DOE/CF-0194
Volume 3

# Department of Energy

# FY 2024 Congressional Justification

**Cybersecurity, Energy Security, and Emergency Response**
**Petroleum Reserves**
**Grid Deployment Office**
**Federal Energy Management Program**
**Manufacturing & Energy Supply Chains**
**State and Community Energy Programs**
**Office of Clean Energy Demonstrations**
**Indian Energy Policy & Programs**
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**FY 2024 Congressional Budget Request**

**Volume 3**

**Table of Contents**

**DEPARTMENT OF ENERGY**
**Appropriation Summary**
**(Dollars in Thousands)**

| | FY 2022 Enacted [1] | FY 2023 Enacted [1], [2], [3] | FY 2024 President's Budget | FY 2024 President's Budget vs. FY 2023 Enacted | |
|---|---|---|---|---|---|
| | | | | $ | % |
| **Department of Energy Budget by Appropriation** | | | | | |
| Energy Efficiency and Renewable Energy | 3,200,000 | 3,460,000 | 3,826,116 | +366,116 | +10.6% |
| Electricity | 277,000 | 350,000 | 297,475 | -52,525 | -15.0% |
| Cybersecurity, Energy Security and Emergency Response | 185,804 | 200,000 | 245,475 | +45,475 | +22.7% |
| Strategic Petroleum Reserve | 219,000 | 207,175 | 280,969 | +73,794 | +35.6% |
| Naval Petroleum and Oil Shale Reserves | 13,650 | 13,004 | 13,010 | +6 | +0.0% |
| SPR Petroleum Account | 7,350 | -2,051,900 | 0 | +2,051,900 | +100.0% |
| Northeast Home Heating Oil Reserve | 6,500 | 7,000 | 7,150 | +150 | +2.1% |
| **Total, Petroleum Reserve Accounts** | **246,500** | **-1,824,721** | **301,129** | **+2,125,850** | **+116.5%** |
| **Total, Cybersecurity, Energy Security, and Emergency Response** | **432,304** | **-1,624,721** | **546,604** | **+2,171,325** | **+133.6%** |
| Nuclear Energy (270) [1], [2], [3] | 1,505,000 | 1,623,000 | 1,384,887 | -238,113 | -14.7% |
| Fossil Energy and Carbon Management | 825,000 | 890,000 | 905,475 | +15,475 | +1.7% |
| Uranium Enrichment Decontamination and Decommissioning (UED&D) | 860,000 | 879,052 | 857,482 | -21,570 | -2.5% |
| Energy Information Administration | 129,087 | 135,000 | 156,550 | +21,550 | +16.0% |
| Non-Defense Environmental Cleanup | 333,863 | 358,583 | 348,700 | -9,883 | -2.8% |
| Science [2] | 7,475,000 | 8,100,000 | 8,800,400 | +700,400 | +8.6% |
| Office of Technology Transitions | 19,470 | 22,098 | 56,550 | +34,452 | +155.9% |
| Office of Clean Energy Demonstrations | 20,000 | 89,000 | 215,300 | +126,300 | +141.9% |
| Federal Energy Management Program | 0 | 0 | 82,200 | +82,200 | N/A |
| Grid Deployment Office | 0 | 0 | 106,600 | +106,600 | N/A |
| Office of Manufacturing & Energy Supply Chains | 0 | 0 | 179,490 | +179,490 | N/A |
| Office of State and Community Programs | 0 | 0 | 705,000 | +705,000 | N/A |
| Advanced Research Projects Agency - Energy | 450,000 | 470,000 | 650,200 | +180,200 | +38.3% |
| Nuclear Waste Fund Oversight | 27,500 | 10,205 | 12,040 | +1,835 | +18.0% |
| Departmental Administration | 240,000 | 283,000 | 433,475 | +150,475 | +53.2% |
| Indian Energy Policy and Programs | 58,000 | 75,000 | 110,050 | +35,050 | +46.7% |
| Inspector General | 78,000 | 86,000 | 165,161 | +79,161 | +92.0% |
| Title 17 Innovative Technology Loan Guarantee Program | 29,000 | -136,018 | -126,524 | +9,494 | +7.0% |
