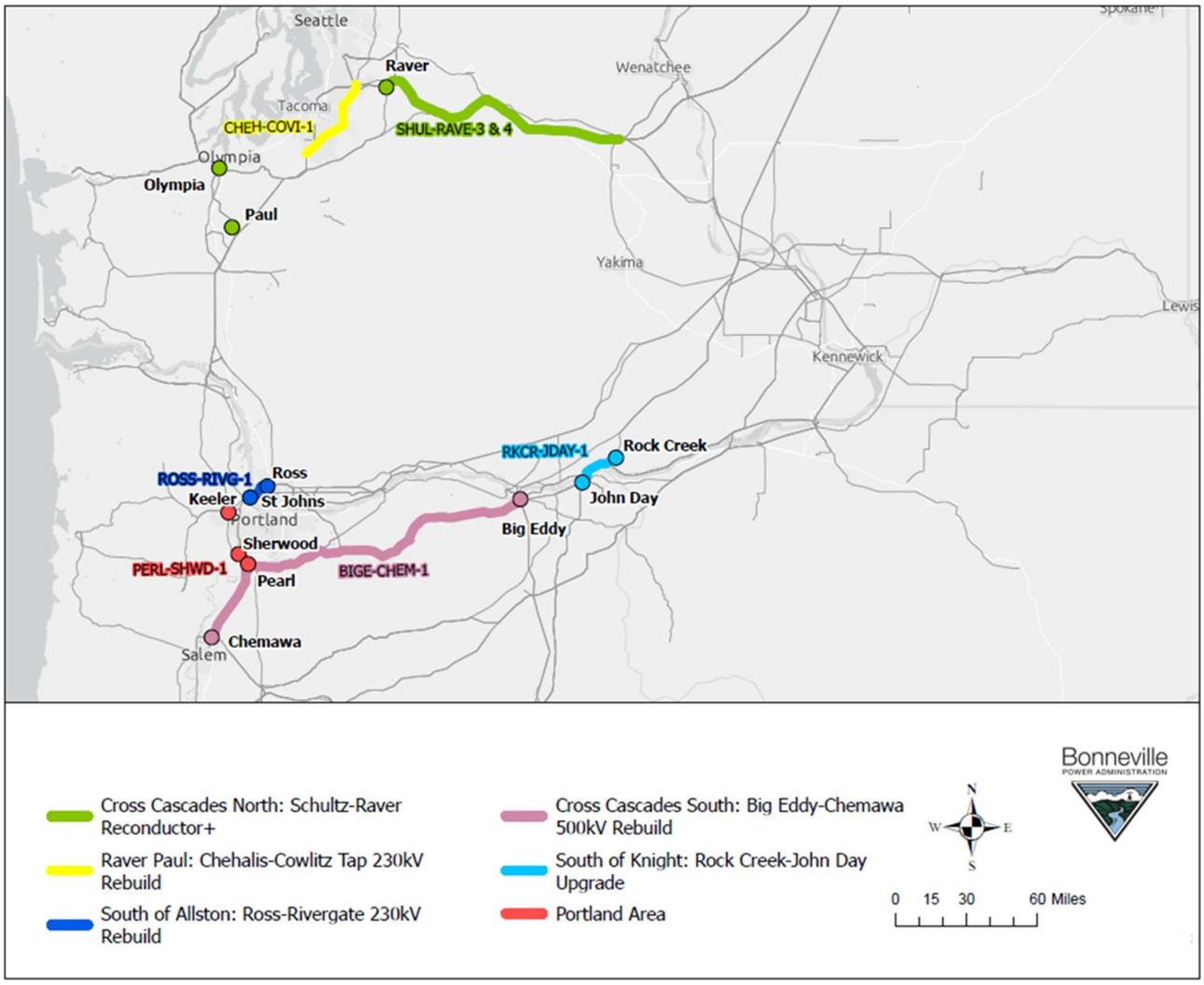
South of Knight: Rock Creek – John Day Upgrade
- FY 2026. Complete design and begin construction
- FY 2027. Construction

South of Allston: Ross – Rivergate 230kV Rebuild
- FY 2026. Continue design
- FY 2027. Continue design

Portland Area
- FY 2026. Phase 2 complete construction, Phase 3 begin construction
- FY 2027. Phase 3 construction

The map in Figure 1 shows the location of the above projects.

Figure 1. Location of Six GERP Projects



Buckley Rebuild

- FY 2026. Complete design, begin construction
- FY 2027. Construction

La Pine – Bonanza

- FY 2026. Continue scoping
- FY 2027. Design and construction

West of Boardman/Sixmile

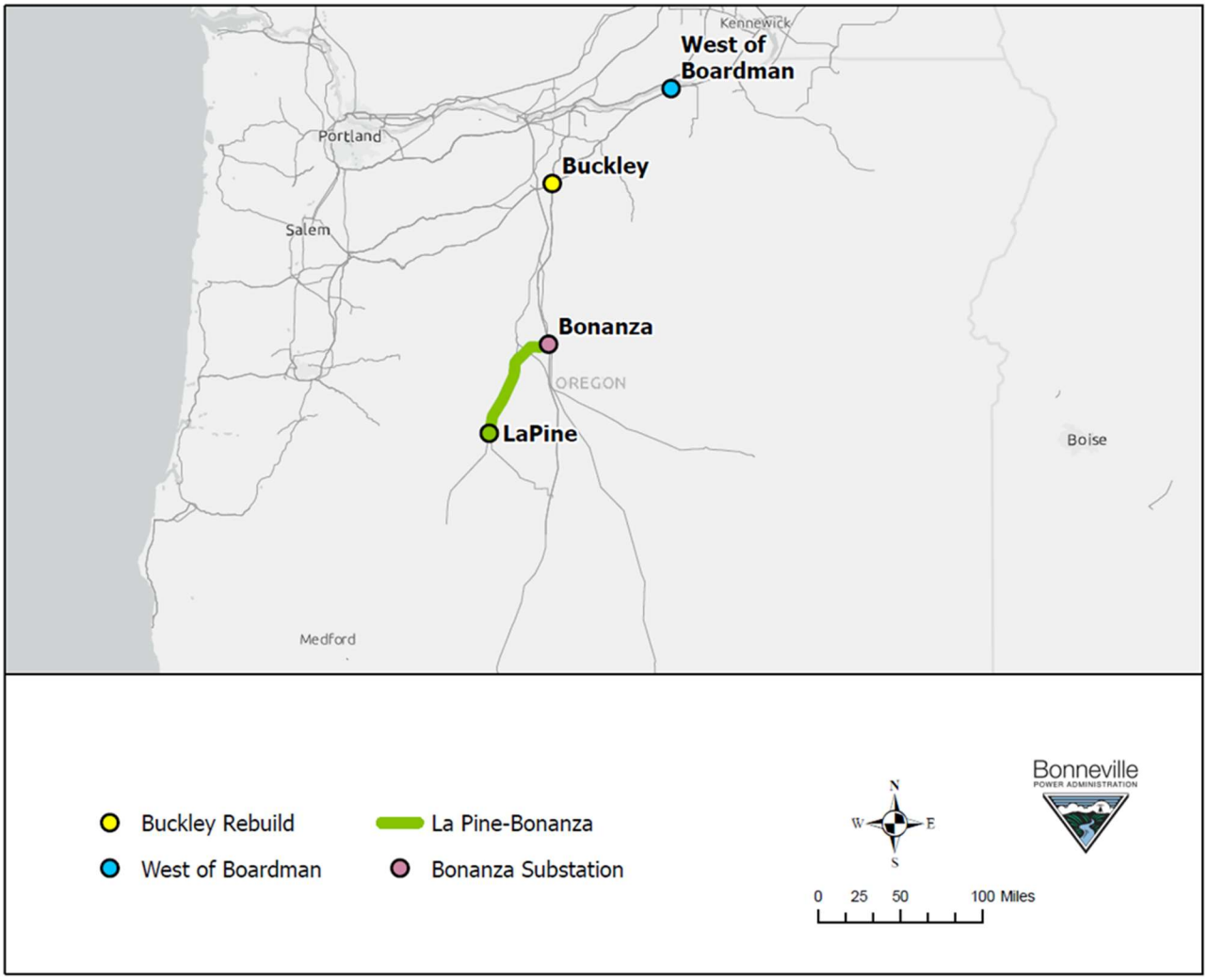
- FY 2026. Complete design, begin construction
- FY 2027. Construction

Bonanza Substation

- FY 2026. Complete scoping, begin design
- FY 2027. Design and Construction

The map in Figure 2 shows the location of the above four projects.

Figure 2. Location of Four GERP Projects



Capital Expenditures
Funding Schedule by Activity
($K)

Capital Expenditures	FY 2025 Actual	FY 2026 Estimate	FY 2027 Estimate	FY 2028 Estimate	FY 2029 Estimate	FY 2030 Estimate	FY 2031 Estimate
Transmission Services Revenue/Reserves Financing	55,000	55,000	125,000	125,000	140,000	140,000	155,000
Power Services Revenue/Reserves Financing	34,000	39,000	43,000	44,000	47,000	39,000	38,000
Total, Capital Expenditures	**89,000**	**94,000**	**168,000**	**169,000**	**187,000**	**179,000**	**193,000**

Capital Expenditures

Overview
Capital Expenditures provide revenue and reserves financing to Bonneville, which it includes in its rates funds to finance a portion of its capital investments, known as revenue financing. Prior to the BP-24 rate case, revenue financing had been included intermittently. In FY 2022, Bonneville adopted the Sustainable Capital Financing Policy, which requires each business unit to raise sufficient funds through rates to pay for 10 percent of its annual capital spending, with the objective of achieving at least a 60 percent debt-to-asset ratio by FY 2040. If a business unit is not on track to achieve this target, the amount of revenue financing may be raised to 20 percent of its capital spending.

The funds raised for revenue financing are not tied to a specific capital project. Instead, they are available to pay for any of BPA's capital investments. These funds may be redirected to support Bonneville's financial liquidity needs if a rate surcharge or cost recovery adjustment clause (CRAC) rate adjustment is triggered within a rate period.

Transmission Services Revenue/Reserves Financing
($K)

FY 2026 Estimate	FY 2027 Estimate
55,000	125,000

Power Services Revenue/Reserves Financing
($K)

FY 2026 Estimate	FY 2027 Estimate
39,000	43,000

Capital Information Technology & Equipment
Funding Schedule by Activity
($K)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Estimate	FY 2028 Estimate	FY 2029 Estimate	FY 2030 Estimate	FY 2031 Estimate
Total, Capital IT & Equipment	3,766	27,299	22,320	26,781	25,737	23,791	24,885
Total, Capital Information Technology (IT) & Equipment	**3,766**	**27,299**	**22,320**	**26,781**	**25,737**	**23,791**	**24,885**

Capital Information Technology & Equipment

Overview
Capital Information Technology (IT) & Equipment provides for the acquisition of both general and dedicated special purpose capital information technologies, and acquisition of special-use capital and IT equipment in support of Bonneville's strategic objectives. This category also includes Bonneville's ongoing efforts to operate as a highly resilient organization able to anticipate, withstand, and effectively respond to disruptive events affecting it and its partners in the Northwest region. The four main areas of resiliency focus continue to include asset management, emergency management, crisis management, and continuity of operations.

Capital Information Technology & Equipment
($K)

FY 2026 Estimate	FY 2027 Estimate
27,299	22,320

Bonneville continues to move its IT infrastructure to a more efficient and resilient architecture. The FY 2027 Budget supports this effort. IT continues to practice active cost management by eliminating redundancies in tools and applications, establishing an agency-wide IT enterprise architecture supported by a standardized technical architecture, standardizing IT purchasing criteria, minimizing agency liabilities through stronger licensing processes and contracts, leveraging continuous improvement practices for IT project management, and maintaining an agency IT portfolio cost management strategy. Other planned investments include capital automated data processing (ADP) equipment (hardware and software) in support of asset life cycle replacement, support of capital software procurement and configuration for certain Bonneville programs, and consolidation and modernization of our primary data centers.

The IT estimates in this FY 2027 Budget under Capital IT & Equipment include enterprise-wide business support IT functions within the agency, except Transmission Services grid operations.
Continued investments in Capital IT & Equipment assets include the following.

Continuous Activity (*all years*)

- Capital system developments in support of:
  - Corporate IT projects
  - IT infrastructure projects

Capital Information Technology & Equipment:
Activities, Milestones and Explanation of Changes
($K)

	FY 2026 Estimate	FY 2027 Estimate	Explanation of Changes FY 2027 vs FY 2026 Estimate
Capital Information Technology & Equipment	**27,299**	**22,320**	**-4,979 /-18%**
	Milestones: Capital system developments in support of: • Corporate IT projects • IT Infrastructure projects	Milestones: Capital system developments in support of: • Corporate IT projects • IT Infrastructure projects	The decrease in costs reflects a reshaping of funding needs for investment in Capital Information Technology & Equipment.

Power Services—Operating Expense
Funding Schedule by Activity
($K)

	FY 2025 Actual	FY 2026 Estimate	FY 2027 Estimate	FY 2028 Estimate	FY 2029 Estimate	FY 2030 Estimate	FY 2031 Estimate
Production (including DBS)	1,334,437	1,283,314	1,348,430	1,371,118	1,190,069	1,212,519	1,287,616
Associated Projects	488,979	530,236	557,877	577,160	598,185	611,583	625,449
Fish and Wildlife	359,497	364,446	362,402	371,787	393,940	404,129	411,114
Residential Exchange Program [1/]	274,281	287,051	287,068	287,875	292,509	299,060	305,841
Northwest Power & Conservation Council	12,150	12,493	11,876	12,052	12,322	12,598	12,884
Conservation and Energy Services	150,403	124,515	131,794	142,727	145,924	149,193	152,575
Amort/Accr/Depr, Interest Expense, misc other [2/]	546,543	723,682	733,707	765,647	832,687	874,428	951,128
Total, Power Services – Operating Expense	**3,166,289**	**3,325,737**	**3,433,153**	**3,528,366**	**3,465,636**	**3,563,510**	**3,746,606**

[1/] Residential Exchange Program Settlement benefits were fixed through Sept. 30, 2028, pursuant to a settlement. Values beginning FY 2029 and beyond are placeholder values and do not reflect actual estimates of REP benefits BPA may be required to pay under law.

[2/] Reflects cost that are not allocated. These costs are part of the total operating expense as reported on BPA's Financials Statements in Annual Reports and Quarterly Reports.

Power Services – Operating Expense

Overview
This budget category contains six subcategories.

The **Production** subcategory includes certain Bonneville non-federal amortization (including Energy Northwest amortization), O&M costs for federal base power system generation resources (including CGS, business operations, and short- and long-term power purchases[1]), acquisition of conservation, marketing of power, and oversight of the FCRPS hydroelectric projects and CGS. Bonneville develops power products and services to meet the needs of Bonneville's wholesale customers and acquires power as needed.
The FY 2027 Bonneville Budget, including FY 2026 revisions, includes estimates of Section 2406 "direct" Bonneville "funding' for the Corps for its power function to facilitate FCRTS transmission permitting, rehabilitation, O&M and construction requested by Bonneville under its Section 2406 "direct funding" authority. Section 2406 of the National Energy Policy Act of 1992 clarifies that BPA can choose to provide BPA funds directly to the Corps and Reclamation to fund the power share of the agencies' power capital and operating expenditures in the FCRPS, and the Corps and Reclamation can accept and spend such funds.