| Advanced Technology Vehicles Manufacturing Loan Program | 5,000 | 9,800 | 13,000 | +3,200 | +32.7% |
| Tribal Energy Loan Guarantee Program | 2,000 | 4,000 | 6,300 | +2,300 | +57.5% |
| **Total, Credit Programs** | **36,000** | **-122,218** | **-107,224** | **+14,994** | **+12.3%** |
| Energy Projects | 0 | 221,969 | 0 | -221,969 | -100.0% |
| **Total, Energy Programs** | **15,966,224** | **15,305,968** | **19,732,531** | **+4,426,563** | **+28.9%** |
| Weapons Activities | 15,920,000 | 17,116,119 | 18,832,947 | +1,716,828 | +10.0% |
| Defense Nuclear Nonproliferation | 2,354,000 | 2,490,000 | 2,508,959 | +18,959 | +0.8% |
| Naval Reactors [1] | 1,918,000 | 2,081,445 | 1,964,100 | -117,345 | -5.6% |
| Federal Salaries and Expenses | 464,000 | 475,000 | 538,994 | +63,994 | +13.5% |
| National Nuclear Security Administration Rescissions | -288,133 | 0 | 0 | 0 | N/A |
| **Total, National Nuclear Security Administration** | **20,367,867** | **22,162,564** | **23,845,000** | **+1,682,436** | **+7.6%** |
| Defense Environmental Cleanup | 6,710,000 | 7,025,000 | 7,073,587 | +48,587 | +0.7% |
| Other Defense Activities | 985,000 | 1,035,000 | 1,075,197 | +40,197 | +3.9% |
| Defense Uranium Enrichment D&D | 573,333 | 586,035 | 427,000 | -159,035 | -27.1% |
| **Total, Environmental and Other Defense Activities** | **8,268,333** | **8,646,035** | **8,575,784** | **-70,251** | **-0.8%** |
| Nuclear Energy (050) | 149,800 | 150,000 | 177,733 | +27,733 | +18.5% |
| **Total, Atomic Energy Defense Activities** | **28,786,000** | **30,958,599** | **32,598,517** | **+1,639,918** | **+5.3%** |
| Southeastern Power Administration | 0 | 0 | 0 | 0 | N/A |
| Southwestern Power Administration | 10,400 | 10,608 | 11,440 | +832 | +7.8% |
| Western Area Power Administration | 90,772 | 98,732 | 99,872 | +1,140 | +1.2% |
| Falcon and Amistad Operating and Maintenance Fund | 228 | 228 | 228 | 0 | N/A |
| Colorado River Basins Power Marketing Fund | 0 | 0 | 0 | 0 | N/A |
| **Total, Power Marketing Administrations** | **101,400** | **109,568** | **111,540** | **+1,972** | **+1.8%** |
| Federal Energy Regulatory Commission | 0 | 0 | 0 | 0 | N/A |
| **Total, Energy and Water Development and Related Agencies** | **44,853,624** | **46,374,135** | **52,442,588** | **+6,068,453** | **+13.1%** |
| Excess Fees and Recoveries, FERC | -9,000 | -9,000 | -9,000 | 0 | N/A |
| Title XVII Loan Guar. Prog Section 1703 Negative Credit Subsidy Receipt | -10,000 | -14,000 | -7,000 | +7,000 | +50.0% |
| UED&D Fund Offset | -573,333 | -586,035 | -427,000 | +159,035 | +27.1% |
| **Discretionary Funding by Appropriation** | **44,261,291** | **45,765,100** | **51,999,588** | **+6,234,488** | **+13.6%** |
| **DOE Budget Function** | **44,261,291** | **45,765,100** | **51,999,588** | **+6,234,488** | **+13.6%** |
| NNSA Defense (050) Total | 20,367,867 | 22,162,564 | 23,845,000 | +1,682,436 | +7.6% |
| Non-NNSA Defense (050) Total | 8,418,133 | 8,796,035 | 8,753,517 | -42,518 | -0.5% |
| *Defense (050)* | *28,786,000* | *30,958,599* | *32,598,517* | *+1,639,918* | *+5.3%* |
| Science (250) | 7,475,000 | 8,100,000 | 8,800,400 | +700,400 | +8.6% |
| Energy (270) | 8,000,291 | 6,706,501 | 10,600,671 | +3,894,170 | +58.1% |
| *Non-Defense (Non-050)* | *15,475,291* | *14,806,501* | *19,401,071* | *+4,594,570* | *+31.0%* |