The **Associated Projects** subcategory contains funding for O&M costs for the FCRPS hydroelectric projects, minor additions, improvements and replacements, and costs of Corps and Reclamation hydroelectric projects in the Pacific Northwest, which serve many purposes. All agencies emphasize efficient power production from existing facilities and improvement of the performance and availability of power generating units. Bonneville pays additional financing costs of the FCRPS facilities through its interest expense and capital transfer budget programs. Bonneville also provides direct funding to the USFWS for the O&M costs that are part of the USFWS's Lower Snake River Compensation Plan (LSRCP) hatcheries.

Bonneville's **Fish & Wildlife Program** provides for protection, mitigation, and enhancement of Columbia River Basin fish and wildlife adversely affected by the development and operation of the FCRPS. Bonneville satisfies its fish and wildlife responsibilities by funding projects and activities designed to be consistent with the NPCC's Program under the Northwest Power Act. Bonneville also implements, fish and wildlife actions addressing its responsibilities related to consultations under the ESA (see ESA discussion in the Power Services – Capital Overview section).

The **Residential Exchange Program (REP)** was created by Section 5(c) of the Northwest Power Act to extend the benefits of low-cost Federal power to the residential and small farm loads of Pacific Northwest retail electric utilities that have high average system costs. These benefits are passed directly to the consumers. Currently, the region's six investor-owned utilities (IOUs) and two of the region's consumer-owned utilities are actively participating in the REP. Payments under the REP are made to individual investor-owned utilities (IOUs) based on the difference between Bonneville's utility-specific Priority Firm (PF) Exchange rates and each utility's average system cost (ASC), times a utility's residential and small farm loads. ASCs are determined in accordance with Bonneville's 2008 Average System Cost Methodology (ASCM). Participating retail utility ASCs are established in a public process that occurs prior to and during Bonneville's power rate cases.

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[1] Including expenses associated with the use of power financial instruments to hedge Bonneville's exposure to market price risk and certain index sales contract provisions as permitted by Bonneville's internal power transacting risk management guidance.

Bonneville's utility-specific PF Exchange rates are determined each rate period. Payments to the IOUs are made monthly based on historical invoiced exchange loads and the terms of the settlement.

The **Northwest Power and Conservation Council** (Council) budget subcategory provides continued support of NPCC activities, as directed under the Northwest Power Act. The Council's major activities include the periodic preparation of a Northwest Conservation and Electric Power Plan (a 20-year electric energy demand and resources forecast and conservation program – known as the Power Plan) and the Council Fish and Wildlife Program. The Northwest Power Act directs Bonneville's funding of the Council, subject to certain limits based on forecasted Bonneville power sales, be included in Bonneville's annual budget to Congress. The inflation related provision in the FY 2026 Energy and Water Development Appropriations Act, relating to the funding formula for Pacific Northwest Regional Council operations, will be reflected in the FY 2027 BPA Budget formulation process per the Administrator's direction. The cost of funding the Council is recovered through Bonneville's power rates.

Under the **Energy Conservation & Renewable Resources** subcategory, Bonneville's Energy Conservation program promotes the efficient use of energy in the loads of customers and supports Bonneville's acquisition of conservation as the region's lowest cost resource. Such actions will: 1) meet energy conservation targets; 2) achieve a least cost resource mix; 3) lessen the cost impacts of power purchases; 4) avoid the costs of ramping programs and infrastructure up and down; 5) extend the value of the FCRPS to customers; and 6) build the region's resource portfolio with energy conservation.

Bonneville's Energy Conservation program offers several ways for customer utilities to participate in energy conservation, consistent with Bonneville's statutory obligation. Program components include:

1. Standard offer conservation measures and custom projects, which customers use to conserve energy through such programs as residential weatherization; commercial lighting; heating, ventilation, and air conditioning (HVAC); industrial processes and lighting; and irrigated agriculture.
2. Third-party delivery programs, such as Comfort Ready Home and Energy Smart Industrial.
3. Programs to help regional Federal installations reduce energy use, including Federal hatcheries and irrigation districts, and to support Corps and Reclamation in their efforts to reduce energy use.
4. Conservation achieved independently through the market or through codes and standards, e.g., Momentum Savings.
5. Market transformation through the Northwest Energy Efficiency Alliance (NEEA).
6. Exploring integration of demand-side management, distributed generation and other leading-edge technologies which help manage peak loads.

Bonneville also provides research, evaluation, contract support, NEEA support, and emerging technology development. Additionally, customers perform self-funded conservation.

Explanation of Changes

Bonneville's budget includes $3,433 million in FY 2027 for Power Services operating expenses, which is an increase of 3.2 percent over the FY 2026 forecasted level. The FY 2027 Budget increases the level of funding for Production by $65.1 million, Associated Projects costs by $27.6 million, and Energy Conservation & Renewable Resources by $7.3 million, and Residential Exchange by $17 thousand. The budget decreases the level of funding for Fish & Wildlife by $2 million and the Council by $617 thousand.
The following pages discuss budget specifics under each of the six Power Services subcategories.

Production

Overview
Under the Production subcategory are three budget areas.

Production
($K)

FY 2026 Estimate	FY 2027 Estimate
1,283,314	1,348,430

Power Purchases includes power purchased to cover power supply obligations as well as balancing loads with generation from the hydro system. These power purchases can be made in the form of long-term purchases to meet Bonneville's contract obligations to its utility and other customers based on long-term planning requirements or they can be made within the year due to the monthly shape of the customers' loads and the monthly shape of the hydroelectric generation. Also, power purchases can be made within the month and within the day to fill temporary shortages due to fluctuations in the hydro system capability and in Bonneville's load.

Power Scheduling/Marketing relates to the scheduling and marketing (buy/sell) of electric energy with Bonneville's customers and the Pacific Northwest's interconnected utilities. Scheduling includes Power Services' implementation of physical and memo power schedules and associated transmission schedules, implementation of Electronic Tagging (ETag) in accordance with NERC and FERC, and implementation of electronic scheduling.

The third budget area is the **Columbia Generating Station (CGS).** Bonneville includes the project capability of CGS, a non-federal nuclear power plant, in the marketing of federal power to meet Bonneville's long term firm power supply obligations. CGS is on a 24-month fuel and outage cycle.
Operating expenses in Production include the following:

Continuous Activity (*all years*)

- Provide oversight of all power supply contracts and related projects from which Bonneville acquires generation capability to ensure that all Bonneville approval rights are protected; coordinate, communicate, and administer agreements, issues, and programs between Bonneville and project owners.
- Provide wind resource integration services for wind generation.
- Power purchases.
- Power scheduling/marketing.
- Provide oversight of all contracts signed to date. Pursue cost-effective means to mitigate capacity demands associated with interconnecting large amounts of variable resource into the Bonneville system.
- Pursue acquisition of additional cost-effective generation to meet load growth.
- Provide oversight on the wind resource integration services currently purchased by public power customers and offer additional renewable resource shaping services to such customers using variable resource generation to serve their load.

Associated Projects

Overview
Under Associated Projects, funds are budgeted to support FCRPS project costs and work to strengthen interagency and regional relationships to improve project performance and supporting functions, and to better understand project resource requirements and costs. This helps to maintain FCRPS reliability and system performance, as well as to attain Bonneville's strategic business objectives.

Associated Projects
($K)

FY 2026 Estimate	FY 2027 Estimate
530,236	557,877

Continued investments in Associated Projects include the following:

Continuous Activity (*all years*)
- Reclamation—continue direct funding of Reclamation O&M power activities.
- Corps—continue direct funding of Corps O&M power activities.

Fish & Wildlife Projects

Overview
As discussed at length in the Fish & Wildlife Projects – Capital section of this document, Bonneville implements a mature Fish & Wildlife program consistent with Council's program measures developed from recommendations made by the region's fish and wildlife management agencies and Tribes. Several recent Council reviews have resulted in additional fish and wildlife project recommendations to Bonneville. In coordination with the Council, Bonneville reviews new and on-going projects for consistency with the Council's program and purposes of the Northwest Power Act. Bonneville reviews and resets project-specific funding commitments annually, including for projects related to applicable BiOps and other agreements. Bonneville informs its funding decisions with the management objectives and priorities in the Council's program (including ISRP reviews) as it implements actions necessary to fulfill ESA and other responsibilities. Regular coordination on implementation priorities continues among Bonneville, the Council, federal resource management agencies, states, Tribes, and others.

Fish & Wildlife
($K)

FY 2026 Estimate	FY 2027 Estimate
364,446	362,402

Continued investments in Bonneville's Fish & Wildlife Program include the following:

Continuous Activity (*all years*)
- Anadromous Fish: Continue implementing both ongoing and new projects that support ESA-listed species and other measures called for under applicable BiOps, the Washington Estuary Agreement, the Kalispel Agreement, the Willamette and Southern Idaho agreements, and Accords with the Coeur

d'Alene Tribe and Spokane Tribe of Indians. Prioritize projects that address the factors that contribute most to mitigation success and that fulfill Bonneville's responsibility for mitigating the impacts from the FCRPS. Implement and develop activities that protect and enhance tributary and estuary habitat, improve mainstream habitat, reduce potentially harmful hatchery practices on ESA-listed populations, and contribute to sustainable fisheries.

- Resident Fish: Implement activities to mitigate the impacts of the CRS on lamprey, sturgeon, and bull trout and promote the reproduction and recruitment of Kootenai River white sturgeon. These activities have been proposed and consulted upon in the 2020 USFWS CRS BiOp and the Council's program.
- Resident Fish and Wildlife: Support mitigation activities for resident fish to offset anadromous fish losses in areas of the basin where federal dams have blocked anadromy (referred to as "substitution" in the Council's program). Mitigate for reservoir power operation impacts on resident fish and wildlife by seeking projects that benefit both simultaneously. Those resident fish habitat acquisition projects that meet Bonneville's capitalization policy will be funded under the capital portion of Bonneville's Fish & Wildlife budget and credited for both fish and wildlife where appropriate.
- Wildlife: Use existing Bonneville policies to continue the current effort to mitigate wildlife in a manner consistent with the Council's program and fulfill commitments in wildlife agreements such as the Kalispel Agreement, Willamette Wildlife Agreement, and Southern Idaho Wildlife Agreement. Those wildlife projects that meet Bonneville's capitalization policy will be funded under the capital portion of Bonneville's Fish & Wildlife budget and credited against both wildlife and fish obligations according to Bonneville's crediting policy and applicable mitigation contracts.

Residential Exchange Program; Council; Energy Conservation & Renewable Resources

Overview

Detailed descriptions of these three budget subcategories are shown in the Activities, Milestones, and Explanation of Changes table below.

Residential Exchange, Council, and Energy Conservation & Renewable Resources ($K)

FY 2026 Estimate	FY 2027 Estimate
424,058	430,737

Continued investments in these three subcategories include the following:

Residential Exchange Program (REP)

- Includes forecasted REP benefits based on the 2012 REP Settlement.

Northwest Power & Conservation Council

- Continued support of Council activities, as directed under the Northwest Power Act, including regional power plan development and maintenance, and fish and wildlife program activities.

Energy Conservation & Renewable Resources

- Conservation purchases: Provides programmatic savings reimbursements and energy conservation incentives to Bonneville customers to purchase conservation savings. This includes performance payments and Energy Smart Reserved Power payments for federal installations, fish hatcheries and irrigation districts.

- Conservation infrastructure: This includes all support for programs and operations, including third-party program implementation, contract support, market research (Momentum Savings research), evaluation, and emerging technology research.
- Market transformation: Supports Northwest Energy Efficiency Alliance's (NEEA's) market transformation initiatives. NEEA identifies barriers and opportunities to increase the market adoption of conservation by leveraging its regional partnerships.

Power Services: Activities, Milestones and Explanation of Changes
($K)

	FY 2026 Estimate	FY 2027 Estimate	Explanation of Changes FY 2027 vs FY 2026 Estimate
Power Services - Operating Expenses	**2,602,055**	**2,699,446**	**97,391 / +4%**
Production	1,283,314	1,348,430	+65,116/ +5%
	Milestones: Continue to provide oversight of all signed contracts. Continue to provide wind resource integration services for customer wind generation.	Milestones: Continue to provide oversight of all signed contracts. Continue to provide wind resource integration services for customer wind generation.	The decrease is due to lower CGS and support costs.
Associated Project Costs	530,236	557,877	+27,640/ +5%
	Milestones: Continue direct funding of Corps and Reclamation O&M power activities.	Milestones: Continue direct funding of Corps and Reclamation O&M power activities.	The increase addresses inflation and the rise in labor costs.
Fish & Wildlife Costs	364,446	362,402	-2,044/ -0.5%
	Milestones: Continue implementing both ongoing and new projects that support ESA-listed species and other measures called for under the current CRS BiOps and various agreements with regional natural resource managers.	Milestones Continue implementing both ongoing and new projects that support ESA-listed species and other measures called for under the current CRS BiOps and various agreements with regional natural resource managers.	The increase in costs reflects funding associated with the BiOps and Northwest Power Act activities as implemented in part through agreements with regional natural resource managers.
Residential Exchange Program	287,051	287,068	17/ 0%
	Milestones: Continue to provide REP benefits.	Milestones: Continue to provide REP benefits.	No change in scheduled amount of REP payments

	FY 2026 Estimate	FY 2027 Estimate	Explanation of Changes FY 2027 vs FY 2026 Estimate
			payable to IOUs prescribed by REP.
NW Power & Conservation Council	12,493	11,876	-617 /-5%
	Milestones: Continue support of the Council activities, as directed under the Northwest Power Act, including regional power plan development and maintenance, and fish and wildlife program activities.	Milestones: Continue support of the Council activities, as directed under the Northwest Power Act, including regional power plan development and maintenance, and fish and wildlife program activities.	Negligible change in the scheduled amount of the Council.
Energy Conservation & Renewable Resources	124,515	131,794	+7,278 / +6%
	Milestones: Continue to support utility incentive programs. Continue to support regional energy conservation programs. Continue supporting energy conservation at direct serve federal agencies.	Milestones: Continue to support utility incentive programs. Continue to support regional energy conservation programs. Continue supporting energy conservation at direct serve federal agencies.	The decrease reflects lower funding while continuing emphasis on the energy conservation program consistent with the Power Plan.

Transmission Services – Operating Expense
Funding Schedule by Activity ($K)

Transmission Services - Operating Expenses	FY 2025 Actual	FY 2026 Estimate	FY 2027 Estimate	FY 2028 Estimate	FY 2029 Estimate	FY 2030 Estimate	FY 2031 Estimate
Engineering	246,374	186,528	236,498	257,064	307,182	314,496	322,074
Operations	360,807	394,034	453,433	480,238	493,643	507,364	521,621
Maintenance	220,997	226,584	239,518	252,998	260,046	267,260	274,754
Amort/Accr/Depr, Interest Expense, misc. other [1/]	500,965	594,487	651,787	721,683	796,420	851,054	909,023
Total, Transmission Services - Operating Expenses	**1,329,143**	**1,401,633**	**1,581,236**	**1,711,983**	**1,857,292**	**1,940,174**	**2,027,472**

[1/] Reflects cost which are not allocated to Engineering, Operations, Maintenance. These costs are part of the total operating expense as reported on BPA's financials statements in annual reports and quarterly reports.