*[1] Funding does not reflect the mandated transfer of $92.75 million in FY 2022 and $99.75 million in FY 2023 from Naval Reactors to the Office of Nuclear Energy for operation of the Advanced Test Reactor.*

*[2] Funding does not reflect the mandated transfer of $20 million from the Office of Nuclear Energy to the Office of Science for Nuclear Facilities Oak Ridge National Laboratory Operations and Maintenance.*

*[3] FY 2023 Enacted levels for base funding includes $300 million for the Office of Nuclear Energy that was enacted in Division M, Additional Ukraine Supplemental Appropriations, of the Consolidated Appropriations Act, 2023 (P.L. 117-328). This funding is a part of the total $12.5 billion governmentwide originally intended to be base appropriations that was designated as emergency requirements for purposes of the 2023 Omnibus agreement.*

# Cybersecurity, Energy Security, and Emergency Response

# Cybersecurity, Energy Security, and Emergency Response

## Cybersecurity, Energy Security, and Emergency Response

### 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, $245,475,000, to remain available until expended: Provided, That of such amount, $32,475,000 shall be available until September 30, 2025, for program direction.

(Energy and Water Development and Related Agencies Appropriations Act, 2023.)

**Public Law Authorizations**
Public Law 95–91, "Department of Energy Organization Act", 1977
Public Law 109-58, "Energy Policy Act of 2005"
Public Law 110-140, "Energy Independence and Security Act, 2007"
Public Law 114-94, "Fixing America's Surface Transportation Act", 2015
Public Law 110-246, "Division Z Energy Act", 2020

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

| FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|
| 185,804 | 200,000 | 245,475 |

**Overview**

The U.S. Department of Energy's (DOE's) Office of Cybersecurity, Energy Security, and Emergency Response (CESER) leads the Department's efforts to strengthen the security and resilience of U.S. energy infrastructure against all threats and hazards, mitigate impacts from cybersecurity, physical, supply chain, and climate-based events, and assist with response and restoration activities. CESER is the Office responsible for DOE's responsibilities as lead agency for Emergency Support Function #12 (Energy), or ESF #12, under the National Response Framework, the Sector Risk Management Agency (SRMA) for the energy sector per the 2002 Homeland Security Act (as amended), and the Sector Specific Agency (SSA) for the energy sector per the 2015 Fixing America's Surface Transportation Act. In those roles, DOE leads national efforts to enhance the preparedness, resiliency, and recovery of the U.S. energy infrastructure from all threats and hazards.

As climate-based and cybersecurity risks continue to grow exponentially, CESER plays a critical role in conducting advanced risk analysis; representing the Department at National Security Council (NSC) meetings on national-level security and resilience policies; mitigating risks by informing Federal and State, Local, Territorial, and Tribal (SLTT) national security and resilience policies; researching, developing, and demonstrating (RD&D) tools and technologies; and supporting energy sector (electricity, oil, and natural gas) emergency preparedness and response efforts. CESER accomplishes its mission through strong partnerships with energy sector owners and operators, States and local communities, intra-agency partners, interagency partners, manufacturers, technology companies, academia, and international partners.

The U.S. energy sector is considered one of the "lifeline sectors" since nearly all other critical infrastructure sectors rely on the reliable delivery of electricity, oil, and natural gas. This includes hospitals, military installations, water and wastewater facilities, communications, and transportation. Further, as the U.S. energy sector rapidly evolves to address the impacts of climate-based risks through the historic investments under the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA), it is more important to ensure those next-generation energy systems are designed and deployed with security and resilience in mind.