Transmission Services – Operating Expense

Overview

Under the Transmission Services – Operating Expense category are three subcategories: the transmission system services of **Engineering, Operations, and Maintenance** for Bonneville's electric transmission system and associated power system control and communication facilities. Primary goals of this program are:

1. Safely maintain our asset base;
2. Improve customer responsiveness;
3. Modernize systems;
4. Increase resiliency for high-impact events such as wildfire, severe weather and cyber threats; and
5. Mitigate cost pressures and focus on mission critical work.

Explanation of Changes

Bonneville's budget includes $1,581 million in FY 2027 for Transmission Services – Operating Expense, which is a 12.8 percent increase over the FY 2026 forecasted level. The increase continues the O&M of Bonneville's transmission assets. The FY 2027 budget increases levels of funding for Engineering by $49.9 million, Operations by $59.4 million, and Maintenance by $12.9 million. Spending in each subcategory is discussed on the following pages.

Engineering

Overview

Funding allocated under the Engineering subcategory allows continued efforts to identify best methods for improving system reliability, maintenance practices, and continued cost-reduction efforts by identifying opportunities for low-cost reinforcement and voltage support of the existing transmission system.

Engineering
($K)

FY 2026 Estimate	FY 2027 Estimate
186,528	236,498

Continued investments in Engineering include the following:

Continuous Activity (*all years*):

- Research and development (R&D)—Conduct research focused on technologies related to business challenges that Bonneville faces including reliability, energy conservation, and integration of renewable energy resources. Technologies of interest are identified in Bonneville's Technology Roadmaps. A portfolio of research is selected every year through Bonneville's Portfolio Decision Framework.
- System development planning and analysis—Continue providing technical support and asset planning to deploy the asset management approach to sustain existing assets and expand the system to meet agency objectives.
- Technical support—Provide technical support activities, such as transmission system planning and studies to optimize portions of the system. Provide support for non-wires solutions studies and pilot projects.

- Capital-to-expense adjustments—Conduct annual analysis of Bonneville's outstanding capital work orders to assess whether they should be expensed. As obsolete inventory is identified and disposed of, it is expensed.
- Regulatory fees—This includes WECC dues and loop-flow payments, Department of Commerce/National Telecommunications and Information Administration licensing costs for radio frequencies, DOE Radio Spectrum staff and contractor support, and NERC Critical Infrastructure Protection (CIP) compliance program costs. This also includes membership in a regional transmission planning organization.
- Reimbursable transactions—Enter into written agreements with federal and non-federal entities that have work or services to be performed by Bonneville staff at the expense of the benefiting entities. The projects must be beneficial, under agreed-upon criteria, to Bonneville operations and to the federal or non-federal entity involved or otherwise be aligned with or supportive of Bonneville's strategic objectives. Additionally, these activities generally contribute to more efficient or reliable construction of the federal transmission system or otherwise enhance electric service to the region.
- Leased and other costs—This includes leases, lease purchases, and other costs of financing transmission, delivery, and voltage-support facilities when such arrangements are operationally feasible and cost effective to deliver power. Leases and lease purchases enable Bonneville to continue to invest in infrastructure to support a safe and reliable system for the transmission of power. Other costs included are the accrued interest costs associated with Large Generator Interconnection Agreements (LGIA).

Operations

Overview
The following activities are funded under Operations.

Operations
($K)

FY 2026 Estimate	FY 2027 Estimate
394,034	453,433

Substation Operations
Perform operations functions necessary to provide electric service to customers and to protect the federal investment in electric equipment and other facilities. Includes equipment adjustments, switching lines and equipment during emergencies or maintenance, isolating damaged equipment, restoring service to customers, inspecting equipment, and reading meters.

Power System Dispatching and Supporting Functions
Perform central dispatching, control, and monitoring of the electric operation of the federal transmission system from two regional control centers. Also includes load, frequency, and voltage control of federal generating plants, and coordinating long- and short-term outages of system equipment. In addition, provide technical engineering support of dispatching function and provides all technical and systems support for Dittmer Control Center (DCC) and Munro Control Center (MCC).

Technical Operations
Perform and manage all near-term system operating limits and total transfer capabilities to support the safe, reliable, and open access operation of the transmission system. Provide operating and mitigation plans for all system conditions to support real-time operation of the interconnected system, and technical support for planned

outages, remedial action schemes, automatic generation control, balancing authority operations, variable energy resource integration, and disturbance and event monitoring and reporting.

Marketing and Sales

Provide management and direction of transmission rates and provide business strategy in marketing of transmission and ancillary products and services of Transmission Services. Involve customers and constituents in the process of product and rate development. Maintain accurate and complete historical records of current and past legacy transmission agreements. Provide guidance for current and future transmission contract negotiations. Provide financial analysis of market strategies. Monitor and report on the financial health of Transmission Services. Support cost management by effective reporting and analysis of current expenditures. Ensure official budget submittals reflect current management financial strategies and adequately fund transmission programs.

Transmission Scheduling

Provide non-discriminatory, open access to the Bonneville transmission system consistent with Bonneville's OATT. Schedule transmission capacity to eligible Bonneville customers, which include customers acquiring services under Use of Facilities (UFT), Formula Power Transmission (FPT), Integration of Resources (IR), and Part II or Part III of the OATT. Manage the reservations and scheduling of all transmission services associated with the OATT. Update practices, policies, and commercial systems to accommodate a large diversity of resources.

Continuous Activity (*all years*)

- Continue to operate within parameters of NERC and WECC.
- Continue support of increased compliance activities related to the reliability of the transmission system, including cyber security.
- Continue developing facilities, policies, procedures, and implementing systems to support integrating the diversity of resources into the transmission grid.
- Continue preparation for increased complexity of transmission scheduling, power system operations, and dispatching, including congestion management and outage scheduling.
- Continue developing the Dittmer Scheduling Center and Munro Scheduling Center facilities to support continuous real-time scheduling operations from both facilities.
- Continue developing a long-term approach to optimize transmission availability through streamlined, cost-effective, and sustainable processes.
- Continue to address succession planning issues across key functions.
- Continue development and implementation of business systems and tools.

Maintenance

Overview

In all aspects of maintenance, Bonneville is continuing the use of reliability centered maintenance (RCM) practices, which focus on improving system reliability, increasing availability, and meeting new and existing compliance regulations at lowest lifecycle costs. In addition, Bonneville is deploying asset management to optimize maintain/replace decision-making. Maintenance costs are expected to increase as Bonneville addresses the aging transmission system, meets reliability standards, including vegetation management, and adheres to environmental constraints associated with construction, enhancement, and maintenance of the system. The Bonneville transmission system encompasses 15,179 circuit miles on over 11,860 rights-of-way miles (many of these miles are through rugged, inaccessible terrain).

Maintenance
($K)

FY 2026 Estimate	FY 2027 Estimate
226,584	239,518

Continuous Activity (*all years*)

- Continue to improve performance to meet System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) targets.
- Continue refining processes and procedures for monitoring and tracking compliance activities related to the reliability of the transmission system.
- Continue to improve system availability performance through new maintenance procedures and work practices.
- Continue to develop and implement work practices and procedures for implementation of a new specialty crew using bare-hand live-line practices for maintenance of high-voltage transmission lines.
- Continue increased emphasis on replacement of line hardware (life extension programs for insulators, connectors, dampers, and fiber optic cable hardware).
- Continue to prepare for the impact of an expected high attrition rate among Bonneville's aging workforce by recruiting apprentices and replacements for critical minimum crew size workload positions.
- Increase outage-scheduling planning and coordination to increase customer satisfaction and system availability.
- Maintain vegetation management levels to ensure system reliability.
- Continue access road work to provide reliable access to facilities and ensure environmental compliance.
- Continue improving environmental stewardship.
- Operating expenses associated with acquisition of Grand Coulee Switchyard assets. Transfer from the Reclamation is scheduled to take place in FY 2025.

Transmission Line Maintenance

Maintain and repair over 15,000 circuit miles of high voltage transmission lines, of which over 4,734 circuit miles are 500 kV transmission extra-high voltage (EHV). Maintenance of EHV lines is two and one-half times more labor-intensive than maintenance of lower transmission voltages, although more efficient in transmission of power. This responsibility includes maintaining transmission rights-of-way to ensure system reliability, safety, and environmental compliance. Adopt work practices that improve system availability, reliability, and compliance.

Right-of-Way Maintenance

Maintain over 11,860 miles of Bonneville rights-of-way. This responsibility includes vegetation management, danger tree management, and access road maintenance to ensure system reliability, safety, and environmental compliance. Adopt procedures and processes that improve system availability, reliability, environmental compliance, and reliability compliance. Continue to deploy new technologies such as LiDAR (Light Detection and Ranging) to reliably and cost-effectively manage vegetation.

Substation Maintenance:

Maintain and repair the transmission system power equipment located in Bonneville's 259 substations. Work includes inspections, diagnostic testing, and predictive and condition-based maintenance.

System Protection Maintenance
Maintain relaying metering and RAS equipment used to control and protect the electrical transmission system and to meter energy transfers for the purpose of revenue billing. Additionally, provide field-engineering services to ensure the correct operation of power system relaying and special control systems used to support interregional energy transmission capabilities.

Power System Control Maintenance
Test, repair, and provide field engineering support of Bonneville's highly complex equipment, communications, and control systems, including seven major microwave systems, fiber optic systems, and other critical communications and control equipment that support the power system.

Non-Electric Plant Maintenance
Maintain and manage Bonneville's non-electric facilities. This includes site, building, and building utility maintenance; custodial services; station utility; and other maintenance service activities; as well as facilities asset management on Bonneville-owned or Bonneville-leased non-electric facilities.

Maintenance Standards and Engineering
Establish, monitor, and update system maintenance standards, policies, and procedures, and review and update long-range plans for maintenance of the electric power transmission system.

Interest, Pension, and Post-Retirement Benefits Operating Expense
Funding Schedule by Activity
($K)

	2025 Actual	2026 Estimate	2027 Estimate	2028 Estimate	2029 Estimate	2030 Estimate	2031 Estimate
BPA Bond Interest (Net)	189,000	174,971	206,891	252,061	306,550	333,462	362,028
BPA Appropriation Interest	-	-	-	-	-	-	-
Corps of Engineers Appropriation Interest	34,000	26,835	28,238	28,407	14,564	9,755	18,948
Lower Snake River Comp Plan Interest	169	101	101	101	88	88	88
Bureau of Reclamation Appropriation Interest	716	1,081	1,081	1,081	1,081	409	409
Bond Premiums paid/Discounts (not capitalized)	-	8,434	2,027	527	3,870	2,259	3,751
Subtotal, Interest – Operating Expense	**223,885**	**211,422**	**238,338**	**282,177**	**326,153**	**345,973**	**385,223**
Additional Pension and Post-retirement Benefits	34,000	23,465	44,226	46,719	47,766	48,835	49,943
Total, Interest, Pension and Post-Retirement Benefits	**257,885**	**234,887**	**282,564**	**328,896**	**373,918**	**394,808**	**435,166**

Interest, Pension, and Post-Retirement Benefits Operating Expense

Overview

Interest expense provides for interest due on bonds issued to the U.S. Treasury and appropriations repayment responsibilities. The appropriation repayments relate to capital investment in FCRPS hydroelectric generating and transmission facilities of Bonneville, the Corps, and Reclamation. Investments were financed by Congressional appropriations and Bonneville borrowings from the U.S. Treasury. Bonneville repays these amounts through revenue raised in its power sales and transmission services revenues.

Background: Interest, Pension and Post-retirement Benefits Operating Expense

Since initially receiving U.S. Treasury borrowing authority in 1974 under the Transmission Act, all of Bonneville's U.S. Treasury borrowing has been at market rates. As of October 1, 1996, all of Bonneville's repayment obligations on FCRPS appropriated investment (Corps and Reclamation FCRPS investment and Bonneville investment financed with appropriations prior to the Transmission Act that were unpaid as of September 30, 1996) were restructured and assigned new current-market interest rates. The Bonneville Appropriations Refinancing Act of 1996 (Refinancing Act) called for re-setting (reducing) the unpaid principal of FCRPS appropriations and reassigning (increasing) interest rates. New principal amounts were established as of the beginning of FY 1997 at the present value of the principal and annual interest payments Bonneville would make to the U.S. Treasury for these obligations in the absence of the legislation, plus $100.0 million. The new principal amounts were assigned prevailing market interest rates as of October 1, 1996. Bonneville's outstanding appropriations repayment obligations at the end of FY 1996 were $6.7 billion with a weighted average interest rate of 3.4 percent. The refinancing reduced the principal amount to $4.1 billion with a weighted average interest rate of 7.1 percent. Implementation of the refinancing took place in 1997 after audited actual financial data were available. Pursuant to the legislation, Bonneville submitted its calculations and interest rate assignments implementing the Refinancing Act to the U.S. Treasury for its review and approval. The U.S. Treasury approved the implementation calculations in July 1997. The Refinancing Act also calls for all future FCRPS appropriations to be assigned prevailing U.S. Treasury yield curve interest rates. Bonneville's outstanding appropriations may be prepaid prior to their stated maturities.

Interest estimates are a function of costs of U.S. Treasury borrowing to Bonneville, repayment status of outstanding FCRPS investments, and projected additions to FCRPS plant in service. These estimates may change over time depending on forecasted market conditions. The interest cost estimates include the impact of Bonneville's appropriation refinancing legislation.

Federal employees associated with the operation of the FCRPS participate in either the Civil Service Retirement System or the Federal Employees Retirement System. Employees may also participate in the Federal Employees Health and Benefit Program and the Federal Employee Group Life Insurance Program. As a federal agency, all post-retirement activity is managed by the Office of Personnel Management; therefore, neither the assets of the plans or the accumulated plan benefits are recorded by Bonneville. Since 1997, Bonneville has made additional annual contributions to the General Fund of the U.S. Treasury (receipt account 892889) related to the federal post-retirement benefit programs provided to employees associated with the operation of the FCRPS.

Capital Transfers
Funding Schedule by Activity
($K)

	2025 Estimate	2026 Estimate	2027 Estimate	2028 Estimate	2029 Estimate	2030 Estimate	2031 Estimate
BPA Bond Amortization [1/]	838,400	761,783	747,067	543,289	598,787	779,648	649,868
Bureau of Reclamation Appropriation Amortization	5,780	-	-	-	20,883	-	-
BPA Appropriation Amortization	-	-	-	-	-	-	-
Lower Snake River Comp Plan Amortization	-	-	-	-	-	-	-
Corps of Engineers Appropriation Amortization	27,000	12,651	-	379,057	148,484	-	-
Total, Capital Transfers	**871,180**	**774,434**	**747,067**	**922,346**	**768,154**	**779,648**	**649,868**

[1/] Bonneville "Bond(s)" in this FY 2027 Budget refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with
Section 13(a) of the Transmission Act (P.L. 93-454), which defines Bonneville bonds as all bonds, notes, and other evidence of indebtedness issued and sold by
Bonneville to the U.S. Treasury.

Capital Transfers

Overview
This activity conveys funds to the U.S. Treasury for repayment of certain FCRPS costs not included in the Associated Projects budget. Since capital transfers are cash transactions, they are not considered budget obligations.

Additional Tables

BONNEVILLE POWER ADMINISTRATION
TOTAL OBLIGATIONS/OUTLAYS
Current Services
(in millions of dollars)
FISCAL YEAR

BP-1 SUMMARY[1/3/]	2025		2026		2027		2028	2029	2030	2031
	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
1 Residential Exchange Program[9/]	274	274	287	287	287	287	288	293	299	306
2 Power Services [2/]	1,750	1,750	1,956	1,956	2,026	2,026	2,069	1,952	2,001	2,107
3 Transmission Services	1,473	1,473	1,685	1,685	2,185	2,185	2,142	1,916	1,940	1,999
4 Conservation & Energy Efficiency	150	150	125	125	132	132	143	146	149	153
5 Fish & Wildlife	397	397	418	418	429	429	436	518	451	444
6 Interest/ Pension [4/]	258	258	235	235	283	283	329	374	395	435
7 Associated Project Cost - Capital	262	262	265	265	309	309	310	305	307	308
8 Capital Equipment	6	6	36	36	37	37	39	31	29	30
9 AFUDC/Transmission Indirects/G&A Allocations	198	198	202	202	230	230	232	226	221	219
10 Planning Council	12	12	12	12	12	12	12	12	13	13
11 Projects Funded in Advance	27	27	36	36	30	30	30	30	30	30
12 Capitalized Bond Premiums	0	0	0	0	0	0	0	0	0	0
13 Power and Transmission Services Financed by Revenues/Reserves	89	89	94	94	168	168	169	187	179	193
14 TOTAL OBLIGATIONS/OUTLAYS [3/]	**4,898**	**4,898**	**5,351**	**5,351**	**6,128**	**6,128**	**6,198**	**5,989**	**6,015**	**6,237**

REVENUES AND REIMBURSEMENTS
Current Services
(in millions of dollars)
FISCAL YEAR

BP-1 SUMMARY	2025		2026		2027		2028	2029	2030	2031
	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
15 Revenues [5/]	4,272	4,272	4,749	4,749	5,023	5,011	4,607	4,704	4,749	4,804
16 Project Funded in Advance	27	27	36	36	30	30	30	30	30	30
17 Power and Transmission Services Financed by Revenues/Reserves	89	89	94	94	168	168	169	187	179	193
18 TOTAL	**4,388**	**4,388**	**4,879**	**4,879**	**5,221**	**5,209**	**4,806**	**4,921**	**4,958**	**5,027**
19 BUDGET AUTHORITY (NET) [6/]	**(541)**		**663**		**1,174**		**895**	**795**	**697**	**840**
20 OUTLAYS (NET) [6/7/8]	**654**		**472**		**907**		**1,392**	**1,068**	**1,057**	**1,210**

These notes are an integral part of this table.

1/ This FY 2027 budget includes capital and expense estimates based on FY25 3rd quarter forecast, and BP-26 IPR for FY26-FY31.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving electric utility industry.

2/ Power Services doesn't include Fish & Wildlife, Residential Exchange Program, Planning Council, Conservation & Energy Efficiency and Associated Project Costs which have been shown separately for display purposes.

3/ This budget has been prepared in accordance with PAYGO. Under PAYGO all Bonneville budget estimates are treated as mandatory and are not subject to the discretionary caps included in the Budget Control Act of 2011. These estimates support activities that are separate from discretionary activities and accounts. Thus, any changes to Bonneville estimates cannot be used to affect any other budget categories which have their own dollar caps. Because Bonneville's obligations are and will be incurred under pre-existing legislative authority, Bonneville is not subject to a "pay-as-you-go" test regarding its revision of current-law funding estimates.
For BP-1 table, the CJ reflects forecasted outlays while the yearend GTAS reflects the actual outlay in the Budget Appendix.

4/ The costs of approriated interest and use of appropriated principal plus credits to Account #309900

5/ Revenues, included in the Net Outlay formulation, are calculated consistent with cash management goals and assume a combination of adjustments. Assumed adjustments include the use of a combination of tools, including upcoming rate adjustment mechanisms, a net revenue risk adjustment, debt service refinancing strategies and/or short-term financial tools to manage net revenues and cash. Some of these potential tools will reduce costs rather than generate revenue, causing the same Net Outlay result. Adjustments for depreciation and 4(h)(10)(C) credits of the Northwest Power Act are also assumed.

6/ Bonneville received $48.7 million of additional budget authority in FY 2007 to accommodate the work necessary to relocate the radio spectrum consistent with the Commercial Spectrum Enhancement Act (P.L. 108-494). In accordance with Federal law, Bonneville plans to return the forecasted unused balance of approximately $8.2 million to the U.S. Treasury as soon as the National Telecommunications Information Administration notifies the Federal Communications Commission that the DOE relocation effort is complete.

7/ Net Outlay estimates are based on current cost savings to date and anticipated cash management goals. They are expected to follow anticipated management decisions throughout the rate period that, along with actual market conditions, will impact revenues and expenses. Actual Net Outlays are volatile and are reported in Report on Budget Execution and Budgetary Resources (SF-133). Actual Net Outlays could differ from estimates due to changing market conditions, streamflow variability, continued restructuring of the electric industry, and other reasons.

8/ FY 2025 Net Outlays are calculated using Bonneville's FY 2025 3rd quarter forecast. FY 2026 to 2031 Net Outlays are based on BP-24 and BP-26 IPR assumptions, an escalation factor from using the FY 2025 Whitebook Loads and Resources Report, and the increased expenditures for Transmission Evolving Grid Projects.

9/ REP benefits were fixed through Sept. 30, 2028, pursuant to a settlement. This value is a placeholder and does not reflect an estimate of the REP benefits BPA may be required to pay under

EXPENSED OBLIGATIONS/OUTLAYS [1,4/]
Current Services
(in millions of dollars)
FISCAL YEAR

BP-2	2025		2026		2027		2028	2029	2030	2031
	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
1 Residential Exchange Program	274	274	287	287	287	287	288	293	299	306
2 Power Services [2/]	1,750	1,750	1,956	1,956	2,026	2,026	2,069	1,952	2,001	2,107
3 Transmission Services	727	727	792	792	895	895	957	1,026	1,055	1,088
4 Conservation & Energy Efficiency	150	150	125	125	132	132	143	146	149	153
5 Fish & Wildlife	359	359	364	364	362	362	372	394	404	411
6 Interest/ Pension [3/]	258	258	235	235	283	283	329	374	395	435
7 Planning Council	12	12	12	12	12	12	12	12	13	13
8 TOTAL EXPENSE	3,532	3,532	3,772	3,772	3,997	3,997	4,170	4,196	4,316	4,513
9 Projects Funded in Advance	27	27	36	36	30	30	30	30	30	30
10 Power and Transmission Services Financed by Revenues/Reserves	89	89	94	94	168	168	169	187	179	193

CAPITAL OBLIGATIONS/OUTLAYS [1/]
Current Services
(in millions of dollars)
FISCAL YEAR

BP-2 continued	2025		2026		2027		2028	2029	2030	2031
	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Outlays	Oblig.	Oblig.	Oblig.	Oblig.
11 Transmission Services	746	746	893	893	1,290	1,290	1,185	890	884	911
12 Associated Project Cost	262	262	265	265	309	309	310	305	307	308
13 Fish & Wildlife	38	38	53	53	67	67	64	124	47	33
14 Capital Equipment	6	6	36	36	37	37	39	31	29	30
15 Capitalized Bond Premiums	-	-	-	-	-	-	-	-	-	-
16 AFUDC/Transmission Indirects/G&A Allocations	198	198	202	202	230	230	232	226	221	219
17 **TOTAL CAPITAL INVESTMENTS**	**1,250**	**1,250**	**1,449**	**1,449**	**1,933**	**1,933**	**1,829**	**1,575**	**1,489**	**1,502**
18 **TREASURY BORROWING AUTHORITY TO**										
19 **FINANCE CAPITAL OBLIGATIONS [4/]**	**1,250**		**1,449**		**1,933**		**1,829**	**1,575**	**1,489**	**1,502**

These notes are an integral part of this table.

[1/] This FY 2027 budget includes capital and expense estimates based on FY25 3rd quarter forecast, and BP-26 IPR for FY26-FY31.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving electric utility industry.

[2/] Power Services doesn't include Fish & Wildlife, Residential Exchange Program, Planning Council, Conservation & Energy Efficiency and Associated Project Costs which have been shown separately for display purposes.

[3/] The costs of approriated interest and use of appropriated principal plus credits to Account #309900

[4/] This budget has been prepared in accordance with PAYGO. Under PAYGO all Bonneville budget estimates are treated as mandatory and are not subject to the discretionary caps included in the Budget Control Act of 2011. These estimates support activities that are separate from discretionary activities and accounts. Thus, any changes to Bonneville estimates cannot be used to affect any other budget categories which have their own dollar caps. Because Bonneville's obligations are and will be incurred under pre-existing legislative authority, Bonneville is not subject to a "pay-as-you-go" test regarding its revision of current-law funding estimates.

For BP-1 table, the CJ reflects forecasted outlays while the yearend GTAS reflects the actual outlay in the Budget Appendix.

BP-3

CURRENT SERVICES
(in millions of dollars)
FISCAL YEAR

CAPITAL TRANSFERS	2025 Actual	2026 Estimate	2027 Estimate	2028 Estimate	2029 Estimate	2030 Estimate	2031 Estimate
Amortization:							
20 BPA Bonds	885	762	747	543	599	780	650
21 Reclamation Appropriations	6	-	-	-	21	-	-
22 BPA Appropriations	-	-	-	-	-	-	-
23 Corps Appropriations	-	13	-	379	148	-	-
24 Lower Snake River Comp Plan Amortization	-	-	-	-	-	-	-
25 **TOTAL CAPITAL TRANSFERS**	**891**	**774**	**747**	**923**	**768**	**780**	**650**
26 **FULL-TIME EQUIVALENT (FTE)** [1/]	**3,311**	**3,460**	**3,560**	**3,660**	**3,760**	**3,860**	**3,960**

These notes are an integral part of this table.

[1/] As of 9/30/2025, BPA HR staff has reported FY 2025 BPA's FTE actuals at 3,311. This number includes 194 FTEs who have accepted the Deferred Resignation Program (DRP).

BONNEVILLE POWER ADMINISTRATION
BPA STATUS of U.S. TREASURY BORROWING

BP-4A

	Fiscal Year 2025 Actual			
	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing
Cum. - Start-of-Year: 1974 Act	**5,079**		**5,978**	
Start-of-Year: 1980 Act	-		-	
Start-of-Year: ARRA	-		-	
Start-of-Year: Total	5,079	4,537	5,978	5,961
Plus: Annual Increase				
Annual Increase: 1974 Act	**1,123**		1,123	
Annual Increase: 1980 Act	-		-	
Annual Increase: ARRA	-		-	
Cum.-Annual Treasury Borrowing	1,123	1,123	1,123	1,123
Treasury Borrowing (Cash)				
Less:				
Bond Amortization: 1974 Act	**838**		**838**	
Bond Amortization: 1980 Act	-		-	
Bond Amortization: ARRA	-		-	
BPA Bond Amortization	838	838	838	838
1974 Act	**285**		**285**	
1980 Act	-		-	
ARRA	-		-	
Net Increase/(Decrease):	285	285	285	285
Cum. - End-of-Year: 1974 Act	**5,364**		**6,263**	
End-of-Year: 1980 Act	-		-	
End-of-Year: ARRA	-		-	
Cum.-End-of-Year: Total	5,364	4,822	6,263	6,246
Total Remaining Treasury Borrowing Amount				7,454
Total Legislated Treasury Borrowing Amount				13,700

These notes are an integral part of this table.

In any given year, Bonneville may issue lower principal amount of bonds to the U.S. Treasury than forecast depending on net revenues, borrowing costs, and other cash management factors. In such cases, Bonneville accumulates a deferred borrowing balance that it accesses as necessary in the future.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

In this FY 2026 budget, Bonneville "bond(s)" refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with section 13 (a) of the Transmission Act, which defines Bonneville bonds as all bonds, notes, and other evidences of indebtednesses issued and sold by Bonneville to the U.S. Treasury.

As in the past, Bonneville may pursue future restructuring of total debt as opportunities arise.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving electric utility industry.

Cumulative advance amortization payments as of the end of FY 2024 are $7.2 Billion.

Total includes BPA's self-financing activities. In addition, BPA has negotiated with the U.S. Treasury access to a $750 million short term note as part of the $17.7 billion borrowing authority.

Section 40110 of the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, enacted on November 15, 2021, provided the Bonneville Administrator with $10 billion in additional permanent borrowing authority "…to assist in the financing, acquisition and replacement of the Federal Columbia Power System and to implement the authority of the Administrator of the Bonneville Power Administration…" Section 40110 specifies that the "obligation"…of the $10 billion in additional borrowing authority…shall not exceed $6 billion by fiscal year 2028. BPA is authorized by Congress to have outstanding at any time up to $13.7 billion of bonds through fiscal year 2027. Beginning in fiscal year 2028, an additional $4 billion will become available to have outstanding for a total of $17.7 billion.

These notes are an integral part of this table.

BONNEVILLE POWER ADMINISTRATION
BPA STATUS of U.S. TREASURY BORROWING
CURRENT SERVICES
(in millions of dollars)

BP-4B

	2026 est.				2027 est.			
	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing
Cum. - Start-of-Year: 1974 Act	**5,364**		**6,263**		**6,051**		**6,950**	
Start-of-Year: 1980 Act	-		-		-		-	
Start-of-Year: ARRA	-		-		-		-	
Start-of-Year: Total	5,364	4,822	6,263	6,246	6,051	5,509	6,950	6,933
Plus: Annual Increase								
Annual Increase: 1974 Act	**1,449**		1,449		**1,933**		1,933	
Annual Increase: 1980 Act	-		-		-		-	
Annual Increase: ARRA	-		-		-		-	
Cum.-Annual Treasury Borrowing	1,449	1,449	1,449	1,449	1,933	1,933	1,933	1,933
Treasury Borrowing (Cash)								
Less:								
Bond Amortization: 1974 Act	**762**		**762**		**747**		**747**	
Bond Amortization: 1980 Act	-		-		-		-	
Bond Amortization: ARRA	-		-		-		-	
Total BPA Bond Amortization	762	762	762	762	747	747	747	747
Net Increase/(Decrease):								
1974 Act	**688**		**688**		**1,186**		**1,186**	
	-		-		-		-	
ARRA	-		-		-		-	
Total	688	688	688	688	1,186	1,186	1,186	1,186
Cum. - End-of-Year: 1974 Act	**6,051**		**6,950**		**7,237**		**8,136**	
End-of-Year: 1980 Act	-		-		-		-	
End-of-Year: ARRA	-		-		-		-	
Cum.-End-of-Year: Total	6,051	5,509	6,950	6,933	7,237	6,695	8,136	8,119
Total Remaining Treasury Borrowing Amount				6,767				5,581
Total Legislated Treasury Borrowing Amount				13,700				13,700

These notes are an integral part of this table.

In any given year, Bonneville may issue lower principal amount of bonds to the U.S. Treasury than forecast depending on net revenues, borrowing costs, and other cash management factors. In such cases, Bonneville accumulates a deferred borrowing balance that it accesses as necessary in the future.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

In this FY 2026 budget, Bonneville "bond(s)" refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with section 13 (a) of the Transmission Act, which defines Bonneville bonds as all bonds, notes, and other evidences of indebtednesses issued and sold by Bonneville to the U.S. Treasury.