With that in mind, CESER's fiscal year 2024 (FY 2024) Request spans three divisions: Preparedness, Policy, and Risk Analysis[a]; Risk Management Tools and Technologies, and Response and Restoration. The three divisions work together from preparing the U.S. energy sector through advanced risk analysis and policy development to informing the RD&D of next generation tools and technologies and then leveraging the analysis and tools to respond during an emergency. The response, whether it's the Colonial Pipeline cyberattack or Hurricane Fiona in 2022, informs CESER and Department-wide preparedness, recovery, and RD&D priorities. Finally, the Office of Petroleum Reserves (OPR) is the newest division in CESER and is detailed in a separate request. OPR is one of the strongest tools in the U.S. government's toolbox to address critical fuel supply constraints, particularly in the face of domestic and global issues and threats, affecting the availability of oil, heating oil, and gasoline across the country and is an integral part of CESER.

CESER's FY 2024 Request will:

- **Strengthen U.S. energy sector security and resilience through advanced risk analysis** by leveraging the analytical capabilities of DOE's National Laboratories and through partnerships with industry and the SLTT community. As the energy sector's SRMA, CESER is tasked with understanding and addressing the sector's growing climate-based and cybersecurity risks. In FY 2024, CESER will strengthen these capabilities, which will not only assist industry and SLTT

[a] Legacy Information Sharing, Partnerships and Exercises (ISPE) became Preparedness, Policy, and Risk Analysis in FY24

entities to better address risks, but also help other DOE offices as they design and deploy next generation energy systems such as solar, wind, and hydrogen or continue to expand transmission, nuclear, and battery storage across the country. This work will also support national security efforts to strengthen Defense Critical Energy Infrastructure (DCEI) in light of growing cybersecurity threats.

- **Integrate cybersecurity and resilience into the energy sector industrial base** through partnerships with manufacturers, technology companies, standards organizations, and academia. In June 2022, CESER released the National Cyber-Informed Engineering (CIE) Strategy that outlines specific goals to achieve "security by design" in U.S. energy systems. In addition to executing the CIE Strategy, CESER is committed to strengthening its supply chain risk management initiatives under the Energy Cyber Sense program. The Energy Cyber Sense program will look at everything from supply chain standards (e.g., NIST) and policies (e.g., North American Electric Reliability Corporation's Critical Infrastructure Protection standards) to building the capabilities, resources, and guidance that enables energy industrial base to strengthen hardware and software security and inform the design of next generation systems. This supports a long-term vision of developing secure and trusted supply chains domestically.

- **Reduce risks to the electricity, oil, and natural gas systems through threat-informed research, development, and demonstration** of next generation tools and technologies that provide U.S. energy companies cutting-edge protection, monitoring, detection, response, containment, forensics, and recovery capabilities. U.S. energy systems are evolving rapidly to address the impacts of climate-based risks, meet customer expectations for reliability and resiliency, and ensure safety and efficiency. Therefore, it is imperative that CESER invest in tools and technologies that keep pace with those systems and work with States and communities on hardening measures. In 2022, the energy sector experienced increased physical security threats to grid infrastructure. CESER's FY 2024 Budget Request seeks to develop frameworks, tools, and technologies to support grid owners and operators to mitigate physical security threats. Finally, CESER invests in both next generation tools and technologies to address cybersecurity threats, climate-based risks (e.g., wildfires), and high-impact, low frequency (HILF) events such as geomagnetic disturbances (GMD) and electromagnetic pulse (EMP).

- **Build security and resiliency capacity across industry and SLTT entities through exercises, training, technical assistance, and workforce development initiatives.** To build security and resilience at all levels, it is critical that CESER partners with the energy sector community in States and local communities as well as with industry. To that end, CESER will expand sponsoring industry, State and regional exercises, develop and expand cybersecurity training for owners and operators to address emerging cybersecurity threats, and strengthen the resilience of energy systems that feed critical defense facilities. Further, CESER will invest in cybersecurity workforce development to ensure that the energy sector has a strong, trained workforce to meet the cybersecurity challenges today and those ahead.

- **Strengthen emergency preparedness and response capabilities by enhancing CESER's ability to address all hazards impacting or potentially impacting the energy sector**, by reducing those impacts at the regional and State levels, in coordination with industry partners. CESER will expand its regional presence to increase the value provided to sector, regional, and SLTT partners during steady State through activities such as State Energy Security Planning, joint training and exercises, and other activities to develop and grow the strong relationships necessary during active emergency response. To meet these needs, CESER will increase regionally based federal staffing, and explore mission needs, requirements, and alternatives for CESER regionally based response centers. Further, CESER will continue to develop the Energy Threat Analysis Center (ETAC) pilot in partnership with industry, National Laboratories, the intelligence community, and the Cybersecurity and Infrastructure Security Agency's (CISA) Joint Cyber Defense Collaborative.