As in the past, Bonneville may pursue future restructuring of total debt as opportunities arise.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving electric utility industry.

Cumulative advance amortization payments as of the end of FY 2024 are $7.2 Billion.

Total includes BPA's self-financing activities. In addition, BPA has negotiated with the U.S. Treasury access to a $750 million short term note as part of the $17.7 billion borrowing authority.

Section 40110 of the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, enacted on November 15, 2021, provided the Bonneville Administrator with $10 billion in additional permanent borrowing authority "…to assist in the financing, acquisition and replacement of the Federal Columbia Power System and to implement the authority of the Administrator of the Bonneville Power Administration…" Section 40110 specifies that the "obligation"…of the $10 billion in additional borrowing authority…shall not exceed $6 billion by fiscal year 2028. BPA is authorized by Congress to have outstanding at any time up to $13.7 billion of bonds through fiscal year 2027. Beginning in fiscal year 2028, an additional $4 billion will become available to have outstanding for a total of $17.7 billion.

These notes are an integral part of this table.

BONNEVILLE POWER ADMINISTRATION
BPA STATUS of U.S. TREASURY BORROWING
CURRENT SERVICES
(in millions of dollars)

BP-4C Fiscal Year

	2028 est.				2029 est.			
	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing
Cum. - Start-of-Year: 1974 Act	**7,237**		**8,136**		**8,523**		**9,422**	
Start-of-Year: 1980 Act	-		-		-		-	
Start-of-Year: ARRA	-		-		-		-	
Start-of-Year: Total	7,237	6,695	8,136	8,119	8,523	7,981	9,422	9,405
Plus: Annual Increase								
Annual Increase: 1974 Act	**1,829**		1,829		**1,575**		1,575	
Annual Increase: 1980 Act	-		-		-		-	
Annual Increase: ARRA	-		-		-		-	
Cum.-Annual Treasury Borrowing	1,829	1,829	1,829	1,829	1,575	1,575	1,575	1,575
Treasury Borrowing (Cash)								
Less:								
Bond Amortization: 1974 Act	**543**		**543**		**599**		**599**	
Bond Amortization: 1980 Act	-		-		-		-	
Bond Amortization: ARRA	-		-		-		-	
Total BPA Bond Amortization	543	543	543	543	599	599	599	599
Net Increase/(Decrease):								
1974 Act	**1,286**		**1,286**		**976**		**976**	
1980 Act	-		-		-		-	
ARRA	-		-		-		-	
al	1,286	1,286	1,286	1,286	976	976	976	976
Cum. - End-of-Year: 1974 Act	**8,523**		**9,422**		**9,499**		**10,398**	
End-of-Year: 1980 Act	-		-		-		-	
End-of-Year: ARRA	-		-		-		-	
Cum.-End-of-Year: Total	8,523	7,981	9,422	9,405	9,499	8,957	10,398	10,381
Total Remaining Treasury Borrowing Amount				8,295				7,319
Total Legislated Treasury Borrowing Amount				17,700				17,700

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Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

In this FY 2026 budget, Bonneville "bond(s)" refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with section 13 (a) of the Transmission Act, which defines Bonneville bonds as all bonds, notes, and other evidences of indebtednesses issued and sold by Bonneville to the U.S. Treasury.

As in the past, Bonneville may pursue future restructuring of total debt as opportunities arise.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving electric utility industry.

Cumulative advance amortization payments as of the end of FY 2024 are $7.2 Billion.

Total includes BPA's self-financing activities. In addition, BPA has negotiated with the U.S. Treasury access to a $750 million short term note as part of the $17.7 billion borrowing authority.

Section 40110 of the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, enacted on November 15, 2021, provided the Bonneville Administrator with $10 billion in additional permanent borrowing authority "…to assist in the financing, acquisition and replacement of the Federal Columbia Power System and to implement the authority of the Administrator of the Bonneville Power Administration…" Section 40110 specifies that the "obligation"…of the $10 billion in additional borrowing authority…shall not exceed $6 billion by fiscal year 2028. BPA is authorized by Congress to have outstanding at any time up to $13.7 billion of bonds through fiscal year 2027. Beginning in fiscal year 2028, an additional $4 billion will become available to have outstanding for a total of $17.7 billion.

These notes are an integral part of this table.

BONNEVILLE POWER ADMINISTRATION
BPA STATUS of U.S. TREASURY BORROWING
CURRENT SERVICES
(in millions of dollars)

BP-4D

	Fiscal Year 2030 est.				Fiscal Year 2031 est.			
	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing	Net Capital Obs	Net Capital Obs Subject to BA	Net Capital Expend.	Bonds Out-Standing
Cum. - Start-of-Year: 1974 Act	**9,499**		**10,398**		**10,209**		**11,108**	
Start-of-Year: 1980 Act	-		-		-		-	
Start-of-Year: ARRA	-		-		-		-	
Start-of-Year: Total	9,499	8,957	10,398	10,381	10,209	9,667	11,108	11,091
Plus: Annual Increase								
Annual Increase: 1974 Act	**1,489**		1,489		**1,502**		1,502	
Annual Increase: 1980 Act	-		-		-		-	
Annual Increase: ARRA			-		-		-	
Cum.-Annual Treasury Borrowing	1,489	1,489	1,489	1,489	1,502	1,502	1,502	1,502
Treasury Borrowing (Cash)								
Less:								
Bond Amortization: 1974 Act	**780**		**780**		**650**		**650**	
Bond Amortization: 1980 Act	-		-		-		-	
Bond Amortization: ARRA	-		-		-		-	
Total BPA Bond Amortization	780	780	780	780	650	650	650	650
Net Increase/(Decrease):								
1974 Act	**709**		**709**		**852**		**852**	
1980 Act	-		-		-		-	
ARRA	-		-		-		-	
al	709	709	709	709	852	852	852	852
Cum. - End-of-Year: 1974 Act	**10,209**		**11,108**		**11,060**		**11,959**	
End-of-Year: 1980 Act	-		-		-		-	
End-of-Year: ARRA	-		-		-		-	
Cum.-End-of-Year: Total	10,209	9,667	11,108	11,091	11,060	10,518	11,959	11,942
Total Remaining Treasury Borrowing Amount				6,609				5,758
Total Legislated Treasury Borrowing Amount				17,700				17,700

These notes are an integral part of this table.

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Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

In this FY 2026 budget, Bonneville "bond(s)" refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with section 13 (a) of the Transmission Act, which defines Bonneville bonds as all bonds, notes, and other evidences of indebtednesses issued and sold by Bonneville to the U.S. Treasury.

As in the past, Bonneville may pursue future restructuring of total debt as opportunities arise.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving electric utility industry.

Cumulative advance amortization payments as of the end of FY 2024 are $7.2 Billion.

Total includes BPA's self-financing activities. In addition, BPA has negotiated with the U.S. Treasury access to a $750 million short term note as part of the $17.7 billion borrowing authority.

Section 40110 of the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, enacted on November 15, 2021, provided the Bonneville Administrator with $10 billion in additional permanent borrowing authority "…to assist in the financing, acquisition and replacement of the Federal Columbia Power System and to implement the authority of the Administrator of the Bonneville Power Administration…" Section 40110 specifies that the "obligation"…of the $10 billion in additional borrowing authority…shall not exceed $6 billion by fiscal year 2028. BPA is authorized by Congress to have outstanding at any time up to $13.7 billion of bonds through fiscal year 2027. Beginning in fiscal year 2028, an additional $4 billion will become available to have outstanding for a total of $17.7 billion.

These notes are an integral part of this table.

Program and Financing
Summary Current Services
($M)

Identification Code: 89-4045-0-3-271

		Actual	Estimate					
		FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031
Program by activities:								
	Operating expenses:							
0.01	Power Services	1,387	1,499	1,544	1,587	1,588	1,635	1,753
0.02	Residential Exchange Program [10/]	274	287	287	288	293	299	306
	Associated Project Costs:							
0.05	Bureau of Reclamation	179	195	207	208	213	218	222
0.06	Corps of Engineers	284	301	316	333	349	356	365
0.07	Colville Settlement	21	28	28	29	29	30	31
0.08	Spokane Settlement	5	7	7	7	7	8	8
0.19	U.S. Fish & Wildlife Service	28	34	35	36	36	37	38
0.20	Planning Council	12	12	12	12	12	13	13
0.21	Fish & Wildlife	359	364	362	372	394	404	411
0.23	Transmission Services	573	685	785	826	755	773	779
0.24	Conservation & Energy Efficiency	150	125	132	143	146	149	153
0.25	Interest	224	211	238	282	326	346	385
0.26	Pension and Health Benefits [1/]	34	23	44	47	48	49	50
	Misc Adjustments							
0.91	Total operating expenses [2/]	**3,532**	**3,771**	**3,998**	**4,170**	**4,196**	**4,316**	**4,513**
	Capital investment:							
1.01	Power Services	262	265	309	310	305	307	308
1.02	Transmission Services	746	893	1,290	1,185	890	884	911
1.04	Fish & Wildlife	38	53	67	64	124	47	33
1.05	Capital Equipment	6	36	37	39	31	29	30
1.06	Capitalized Bond Premiums							
1.07	Capital G&A / Indirects	198	202	230	232	226	221	219
1.08	Total Capital Investment [3/]	**1,250**	**1,449**	**1,933**	**1,829**	**1,575**	**1,489**	**1,502**
2.01	Projects Funded in Advance	27	36	30	30	30	30	30
2.02	Power and Transmission Services Financed by Revenues/Reserves	89	94	168	169	187	179	193
10.00	Total obligations [4/]	**4,898**	**5,350**	**6,128**	**6,198**	**5,989**	**6,015**	**6,237**

See notes to the table on following page.

These notes are an integral part of this table.

1/ The costs of appropriated interest and use of appropriated principal plus credits to Account #309900

2/ Assumes expense obligations, not accrued expenses.

Power Services doesn't include Fish & Wildlife, Residential Exchange Program, Planning Council, Conservation & Energy Efficiency and Associated Project Costs which have been shown separately for display purposes.

3/ Assumes capital obligations, not capital expenditures.

4/ This FY 2027 budget includes capital and expense estimates based on FY25 actual results, and BP-26 IPR for FY26-FY31.

For purposes of this table, this FY 2027 budget reflects, for FY 2025, forecast third party financing expense only for PFIA.

Capital funding levels reflect external factors such as the significant changes affecting West Coast power and transmission markets, along with planned infrastructure investments designed to address the long-term needs of the region.

Budget estimates included in this budget are subject to change due to rapidly changing economic and institutional conditions in the evolving electric utility industry.

Refer to 16 USC Chapters 12B, 12G, 12H, and Bonneville's other organic laws, including P.L. 100-371, Title III, Sec. 300, 102 Stat. 869, July 19, 1988, regarding Bonneville's ability to obligate funds.

Program and Financing (continued)

Current Services

(in millions of dollars)

		Actual	Estimate					
		2025	2026	2027	2028	2029	2030	2031
Financing:								
1000	Unobligated balance available, start of year. [5/]	9	8	8	0	0	0	0
1050	Unobligated balance available, end of year.[5/]	8	8	8	0	0	0	0
1200	Appropriation[6/]							
1236	Appropriations applied to repay debt[6/]							
1900	**Budget authority (gross)**	**4,747**	**5,554**	**6,407**	**5,713**	**5,728**	**5,667**	**5,879**
Budget Authority:								
1400	Permanent Authority: Authority to borrow from Treasury (indefinite)[7/]	1,250	1,449	1,933	1,829	1,575	1,489	1,502
1800	Spending authority from off-setting collections	4,388	4,879	5,221	4,806	4,921	4,958	5,027
1825	Portion applied to debt reduction	(891)	(774)	(747)	(923)	(768)	(780)	(650)
1850	**Spending authority from offsetting collections (adjusted)**	**3,497**	**4,105**	**4,474**	**3,883**	**4,153**	**4,178**	**4,377**
900	Total obligations	4,898	5,351	6,128	6,198	5,989	6,015	6,237
4110	Outlays (gross)	4,898	5,351	6,128	6,198	5,989	6,015	6,237
Adjustments to budget authority and outlays:								
	Deductions for offsetting collections:							
4120	Federal funds	(90)	(90)	(90)	(90)	(90)	(90)	(90)
4121	Interest on Federal Securities	(12)	(12)	(12)	(12)	(12)	(12)	(12)
4123	Non-Federal sources	(4,298)	(4,789)	(5,131)	(4,716)	(4,831)	(4,868)	(4,937)
4130	Total, offsetting collections	(4,400)	(4,891)	(5,233)	(4,818)	(4,933)	(4,970)	(5,039)
4160	**Budget authority (net)**	**(541)**	**663**	**1,174**	**895**	**795**	**697**	**840**
4170	**Outlays (net)[8/9/]**	**654**	**472**	**907**	**1,392**	**1,068**	**1,057**	**1,210**

These notes are an integral part of this table.

5/ Reflects estimated cost for radio spectrum fund.

6/ This entry reflects a unique mechanism developed by U.S. Treasury and implemented by U.S. Treasury and BPA to apply earned BPA fish credits to the repayment of BPA bonded debt owed to the U.S . Treasury. This entry does not reflect a taxpayer appropriation.

7/ The Permanent Authority: Authority to borrow (indefinite) from the U.S. Treasury amounts reflect both Bonneville's capital program financing needs and either the use of, or creation of, deferred borrowing. Deferred borrowing is created when, as a cash and debt management decision, Bonneville uses cash from revenues to liquidate capital obligations in lieu of borrowing at that time from the U.S. Treasury. This temporary use of cash on hand instead of borrowed funds creates the ability in future years to borrow money, when fiscally prudent. The FY 1989 Energy and Water Development Appropriations Act (P.L. 100-371 0f 7/19/88) confirmed that Bonneville has authority to incur obligations in excess of U.S. Treasury borrowing authority and cash in the BPA fund.

Total includes BPA's self-financing activities and funds for Radio Spectrum Relocation. In addition, BPA has negotiated with the U.S. Treasury access to a $750 million short-term note as part of the $17.7 billion borrowing authority.

Net Outlay estimates are based on current cost savings to date and anticipated cash management goals. They are expected to follow anticipated management decisions throughout the rate period that, along with actual market conditions, will impact revenues and expenses. Actual Net Outlays are volatile and are reported in Report on Budget Execution and Budgetary Resources (SF-133). Actual Net Outlays could differ from estimates due to changing market conditions, streamflow variability, continued restructuring of the electric industry, and other reasons.

Revenues, included in the Net Outlay formulation, are calculated consistent with cash management goals and assume a combination of adjustments. Assumed adjustments include the use of a combination of tools, including upcoming rate adjustment mechanisms, a net revenue risk adjustment, debt service refinancing strategies and/or short-term financial tools to manage net revenues and cash. Some of these potential tools will reduce costs rather than generate revenue, causing the same Net Outlay result. Adjustments for depreciation and 4(h)(10)(C) credits of the Northwest Power Act are also assumed.

8/ This budget has been prepared in accordance with PAYGO. Under PAYGO all Bonneville budget estimates are treated as mandatory and are not subject to the discretionary caps included in the Budget Control Act of 2011. These estimates support activities that are separate from discretionary activities and accounts. Thus, any changes to Bonneville estimates cannot be used to affect any other budget categories which have their own dollar caps. Because Bonneville's obligations are and will be incurred under pre-existing legislative authority, Bonneville is not subject to a "pay-as-you-go" test regarding its revision of current-law funding estimates.