**Highlights and Major Changes in the FY 2024 Budget Request**

- **Preparedness, Policy, and Risk Analysis** ($39,000,000) engages in collaborative risk management with the energy industry and SLTT partners to enhance energy sector security and resilience. These efforts will advance the Department's efforts to analyze, prepare for, mitigate, and recover from all threats and hazards facing the U.S. energy sector. CESER will achieve this through information sharing, strategic industry engagements, risk assessments, capacity building in planning and resilience, and targeted training and exercises. The increased funding will allow for an expanded risk and resilience analysis capability and actions to mitigate and, in some cases even avoid, the impacts of energy supply disruptions, with a focus on ensuing the most vulnerable and underserved communities' needs are addressed in energy security planning, response, risk assessment, and mitigation actions. A key focus of the analysis will be local, State, and regional risk assessments to identify critical energy infrastructure and asset vulnerabilities as well as any single points of failure. Key upstream dependencies and downstream dependent markets would also be identified as well as mitigation strategies. As the SRMA for energy, this work will allow a thorough understanding of risks that are a priority for the energy sector and collaborate with partners to buy down this risk for a more secure and resilient energy infrastructure, including, but not limited to, climate adaptation, hurricanes/severe weather, wildfires, earthquakes, cyberattacks, electromagnetic interference, third-party and supply chain risks, risks arising out of cybersecurity workforce shortages and emerging risks to renewable energy generation and distributed energy resources (DERs).

- **Risk Management Tools and Technologies** ($135,000,000) leads the research, development, and demonstration for the Department focused on tools and technologies to address cybersecurity, physical, natural hazard, and other threats to the U.S. energy sector. This division also leads efforts to integrate cybersecurity across DOE's applied energy and science offices. CESER will invest in frameworks, tools, and technologies to identify, protect, prevent, mitigate, and respond to threats to energy systems. The funding will focus on emerging cybersecurity risks including: security for operational technology (OT) environments with increased grid integration and cloud adoption, securing the diverse communications networks and protocols, and hardening energy systems for a post-quantum world. Additionally, an expanded focus on the Energy Cyber Sense program, will allow for a range of supply chain security efforts as the Cyber Testing for Resilient Industrial Control Systems (CyTRICS) initiative, development of a framework for energy sector software bill of materials and hardware bill of materials, and other similar efforts. RMT will also address risks such as geomagnetic disturbances (GMD) and electromagnetic pulse (EMP) and physical threats to critical energy infrastructure. RMT will include a renewed focus on developing tools and technologies to mitigate risks facing the energy sector from increasing hurricanes, wildfires, flooding, and other natural hazards. Finally, the RMT funding includes establishing the Cyber and Energy Resilience Center of Excellence.

- **Response and Restoration** ($39,000,000) coordinates a national effort to ensure the sector can respond to and restore energy systems from emergencies resulting from natural hazards, cyberattacks, physical attacks, and other threats facing energy infrastructure. This line of effort leads DOE and CESER's roles as Emergency Support Function (ESF) #12 – Energy and SRMA/SSA in support of Presidential Policy Directive (PPD)-41 *United States Cyber Incident Coordination*. CESER works with partners in the energy sector to assess the impacts of disasters on local and regional energy infrastructure; provide situational awareness updates to Federal, State, and private sector partners; facilitate legal and regulatory waivers to accelerate restoration of damaged energy systems; and provide technical expertise on energy damage assessment, restoration, mitigation, and logistical assistance. CESER's analytical capabilities to assess and mitigate risks and threats to energy infrastructure has proven critical during events such as Hurricane Ida, Colonial Pipeline ransomware cyberattack, and others, and increased funding will allow for additional situational awareness capabilities through the Situational Awareness Watch Office. The Environment for Analysis of Geo-Located Energy Information (EAGLE) situational awareness monitoring program is critical capability that has been moved from CESER's RMT program as the tool has matured and is now being fully implemented with the R&R division. CESER's response and restorations are often carried out close partnership with agencies such as the FEMA, DHS/CISA, Federal Bureau of Investigation (FBI), and the Intelligence Community. An expansion of CESER's regionally based operations and increased integration with the PPRA divisions' SLTT program will enhance the partnerships and relationships necessary for

effective and efficient emergency response. Finally, R&R includes funding for the ETAC pilot, which will act as a hub for DOE's cybersecurity threat joint collaboration with the energy sector. The ETAC pilot, which has broad support by the energy sector owners and operators, the White House, interagency partners such as CISA, and others, will enable DOE to more closely partner with the sector on cybersecurity threat situational awareness and response.