For BP-1 table, the CJ reflects forecasted outlays while the yearend GTAS reflects the actual outlay in the Budget Appendix.

9/ FY 2025 Net Outlays are calculated using Bonneville's FY 2025 actual results. FY 2026 to 2031 Net Outlays are based BP-26 IPR, an escalation factor from using the FY 2025 Whitebook Loads and Resources Report.

10/ REP benefits were fixed through Sept. 30, 2028, pursuant to a settlement. This value is a placeholder and does not reflect an estimate of the REP benefits BPA may be required to pay under federal law. Actual REP benefits for this year may be higher or lower depending upon the outcome of settlement negotiations and applicable legal processes.

U.S. TREASURY PAYMENTS

(in millions of dollars)

		FISCAL YEAR						
		Actual	Estimate					
		2025	2026	2027	2028	2029	2030	2031
A.	**INTEREST ON BONDS & APPROPRIATIONS**							
	Bonneville Bond Interest							
1	Bonneville Bond Interest (net)	189	175	207	252	307	333	362
2	AFUDC [1/]	34	67	67	62	52	43	37
	Appropriations Interest							
3	Bonneville							
4	Corps of Engineers [2/]	34	27	28	28	15	10	19
5	Lower Snake River Comp. Plan	-	-	-	-	-	-	-
6	Bureau of Reclamation [3/]	1	1	1	1	1	-	-
7	Bond Premiums paid/Discounts (not capitalized)	-	8	2	1	4	2	4
8	**Total Bond and Approp. Interest**	**258**	**278**	**306**	**344**	**378**	**389**	**422**
B.	**ASSOCIATED PROJECT COST**							
9	Bureau of Reclamation Irrigation Assistance	14	21	6	12	4	2	11
10	Bureau of Rec. O & M [4/]	-	-	-	-	-	-	-
11	Corps of Eng. O & M [4/]	-	-	-	-	-	-	-
12	L. Snake River Comp. Plan O & M [4/]	-	-	-	-	-	-	-
13	COE Approp CRFM Studis Expense	20	-	-	-	-	-	-
14	**Total Assoc. Project Costs**	**35**	**21**	**6**	**12**	**4**	**2**	**11**
C.	**CAPITAL TRANSFERS**							
	Amortization							
15	Bonneville Bonds [6/]	838	762	747	543	599	780	650
16	Bureau of Reclamation Appropriations	6	-	-	-	21	-	-
17	Corps of Engineers Appropriations	27	13	-	379	148	-	-
18	Lower Snake River Comp. Plan	-	-	-	-	-	-	-
19	Bonneville Appropriations	-	-	-	-	-	-	-
20	**Total Capital Transfers [8/]**	**871**	**774**	**747**	**923**	**768**	**780**	**650**
D.	**OTHER PAYMENTS**							
21	Unfunded Post-Retirement Liability [5/]	34	23	44	47	48	49	50
22	**TOTAL TREASURY PAYMENTS**	**1,198**	**1,097**	**1,103**	**1,326**	**1,198**	**1,219**	**1,133**

These notes are an integral part of this table.

1/ This interest cost is capitalized and included in BPA's Transmission System Development, System Replacements, and Associated Projects Capital programs. AFUDC is financed through the sale of bonds.

2/ Includes interest on construction funding for Corp of Engineers (Corps) fish bypass facilities at Corps dams in the Columbia River Basin, including Lower Monumental, Ice Harbor, and The Dalles.

3/ Includes payments paid by Reclamation to the U.S. Treasury on behalf of Bonneville.

4/ Costs for power O&M is funded directly by Bonneville as follows (in millions):

	FISCAL YEAR						
	Actual	Estimate					
	2025	2026	2027	2028	2029	2030	2031
Bureau of Reclamation	179	195	207	208	213	218	222
Corps of Engineers	284	301	316	333	349	356	365
Subtotal Bureau and Corps	463	496	523	541	561	574	587
Lower Snake River Comp. Plan	28	34	35	36	36	37	38
Total	491	530	557	577	598	611	625

5/ The costs of approriated interest and use of appropriated principal plus credits to Account #309900

6/ In this FY 2027 budget, Bonneville "bond(s)" refers to all bonds issued by Bonneville to and advances received from the U.S. Treasury. This reference is consistent with section 13 (a) of the Transmission Act, which defines Bonneville bonds as all bonds, notes, and other evidences of indebtednesses issued and sold by Bonneville to the U.S. Treasury.

7/ Does not include Treasury bond premiums on refinanced Treasury bonds.

8/ FY 2025 data reflects BPA's FY 2025 year end results.

BONNEVILLE POWER ADMINISTRATION
POTENTIAL THIRD PARTY FINANCING TRANSPARENCY
(in millions of dollars)

BP-5

		Fiscal Year						
		Actual	Estimate					
Transmission Services - Capital		**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
Main Grid	Requirements	71	26	318	285	176	164	154
Area & Customer Services		70	134	140	132	95	92	90
Upgrades & Additions		153	217	303	181	107	104	96
System Replacements		456	552	564	621	540	550	599
Projects Funded in Advance		27	36	30	30	30	30	30
Revenue Financing		55	55	125	125	140	140	155
Transmission Services Indirect, G&A, AFUDC		176	182	210	211	174	178	183
Total, Transmission Services - Capital		1,009	1,202	1,690	1,585	1,262	1,259	1,306
Power Services - Capital								
Associated Project Costs	Requirements	262	265	309	310	305	307	308
Projects Funded in Advance[1/]		-	-	-	-	-	-	-
Fish & Wildlife		38	53	67	64	27	27	27
Other Power Services		1	-	1	5	100	23	9
Revenue Financing		34	39	43	44	47	39	38
Transmission Services Indirect, G&A, AFUDC		22	20	20	20	-	-	-
Total, Associated Project Costs - Capital		357	377	441	443	478	396	382
Federal and Non-Federal Funding								
Projects Funded in Advance	Sources	27	36	30	30	30	30	30
U.S. Treasury Borrowing Authority		1,339	1,543	2,101	1,998	1,711	1,625	1,658
Scenario								
Projects Funded in Advance[1/]	Scenario	-	-	-	-	-	-	-
Third Party Financing		188	232	331	305	230	228	235
Alternate Treasury Borrowing Authority		1,151	1,311	1,769	1,694	1,481	1,397	1,424

These notes are an integral part of this table.

1/ In this instance, Projects Funded in Advance represents prepayment of Power customers' bills reimbursed by future credits and third party non-federal financing for Conservation initiatives. Also this category includes those facilities and/or equipment where Bonneville retains control or ownership which are funded or financed by a third party, revenue, or with Power or Transmission reserves, either in total or in part.

The table above shows both the potential use of U.S. Treasury borrowing authority for transmission capital projects based on this FY 2025 budget and the use adjusted for potential third-party financing to fund appropriate capital expenditures when feasible in lieu of U.S. Treasury borrowing. Estimates included in this FY 2025 budget are uncertain and may change due to revised capital investment plans, changing economic conditions, and an evolving financial market environment. The estimates of third-party financing included in the table show a reduction in the use of U.S. Treasury borrowing and do not reflect the actual notional third party financing commitment Bonneville may enter into in that particular year. The difference of reduction in use of U.S. Treasury borrowing and the actual notional third party financing commitment is primarily due to the difference in the timing of financing transactions between U.S. Treasury and third-party financing for capital projects with multi-year construction schedules.

Bonneville's Third Party Financing for Transmission Services consists primarily of lease-purchase agreements, which are capitalized obligations that enable Bonneville to acquire the use of transmission facilities over time. Bonneville also undertakes the construction and installation of facilities from funds that customers advance to Bonneville for construction of BPA-owned facilities that assist the customers in obtaining necessary transmission service from Bonneville. These customers receive monetary payment credits in bills for transmission services from Bonneville up to the amount of funds advanced to Bonneville, plus interest.

Bonneville's historical Third Party Financing amounts may vary over time due to re-assignment of certain lease-purchase agreements to Treasury Financing.

Bonneville Status of U.S. Treasury Borrowing with Potential Third Party Financing & PFIA Scenario

With the potential use of third party financing assumed in the scenario above, Bonneville's total remaining U.S. Treasury Borrowing Amount would be extended to the following amounts. See BP-4 BPA Status of Treasury Borrowing- Current Services.

	Fiscal Year						
	Actual	Estimate					
	2025	2026	2027	2028	2029	2030	2031
Start-of-Year: Total Bonds Outstanding	5,961	6,373	6,425	6,781	7,662	8,719	9,467
Plus:							
U.S. Treasury Borrowing (Cash)	1,250	1,123	1,449	1,933	1,829	1,575	1,489
Less:							
Potential Third Party Financing & PFIA	188	232	331	305	230	228	235
BPA Bond Amortization	838	838	762	747	543	599	780
Net Increase/(Decrease) Bonds Outstanding:	412	52	356	881	1,056	749	475
Cum.-End-of-Year: Total	6,373	6,425	6,781	7,662	8,719	9,467	9,942
Total Remaining U.S. Treasury Borrowing Amount	7,327	7,275	6,919	6,038	8,981	8,233	7,758
Total Legislated U.S.Treasury Borrowing Amount	13,700	13,700	13,700	13,700	17,700	17,700	17,700

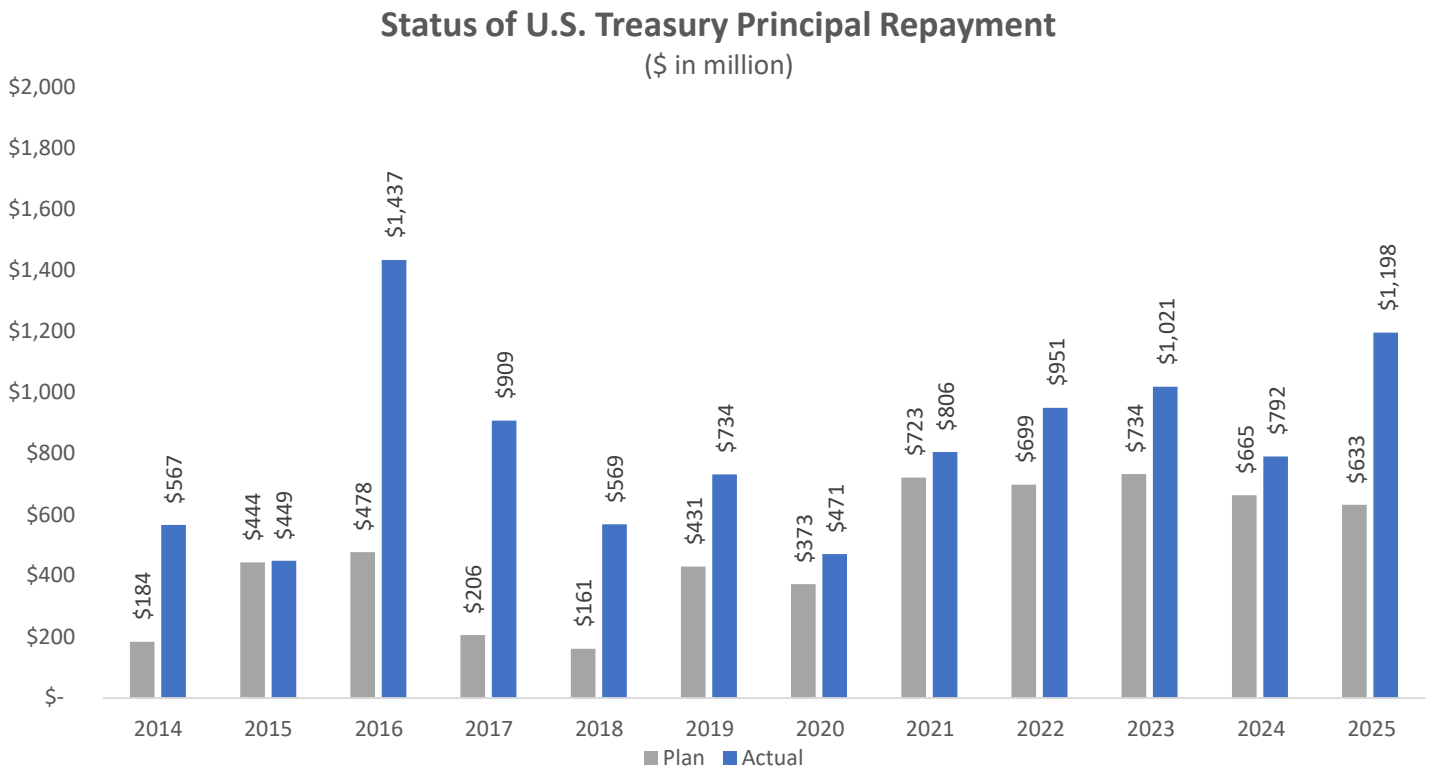


Chart Notes

- This chart displays principal repayment only.
- U.S. Treasury payment outyear estimates for planned amortization of principal are based on rate case estimates when available and are planned amortization for future rate case periods. These estimates may change due to revised capital investment plans, actual U.S. Treasury borrowing, and advanced amortization payments. Bonneville's FY 2025 payment to the U.S. Treasury was $1.2 billion. This was the 42nd consecutive year that Bonneville made its scheduled payments to the U.S. Treasury on time and in full. The payment included $885.4 million in principal, $258.7 million for interest and $54.3 million in other payments.
- Advance amortization due to sale of transmission facilities includes $0.4 million in FY 2013 and $0.4 million in FY 2014, and $0.6 million in FY 2017.
- The cumulative balance of advance amortization payments as of the end of FY 2025 was $7.8 billion.
- FYs 2014-2024 include advance amortization under the Regional Cooperation Debt initiative with Energy Northwest (EN) under which EN extended maturities on Bonneville-backed debt which enabled the early amortization of higher cost appropriations and bonds.

OBJECT CLASSIFICATION STATEMENT

(in millions of dollars)

		actuals		ESTIMATES		
		2025		2026		2027
11.1	Full-time permanent	328		364		417
11.3	Other than full-time permanent	3		3		4
11.5	Other personnel compensation	104		115		132
11.9	**Total personnel compensation**	**435**		**483**		**553**
12.1	Civilian personnel benefits	207		230		263
13.0	Benefits for former personnel	-		-		-
21.0	Travel and transportation of persons	7		8		9
22.0	Transportation of things	3		3		4
23.1	Rental payments to GSA	-		-		-
23.2	Rents, other	37		41		47
23.3	Communication, utilities & misc. charges	15		16		19
25.1	Consulting Services	154		171		196
25.2	Other Services	3,340		3,619		4,145
25.5	R & D Contracts	2		2		2
26.0	Supplies and materials	56		62		71
31.0	Equipment	40		44		51
32.0	Lands and structures	264		293		335
41.0	Grants, subsidies, contributions	52		57		66
43.0	Interest and dividends	289		321		368
99.0	**Total obligations**	**4,898**		**5,350**		**6,128**

Estimate of Receipts
(in millions of dollars)

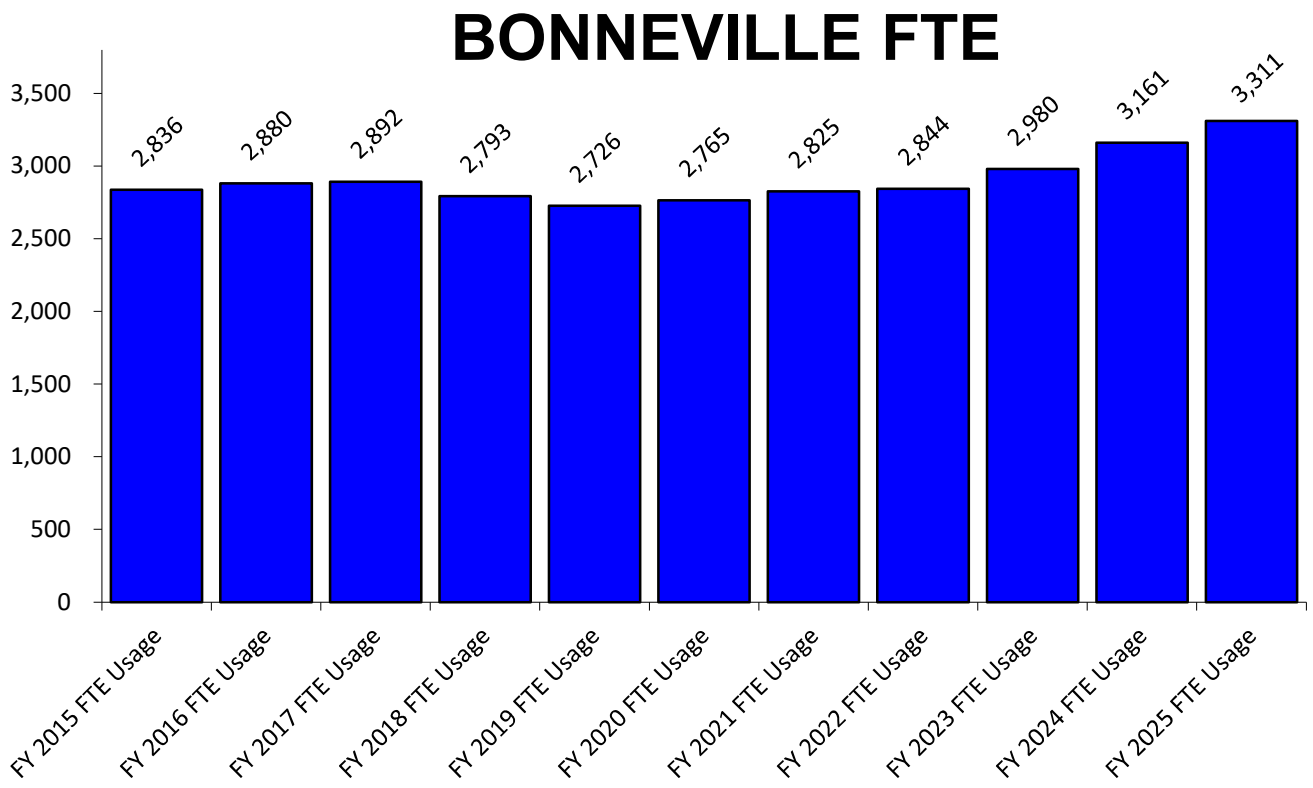
	FISCAL YEAR						
	Actual	Estimate					
	2025	2026	2027	2028	2029	2030	2031
Reclamation Interest	1	1	1	1	1	-	-
Reclamation Amortization	6	-	-	-	21	-	-
Reclamation O&M	-	-	-	-	-	-	-
Reclamation Irrig. Assist.	14	21	6	12	4	2	11
Revenues Collected by Reclamation	-16	-7	-1	-1	-7	4	3
Distributed in Treasury Account (credit)							
Colville Settlement (credit)	-5	-5	-5	-5	-5	-5	-5
Total 1/ Reclamation Fund	**-**	**10**	**1**	**7**	**14**	**1**	**10**
Corps O&M	-						
COE Approp CRFM Studies Expense	20						
CSRS	34	23	44	47	48	49	50
Total 2/ Repayments on miscellaneous costs	**54**	**23**	**44**	**47**	**48**	**49**	**50**
Appropriated Interest and Appropriations Principle plus Credits	35	35	35	35	35	35	35
Total 3/ Miscellaneous Recoveries and Refunds	**35**	**35**	**35**	**35**	**35**	**35**	**35**

1/ Includes amortization of appropriations and irrigation assistance, and interest costs for Reclamation. The cost of power O&M for Reclamation is no longer included in Proprietary Receipts due to Direct Funding by Bonneville. Represents transfer to Account #895000.26

2/ The costs of power O&M for the Corps and Lower Snake River Comp. Plan are no longer included in Proprietary Receipts due to Direct Funding by Bonneville. Represents transfers to Account #892889, Repayments on misc. recoverable costs, not otherwise classified. Costs for power O&M is funded directly by Bonneville as follows (in millions).

3/ The costs of approriated interest and use of appropriated principal plus credits to Account #309900

	FISCAL YEAR						
	Actual	Estimate					
	2025	2026	2027	2028	2029	2030	2031
Bureau of Reclamation	179	195	207	208	213	218	222
Corps of Engineers	284	301	316	333	349	356	365
Lower Snake River Comp. Plan	28	34	35	36	36	37	38
Total	**491**	**530**	**557**	**577**	**598**	**611**	**625**



These notes are an integral part of this chart.

1/ Actual FTE data is consistent with DOE personnel reports.

2/ FTE outyear data are estimates and may change. Bonneville is facing a dynamic and changing transmission marketplace and operations, and it is important to continue to attract and retain skilled individuals to meet the growing demands of a competitive and rapidly changing industry. Accordingly, FTE estimates may need to be adjusted in the future.

3/ As of September 30, 2025, BPA HR staff has reported FY 2025 BPA's FTE actuals at 3,311. This number includes 194 FTEs who have accepted the Deferred Resignation Program (DRP).

Total Cost of BPA Fish & Wildlife Actions

COST ELEMENT	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
CAPITAL INVESTMENTS [1/]											
BPA FISH AND WILDLIFE	21.4	16.0	5.4	30.7	22.3	40.2	41.9	16.1	14.6	27.8	38.0
BPA SOFTWARE DEVELOPMENT COSTS	1.4	1.2	1.4	0.8	-	-	-	-	-	-	-
ASSOCIATED PROJECTS (FEDERAL HYDRO)	81.4	34.1	58.9	51.8	55.5	106.6	66.7	10.4	4.7	11.5	9.1
TOTAL CAPITAL INVESTMENTS	104.1	51.4	65.7	83.2	77.9	146.7	108.6	26.5	19.3	39.3	47.1
PROGRAM EXPENSES											
BPA DIRECT FISH AND WILDLIFE PROGRAM	258.2	258.1	254.7	258.7	240.4	238.1	253.6	249.4	260.9	270.8	317.2
FISH & WILDLIFE SOFTWARE EXPENSE COSTS	0.1	-	-	0.1	-	-	-	0.2	1.0	1.4	1.7
SUPPLEMENTAL MITIGATION PROGRAM EXPENSES [2/]	-	-	-	-	-	-	-	-	-	-	-
REIMBURSABLE/DIRECT-FUNDED PROJECTS [3/]											
O & M LOWER SNAKE RIVER HATCHERIES	30.9	28.6	26.0	31.4	26.7	31.9	30.7	33.0	34.9	40.2	38.2
O & M CORPS OF ENGINEERS	46.4	48.2	46.8	47.5	48.9	46.3	48.3	47.4	46.0	51.1	50.1
O & M BUREAU OF RECLAMATION	2.6	6.0	7.0	5.5	8.7	5.8	6.5	7.2	6.5	7.4	6.9
NW POWER AND CONSERVATION COUNCIL ALLOCATED @ 50%	4.9	5.4	5.4	5.5	5.6	5.6	5.5	6.0	5.9	5.1	6.1
SUBTOTAL (REIMB/DIRECT-FUNDED)	84.9	88.2	85.2	89.9	89.9	89.6	91.0	93.6	93.3	103.8	101.3
TOTAL OPERATING EXPENSES	343.17	346.34	339.90	348.65	330.30	327.66	344.60	343.23	355.20	376.00	420.20
PROGRAM RELATED FIXED EXPENSES [4/]											
INTEREST EXPENSE	89.2	85.6	58.6	41.0	39.7	32.5	29.3	29.4	30.3	24.7	22.0
AMORTIZATION EXPENSE	41.3	42.5	42.5	43.4	45.1	46.7	47.4	56.0	54.9	54.3	54.2
DEPRECIATION EXPENSE	20.1	20.1	20.3	20.8	21.0	21.1	22.0	22.0	22.1	22.2	22.2
TOTAL FIXED EXPENSES	150.6	148.2	121.4	105.1	105.8	100.3	98.7	107.4	107.3	101.2	98.4
GRAND TOTAL PROGRAM EXPENSES	493.7	494.6	461.3	453.7	436.1	428.0	443.3	450.6	462.5	477.2	518.6
FORGONE REVENUES AND POWER PURCHASES											
FOREGONE REVENUES	195.8	76.6	9.6	2.9	174.4	33.4	190.6	251.9	89.3	36.6	126.6
BPA POWER PURCH. FOR FISH ENHANCEMENT	67.5	50.3	(20.5)	24.3	177.6	150.0	110.6	237.9	879.3	856.2	364.0
TOTAL FOREGONE REVENUES AND POWER PURCHASES	263.3	126.9	(10.9)	27.2	352.0	183.4	301.2	489.8	968.6	892.8	490.6
TOTAL PROGRAM EXPENSES, FOREGONE REVENUES, & POWER PURCHASES	757.0	621.5	450.4	480.9	788.1	611.5	744.5	940.5	1431.1	1370.0	1009.2
CREDITS											
4(h)(10)(C)	(77.7)	(72.6)	(53.7)	(70.1)	(98.2)	(95.5)	(90.6)	(112.3)	(257.7)	(257.8)	(160.8)
FISH COST CONTINGENCY FUND	-	-	-	-	-	-			-	-	-
TOTAL CREDITS	(77.7)	(72.6)	(53.7)	(70.1)	(98.2)	(95.5)	(90.6)	(112.3)	(257.7)	(257.8)	(160.8)

This information has been made publicly available by BPA on 3/25/2008. The figures shown are consistent with audited actuals that contain Agency approved financial information, except for forgone revenues and power purchases which are estimates and do not contain Agency approved financial information

1/ Capital Investments include both BPA's direct Fish and Wildlife Program capital investments, funded by BPA's Treasury borrowing, and "Associated Projects", which include capital investments at Corps of Engineers' and Bureau of Reclamation projects, funded by appropriations and repaid by BPA. The negative amount in FY 1997 reflects a decision to reverse "plant-in-service" investment that was never actually placed into service. The annual expenses associated with these investments are included in "Program-Related Fixed Expenses", below.

2/ Includes High Priority and Action Plan Expenses and other supplemental programs.

3/ "Reimbursable/Direct-Funded Projects" includes the portion of costs BPA pays to or on behalf of other entities that is determined to be for fish and wildlife purposes.

4/ "Fixed Expenses" include depreciation, amortization and interest on investments on the Corps of Engineers' projects, and amortization and interest on the investments associated with BPA's direct Fish and Wildlife Program.

General Provisions

General Provisions - Department of Energy
(Including transfers of funds)

SEC. 301.

(a)

(1) Unless the Secretary of Energy notifies the Committees on Appropriations of both Houses of Congress at least 3 full business days in advance, none of the funds made available in this title may be used to—

(A) make a grant allocation or discretionary grant award totaling $10,000,000 or more;

(B) make a discretionary contract award or Other Transaction Agreement totaling $10,000,000 or more, including a contract covered by the Federal Acquisition Regulation;

(C) issue a letter of intent to make an allocation, award, or Agreement in excess of the limits in subparagraph (A) or (B); or

(D) announce publicly the intention to make an allocation, award, or Agreement in excess of the limits in subparagraph (A) or (B).

(2) The Secretary of Energy shall submit to the Committees on Appropriations of both Houses of Congress within 15 days of the conclusion of each quarter a report detailing each grant allocation or discretionary grant award totaling less than $10,000,000 provided during the previous quarter.

(3) The notification required by paragraph (1) and the report required by paragraph (2) shall include the recipient of the award, the amount of the award, the fiscal year for which the funds for the award were appropriated, the account and program, project, or activity from which the funds are being drawn, the title of the award, and a brief description of the activity for which the award is made.

(b) The Department of Energy may not, with respect to any program, project, or activity that uses budget authority made available in this title under the heading "Department of Energy—Energy Programs", enter into a multiyear contract, award a multiyear grant, or enter into a multiyear cooperative agreement unless—

(1) the contract, grant, or cooperative agreement is funded for the full period of performance as anticipated at the time of award; or

(2) the contract, grant, or cooperative agreement includes a clause conditioning the Federal Government's obligation on the availability of future year budget authority and the Secretary notifies the Committees on Appropriations of both Houses of Congress at least 3 days in advance.

(c) The amounts made available by this title may be reprogrammed for any program, project, or activity, and the Department shall notify the Committees on Appropriations of both Houses of Congress at least 30 days prior to the use of any proposed reprogramming that would cause any program, project, or activity funding level to increase or decrease by more than $25,000,000 or 25 percent, whichever is less, during the time period covered by this Act.

(d)

(1) The Secretary of Energy may waive any requirement or restriction in this section that applies to the use of funds made available for the Department of Energy if compliance with such requirement or restriction would pose a substantial risk to human health, the environment, welfare, or national security.

(2) The Secretary of Energy shall notify the Committees on Appropriations of both Houses of Congress of any waiver under paragraph (1) as soon as practicable, but not later than 3 days after the date of the activity to which a requirement or restriction would otherwise have applied. Such notice shall include an explanation of the substantial risk under paragraph (1) that permitted such waiver.

(e) The unexpended balances of prior appropriations provided for activities in this Act may be available to the same appropriation accounts for such activities established pursuant to this title. Available balances may be merged with funds in the applicable established accounts and thereafter may be accounted for as one fund for the same time period as originally enacted.

(f) Subsection (c) shall not apply to funds made available in this Act for applied energy research, development, demonstration, and commercial application that are utilized pursuant to section 9 of the Small Business Act (15 U.S.C. 638) and section 1001(e) of the Energy Policy Act of 2005 (42 U.S.C. 16391). Administration and selection of awards pursuant to such section will be in coordination with the offices that oversee the appropriations accounts to which the relevant funding was originally appropriated.

SEC. 302. None of the funds made available in this title shall be used for the construction of facilities classified as high-hazard nuclear facilities under 10 CFR Part 830 unless independent oversight is conducted by the Office of Enterprise Assessments to ensure the project is in compliance with nuclear safety requirements.

SEC. 303. None of the funds made available in this title may be used to approve critical decision–2 or critical decision–3 under Department of Energy Order 413.3B, or any successive departmental guidance, for construction projects where the total project cost exceeds $100,000,000, until a separate independent cost estimate has been developed for the project for that critical decision.

SEC. 304. None of the funds made available in this title may be used to support a grant allocation award, discretionary grant award, or cooperative agreement that exceeds $100,000,000 in Federal funding unless the project is carried out through internal independent project management procedures.

SEC. 305. No funds shall be transferred directly from "Department of Energy—Power Marketing Administration—Colorado River Basins Power Marketing Fund, Western Area Power Administration" to the general fund of the Treasury in the current fiscal year.