**FY 2022 Key Accomplishments**

CESER had a number of accomplishments FY 2022, which are having a demonstrable impact on the security and resilience of the sector:

- Continued to support industry on cybersecurity risk identification and mitigation across a number of functions including:
    - Completed 5-year planning process with Electricity Information Sharing and Analysis Center (E-ISAC) on the future of Cybersecurity Risk Information Sharing Program (CRISP). CRISP is the flagship information sharing program for the electric sector, and allows private sector entities to share information about their internet perimeters with E-ISAC and DOE for the purpose of provide awareness of nation State level threats that may be targeting that entity. DOE supports the program by providing funding that prioritizes visibility for entities that have a nexus with national critical infrastructure priorities and funds research and development to ensure technology used is in line with existing practices for network monitoring. CRISP members also contribute to the program through the E-ISAC, who leverage PNNL as the prime contractor. CESER sponsors the CRISP effort in partnership with the E-ISAC, bringing together resources from across the DOE Complex and coordination with industry stakeholders to provide visibility into cybersecurity threats targeting United States critical electric infrastructure. CESER also completed development of the next generation Information Sharing Device, which is the sensor used by CRISP, providing greater interoperability and capability that is standard with the interagency.
    - Engaged with energy sector partners at the unclassified and classified levels to identify risks posed by Russia's unprovoked and unjust invasion of Ukraine. CESER developed a number of products to advise the energy sector of those risks and provided them to the owners and operators. Further, CESER was instrumental in providing grid equipment and cybersecurity support to Ukrainian energy companies in collaboration with of DOE's Office of International Affairs.
    - Developed a report on *Cybersecurity Considerations for Distributed Energy Resources on the U.S. Electric Grid*. This report provides an overview of cybersecurity considerations that should be considered by the electric sector, including utilities and distributed energy resource (DER) operators, providers, integrators, developers, and vendors, as well as policymakers as we embark on this transformational change to the U.S electric grid. This report will help inform future risk analysis, RD&D, and emergency response efforts going forward. For the release, CESER held a webinar with industry partners and participated in media outreach (e.g., podcasts) to educate them on the importance of the findings. Industry feedback has been extremely positive, and the report has facilitated outreach into these critical DER communities.
- Partnered with the Electricity Subsector Coordinating Council (ESCC) on critical issues on energy resilience and cybersecurity including launching a Supply Chain Tiger Team in response to concerns repeatedly expressed by the electric utilities regarding increased supply chain risk, with a focus on distribution transformers. Another key focus area has been on solutions focused on wildfires risk mitigation. By facilitating a whole of government approach, to the ESCC wildfire working group was able to work towards a host of solutions, including Bureau of Land

Management and Department of Interior establishing a new permitting process for the master special use permits with utilities.

- Continued to partner with SLTT governments and industry partners on preparedness activities. Highlights include:
    - Over 4,000 State energy officials, governors, energy advisors, public utility commissioners, State legislators, and emergency managers participated in CESER-supported events and training for energy security, resilience and cybersecurity planning in FY 2022.

    - In partnership with the National Association of State Energy Officials, released an Energy Emergency Response Playbook to provide State and territory energy officials with a starting point for energy emergency response planning. The playbook includes a framework for evaluating energy emergencies, guidance, and templates for response actions, as well as planning, monitoring, and response resources. The playbook is designed to be customized by States and align with their State Energy Security Plans (SESPs).

    - CESER supported States in their effort to develop a SESP that met the criteria of IIJA Section 40108 by developing and releasing SESP framework and guidance, nine "drop-in" SESP resources. SESPs describe the State's energy landscape, people, processes, and the state's strategy to build energy resilience. More specifically, the plans detail how a State, working with energy partners, can secure their energy infrastructure against all physical and cybersecurity threats; mitigate the risk of energy supply disruptions to the State; enhance the response to, and recovery from, energy disruptions; and ensure that the State has secure, reliable, and resilient energy infrastructure. The requirement to propose methods to strengthen energy security abilities of the State can be used to inform policy, legislation, and budget priorities to mitigate the State's energy sector risks. Over 50% of states who updated their plans in 2022 utilized the CESER drop-in resources.

    - Partnered with the National Association of Regulatory Utility Commissioners (NARUC to support cybersecurity training to State public service commissioners and their staff. 82% of participants demonstrated gains in cybersecurity knowledge post-training.

    - Sponsored and supported over 40 preparedness exercises, including at least 500 participants from the energy sector (industry), State, local, federal, and other critical infrastructure partners. These exercises focused on improving energy resilience, security and cybersecurity. CESER's capstone annual all-hazards Clear Path exercise series included a focus on DOE and the energy sector's multi-hazard response capabilities, resulting in defined resource and supply chain areas. The series also included a resilient communications drill and a social media drill focusing on coordinated responses to mis-, dis-, and mal-information campaigns. CESER successfully conducted its cyber-focused exercise Liberty Eclipse, which leverages a physical testbed environment replicating the electric grid and the operational technology found at substations throughout the Nation. This testbed provides a hands-on training environment opportunity for industry partners to test and evaluate their deployed cybersecurity defenses against a simulated adversary consisting of National Laboratory personnel. Follow-on analysis and corrective action discussions between industry and the simulated adversary provides opportunity to modify and recognize follow-on attack strategies, which can be included in a utility's real-world operating system and procedures.

      CESER's cybersecurity training programs successfully supported industry partners' cybersecurity resilience and preparedness domestically and internationally. As an example, CyberStrike™, CESER's professional cybersecurity training for operational technology environments was delivered 16 times in FY 2022 (includes both domestic and international deliveries). The hands-on training opportunities CyberStrike™

helps the existing cybersecurity workforce to understand how adversaries conduct cybersecurity campaigns against industrial control systems used in the energy sector and the skills needed to counteract these threats.

In response to recommendations by the U.S. Cyberspace Solarium Commission and to support the needs of energy sector senior level operational technology security managers, CESER conducted its second year of the Operational Technology Defender Fellowship (OTDF) and expanded the cohort to 15 participants (which included diverse representation from DER-focused company) and in-person sessions with critical cybersecurity and U.S. Intelligence Community partners. The increased engagement opportunities allowed participants to more fully understand the cybersecurity strategies and tactics adversarial State and non-state actors use in targeting U.S. energy sector infrastructure; the roles and capabilities of U.S. departments and agencies to support critical infrastructure owners and operators; and serves as a bi-directional information and idea exchange forum between government and energy sector experts, contributing to the collective advancement of improved cybersecurity and information sharing capabilities and processes. Participants attend four in-person sessions, including a scenario-driven capstone exercise where the cohort will demonstrate the understanding of key federal cybersecurity policies, roles and responsibilities, public and private collaborative programs and themes, and other takeaways learned throughout the year.

- As part of CESER's Defense Critical Energy Infrastructure (DCEI) program, partnered with the U.S. Department of Defense on risk assessments of energy infrastructure supporting critical defense facilities. This all-hazards assessment is looking at cybersecurity, physical, climate, weather, and other threats to the installations for completion in FY 2023.

- Completed 20 research and development (R&D) projects along with transitioning seven technologies into practice at energy companies. The General Electric "Cyber-Physical Resilience for Wind Power Generation" R&D project completed a three-week demo of new cyber-physical security system for wind turbines and successfully detected the presence of attacks and located the sensor signals being manipulated in the testing. The CESER SEL Ambassador project successfully transitioned to practice a solution architecture for reducing cybersecurity risks and enhancing situational awareness for utility providers and industrial operations.

- RMT funded research using quantum communications to protect power grid control signals from third party infiltration was announced as finalist for the prestigious R&D 100 Award.