SEC. 306. Title III of division B of Public Law 112–74 is amended by striking section 304.

SEC. 307. Title VI of Public Law 95–619 is amended by striking Part 3.

SEC. 308. Of the funds appropriated to the Department of Energy by the Infrastructure Investment and Jobs Act (the Act; Public Law 117–58), the following are hereby permanently cancelled from the following accounts and programs in the specified amounts:

(1) $593,940,994 from unobligated balances made available for fiscal years 2022 through 2026 in the "Electricity" account provided for Preventing Outages and Enhancing the Resilience of the Electric Grid, as authorized under section 40101 of division D of such Act.

(2) $118,682,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Office of Clean Energy Demonstrations" account provided for grants for the Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency, as authorized under section 40103(b) of division D of such Act.

(3) $338,729,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Office of Clean Energy Demonstrations" account provided for the Energy Improvement in Rural and Remote Areas Program, as authorized under section 40103(c) of division D of such Act.

(4) $40,501,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Electricity" account provided for the Transmission Facilitation Program, as authorized under section 40106 of division D of such Act.

(5) $52,558,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Electricity" account provided for the Smart Grid Investment Matching Program, as authorized under section 40107 of division D of such Act.

(6) $58,821,468 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for the State Energy Program, as authorized under section 40109 of division D of such Act.

(7) $127,623,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Cybersecurity, Energy Security, and Emergency Response" account provided for the Rural and Municipal Utility Advanced Cybersecurity Grant and Technical Assistance Program, as authorized under section 40124 of division D of such Act.

(8) $40,515,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Cybersecurity, Energy Security, and Emergency Response" account provided for the Cybersecurity For the Energy Sector Research, Development, and Demonstration Program, as authorized under section 40125(b) of division D of such Act.

(9) $21,504,092 from unobligated balances in the "Electricity" account provided to carry out an advanced energy security program to secure energy networks, as authorized under section 40125(d) of division D of such Act.

(10) $355,619,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Energy Efficiency and Renewable Energy" account provided for Battery Material Processing Grants, as authorized under section 40207(b) of division D of such Act.

(11) $390,000,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Energy Efficiency and Renewable Energy" account provided for Battery Manufacturing and Recycling Grants, as authorized under section 40207(c) of division D of such Act.

(12) $600,000 from unobligated balances available in the "Energy Efficiency and Renewable Energy" account provided for the Lithium-Ion Battery Recycling Prize Competition, as authorized under section 40207(e) of division D of such Act.

(13) $30,400,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Energy Efficiency and Renewable Energy" account provided to carry out activities authorized under section 40207(f) of division D of such Act.

(14) $124,947,981 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for the Electric Drive Vehicle Battery Recycling and Second-Life Applications Program, as authorized under subsection (k) of section 641 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17231), as amended by section 40208(1) of division D of the Act.

(15) $48,570,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Energy Efficiency and Renewable Energy" account provided for the Advanced Energy Manufacturing and Recycling Grant Program, as authorized under section 40209 of division D of such Act.

(16) $281,878,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Fossil Energy and Carbon Management" account provided for the Carbon Utilization Program, as authorized under section 40302 of division D of the Act.

(17) $80,710,941 from unobligated balances made available for fiscal years 2022 through 2026 in the "Fossil Energy and Carbon Management" account provided for the Front-End Engineering and Design, Carbon Capture Technology Program, as authorized under section 962 of the Energy Policy Act of 2005 (42 U.S.C. 16292), as amended by section 40303 of division D of the Act.

(18) $588,000,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Carbon Dioxide Transportation Infrastructure Finance and Innovation Program Account" provided for the Carbon Dioxide Transportation Infrastructure Finance and Innovation Program, as authorized by subtitle J of title IX of the Energy Policy Act of 2005 (42 U.S.C. 16181 et seq.), as amended by section 40304 of division D of the Act.

(19) $1,738,998,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Fossil Energy and Carbon Management" account provided for Carbon Storage Validation and Testing, as authorized under section 963 of the Energy Policy Act of 2005 (42 U.S.C. 16293), as amended by section 40305 of division D of the Act.

(20) $2,265,677,055 from unobligated balances made available for fiscal years 2022 through 2026 in the "Fossil Energy and Carbon Management" account provided for Regional Direct Air Capture Hubs, as authorized under section 969D of the Energy Policy Act of 2005 (42 U.S.C. 16298d), as amended by section 40308 of division D of the Act.

(21) $3,080,175,143 from unobligated balances made available for fiscal years 2022 through 2026 in the "Office of Clean Energy Demonstrations" account provided for Regional Clean Hydrogen Hubs, as authorized under section 813 of the Energy Policy Act of 2005 (42 U.S.C. 16151 et seq.), as amended by section 40314 of division D of the Act.

(22) $91,726,546 from unobligated balances made available for fiscal years 2022 through 2026 in the "Energy Efficiency and Renewable Energy" account provided for the Clean Hydrogen Technology Recycling Research, Development, and Demonstration Program, as authorized under section 815 of the Energy Policy Act of 2005 (42 U.S.C. 16151 et seq.), as amended by section 40314 of division D of the Act.

(23) $80,869,157 from unobligated balances made available for fiscal years 2022 through 2026 in the "Energy Efficiency and Renewable Energy" account provided for activities for the Clean Hydrogen Electrolysis Program, as authorized under section 816 of the Energy Policy Act of 2005 (42 U.S.C. 16151 et seq.), as amended by section 40314 of division D of the Act.

(24) $76,161,628 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities under section 242 of the Energy Policy Act of 2005 (42 U.S.C. 15881), as amended by section 40331 of division D of the Act.

(25) $13,081,316 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities under section 243 of the Energy Policy Act of 2005 (42 U.S.C. 15882), as amended by section 40332 of division D of the Act.

(26) $494,078,894 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for activities for Hydroelectric Incentives, as authorized under section 247 of the Energy Policy Act of 2005 (Public Law109–58; 119 Stat. 674), as amended by section 40333 of division D of the Act.

(27) $1,304,400 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for activities for the Pumped Storage Hydropower Wind and Solar Integration and System Reliability Initiative, as authorized under section 3201 of the Energy Policy Act of 2020 (42 U.S.C. 17232), as amended by section 40334 of division D of the Act.

(28) $140,373,775 from unobligated balances made available for fiscal years 2022 through 2026 in the "Office of Clean Energy Demonstrations" account provided for the Clean Energy Demonstration Program on Current and Former Mine Land, as authorized under section 40342 of division D of such Act.

(29) $39,966,440 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for the Energy Efficiency Revolving Loan Fund Capitalization Grant Program, as authorized under section 40502 of division D of such Act.

(30) $31,220,931 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for the Energy Auditor Training Grant Program, as authorized under section 40503 of division D of such Act.

(31) $54,139,207 from unobligated balances made available for fiscal years 2022 through 2026 in the "Energy Efficiency and Renewable Energy" account provided for grants for implementing of updated building energy codes, as authorized under section 309 of the Energy Conservation and Production Act (42 U.S.C. 6831 et seq.), as amended by section 40511(a) of division D of the Act.

(32) $560,111 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for Building, Training, and Assessment Centers, as authorized under section 40512 of division D of such Act.

(33) $1,204,985 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for Career Skills Training, as authorized under section 40513 of division D of such Act.

(34) $10,000,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Energy Efficiency and Renewable Energy" account provided for Industrial Research and Assessment Centers, as authorized under section 40521(b) of division D of the Act.

(35) $230,730,000 from unobligated balances made available for fiscal years 2022 through 2026 in the "Energy Efficiency and Renewable Energy" account provided for Industrial Research and Assessment Center Implementation Grants, as authorized under section 457(i) of the Energy Independence and

Security Act of 2007 (42 U.S.C. 17111 et seq.), as amended by section 40521(b) of division D of the Act.

(36) $3,663,411 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for the Manufacturing Leadership program, as authorized under section 40534 of division D of the Act.

(37) $199,580,583 from unobligated balances made available for fiscal years 2022 through 2026 in the "Energy Efficiency and Renewable Energy" account provided for Grants for Energy Efficiency Improvements and Renewable Improvements at Public School Facilities, as authorized under section 40541 of division D of the Act.

(38) $2,765,221 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for the Energy Efficiency Materials Pilot Program, as authorized under section 40542 of division D of the Act.

(39) $191,168,495 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities for the Weatherization Assistance Program, as authorized under part A of title IV of the Energy Conservation and Production Act (42 U.S.C. 6861 et seq.).

(40) $269,983,000 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities for the Energy Efficiency and Conservation Block Grant Program, as authorized under section 542(a) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17152(a)), as amended by section 40552 of division D of the Act.

(41) $183,168,742 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for the Assisting Federal Facilities with Energy Conservation Technology Grant Program, as authorized under section 546(b) of the National Energy Conservation Policy Act (42 U.S.C. 8256(b)).

(42) $8,481,918 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for Extended Product System Rebates, as authorized under section 1005 of the Energy Act of 2020 (42 U.S.C. 6311 note; Public Law 116–260).

(43) $9,017,411 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for Energy Efficient Transformer Rebates, as authorized under section 1006 of the Energy Act of 2020 (42 U.S.C. 6317 note; Public Law 116–260).

(44) $12,455,768 from unobligated balances in the "Fossil Energy and Carbon Management" account provided for Orphaned, Abandoned, or Idled Wells on Federal Land Activities, as authorized in section 349(b)(2) of the Energy Policy Act of 2005 (42 U.S.C. 15907(b)(2)), as amended by section 40601 of division D of the Act.

(45) $133,938,332 from unobligated balances in the "Office of Clean Energy Demonstrations" account provided to carry out the Energy Storage Demonstration Projects Pilot Grant Program, as authorized under section 3201(c) of the Energy Act of 2020 (42 U.S.C. 17232(c)).

(46) $51,228,570 from unobligated balances in the "Office of Clean Energy Demonstrations" account provided to carry out the Long-Duration Demonstration Initiative and Joint Program, as authorized under section 3201(d) of the Energy Act of 2020 (42 U.S.C. 17232(d)).

(47) $503,913,000 from unobligated balances made available for fiscal years 2022 through 2023 in the "Fossil Energy and Carbon Management" account provided for Critical Material Supply Chain Research Facility, as authorized under section 7002(h) of the Energy Act of 2020 (30 U.S.C. 1606(h).

(48) $396,400,521 from unobligated balances in the "Office of Clean Energy Demonstrations" account provided to carry out the Carbon Capture Large-Scale Pilot Projects, as authorized under section 962(b)(2)(B) of the Energy Policy Act of 2005 (42 U.S.C. 16292(b)(2)(B).

(49) $1,463,529,736 from unobligated balances in the "Office of Clean Energy Demonstrations" account provided for the Carbon Capture Demonstration Projects Program, as authorized under section 962(b)(2)(C) of the Energy Policy Act of 2005 (42 U.S.C. 16292(b)(2)(C).

(50) $6,6,21,362 from unobligated balances in the "Fossil Energy and Carbon Management" account provided for Precommercial Direct Air Capture Technologies Prize Competitions, as authorized under section 969D(e)(2)(A) of the Energy Policy Act of 2005 (42 U.S.C. 16298d(e)(2)(A)).

(51) $66,675,237 from unobligated balances in the "Fossil Energy and Carbon Management" account provided for Commercial Direct Air Capture Technologies Prize Competitions, as authorized under section 969D(e)(2)(B) of the Energy Policy Act of 2005 (42 U.S.C. 16298d(e)(2)(B)).

(52) $3,691,973 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities as authorized under section 634 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17213).

(53) $6,320,729 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities as authorized under section 635 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17214).

(54) $2,218,846 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities for the National Marine Energy Centers, as authorized under section 636 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17215).

(55) $25,117,220 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities authorized under section 615(d) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17194(d)).

(56) $16,020,974 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities for the Wind Energy Technology Program, as authorized under section 3003(b)(2) of the Energy Act of 2020 (42 U.S.C. 16237(b)(2)).

(57) $27,894,813 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for the Wind Energy Technology Recycling Research, Development, and Demonstration Program, as authorized under section 3003(b)(4) of the Energy Act of 2020 (42 U.S.C. 16237(b)(4)).

(58) $2,857,115 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities authorized under section 3004(b)(2) of the Energy Act of 2020 (42 U.S.C. 16238(b)(2)).

(59) $3,504,000 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for carrying out activities authorized under section 3004(b)(3) of the Energy Act of 2020 (42 U.S.C. 16238(b)(3)).

(60) $4,224,609 from unobligated balances in the "Energy Efficiency and Renewable Energy" account provided for the Solar Energy Technology Recycling Research, Development, and Demonstration Program, as authorized under section 3004(b)(4) of the Energy Act of 2020 (42 U.S.C. 16238(b)(4)).

(61) $8,768,979 from unobligated balances made available for fiscal years 2022 through 2025 in the "Office of Clean Energy Demonstrations" account provided for Industrial Emission Demonstration Projects, as authorized under section 454(d)(3) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17113(d)(3)).

SEC. 309.

(a) None of the funds made available by this Act may be used by the Secretary of Energy to award any grant, contract, cooperative agreement, or loan of $10,000,000 or greater to an entity of concern as defined in section 10114 of division B of Public Law 117–167.

(b) The Secretary shall implement the requirements under subsection (a) using a risk-based approach and analytical tools to aggregate, link, analyze, and maintain information reported by an entity seeking or receiving such funds made available by this Act.

(c) This section shall be applied in a manner consistent with the obligations of the United States under applicable international agreements.

(d) The Secretary shall have the authority to require the submission to the agency, by an entity seeking or receiving such funds made available by this Act, documentation necessary to implement the requirements under subsection (a).

(e) Chapter 35 of title 44, United States Code (commonly known as the "Paperwork Reduction Act"), shall not apply to the implementation of the requirements under this section.

(f) The Secretary and other Federal agencies shall coordinate to share relevant information necessary to implement the requirements under subsection (a).

SEC. 310.

(a) Subject to subsection (b), none of the funds made available to the Department of Energy in this or any other Act, including prior Acts and Acts other than appropriations Acts, may be used to pay the salaries and expenses of any contractor detailed to a Congressional Committee or Member Office or to the Executive Branch for longer than a 24-month period, to perform a scope of work, or participate in any matter, with the intent to influence decisions or determinations regarding a Department of Energy National Laboratory, or participate in any matter that may have a direct and predictable effect on the contractor's employer or personal financial interest: Provided, That with respect to contractors detailed to a Congressional Committee or Member Office or to the Executive Branch as of the date of enactment of this Act, the initial 24-month period described in this subsection shall be deemed to have begun on the later of the date on which such contractor was detailed or the date that is 12 months before the date of enactment of this Act.

(b) For the purposes of this section, the term "contractor" is defined to mean any contracted employee of a Department of Energy National Laboratory, as defined by section 2 (3) of the Energy Policy Act of 2005 (42 U.S.C. 15801).

Title V - General Provisions

SEC. 501. None of the funds appropriated by this Act may be used in any way, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. 1913.

SEC. 502.

(a) None of the funds made available in this Act may be used to maintain or establish a computer network unless such network blocks the viewing, downloading, and exchanging of pornography.
(b) Nothing in subsection (a) shall limit the use of funds necessary for any Federal, State, Tribal, or local law enforcement agency or any other entity carrying out criminal investigations, prosecution, or adjudication activities.