- Released a $45M Funding Opportunity Announcement (FOA) to strengthen the cybersecurity of next generation energy systems through RD&D that will create, accelerate, and test technology to protect our energy systems from cyberattacks. Further, CESER executed a $12M FOA to establish a network of university-based, regional cybersecurity R&D centers across the nation. Finally, CESER awarded $12M for six university-based RD&D projects focused on the development of cutting-edge cyber-physical platform tools and technologies that can detect and mitigate incidents in electric power systems.

- Released version 2.1 of the globally adopted Cybersecurity Capability Maturity Model (C2M2) along with supplemental guidance and an online tool. The new version was developed with inputs from 145 cybersecurity experts from 77 energy sector and cybersecurity organizations and pilot validation at nine energy companies. In the months following the release of C2M2 version 2.1, an average of more than 2,500 monthly unique users accessed the HTML-based C2M2 tools. The C2M2 is used both domestically and abroad by organizations in energy and other critical infrastructure sectors.

- Continued engagement with the Securing Energy Infrastructure Executive Task Force to convene key stakeholders from all levels of government, industry, academia, and the National Labs to jointly address priority technical vulnerabilities in energy systems. The Task Force developed a National Cyber-Informed Engineering Strategy and identified cybersecurity standards for OT environments.

- Funded initiative to leverage Artificial Intelligence to improve the accuracy of wildfire risk predictions was showcased by the Frontier Development Lab.

- In FY 2022, the Cyber Testing for Resilient Industrial Control Systems (CyTRICS) program tested 11 systems leveraging unparalleled technical expertise from the National Labs. The program has participation agreements with critical energy sector manufacturers and asset owners and is testing components of priority policy and security importance and expanded participation by adding a vendor. CyTRICS testing has identified 28 vulnerabilities, which have been mitigated in current systems and are informing more secure designs for future models. But more importantly, close coordination with vendors during testing helped to reduce the average cycle time from vulnerability discovery to mitigation and asset owner notification by 71% from the 2021 baseline.

- ESF #12 team spent 169 days activated during 2022 responding to two hurricanes, two tropical storms, flooding in Kentucky, wildfires in New Mexico, sargassum seaweed overgrowth in the United States Virgin Islands, and six National Special Security Events.

- Expanded products and tools including the use of the Survey 123 application to gather photos and videos during damage assessments during four 2022 response events, with more than 50 surveys submitted from the field, enabling real-time situational awareness reporting, and more informed decision making related to infrastructure damage.

- Implemented a targeted ESF #12 recruitment plan, which made an immediate impact during the 2022 response season. The Energy Response Organization (ERO) conducted targeted recruitment from DOE divisions such as the Grid Deployment Office (GDO) who can complement the CESER ERO mission by providing specialized expertise with transmission, grid modernization, and power generation. The GDO knowledge was critical to separate response and restoration activities from recovery activities, and transition of mission requirements seamlessly within DOE.

- In 2022, ESF #12 trained 96 responders, including 12 new to the program for various response functions, including Energy Specialist, Energy Unit Lead, and Catastrophic Incident Response Team.

**Cybersecurity, Energy Security, and Emergency Response**
**Funding by Congressional Control ($K)**
**(Comparable)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| Preparedness, Policy, and Risk Analysis[a] | 19,000 | 26,857 | 39,000 | +12,143 | +45.2% |
| Risk Management Tools & Technologies | 129,804 | 125,000 | 135,000 | +10,000 | +8.0% |
| Response and Restoration | 18,000 | 23,000 | 39,000 | +16,000 | +69.6% |
| Program Direction | 16,000 | 25,143 | 32,475 | +7,332 | +29.2% |
| Congressionally Directed | 3,000 | 0 | 0 | 0 | 0.0% |
| **Total, Cybersecurity, Energy Security, and Emergency Response** | **185,804** | **200,000** | **245,475** | **+45,475** | **+22.7%** |
| **Federal Full Time Equivalent Employees (FTEs)** | 44 | 93 | 113 | +20 | 21.5% |
| Additional FE FTEs at NETL supporting CESER[b] | 9 | 11 | 11 | 0 | 0.0% |
| Total CESER-funded FTEs | **53** | **104** | **124** | **+20** | **19.2%** |

SBIR/STTR:

- FY 2023 Enacted: SBIR/STTR: $2,482
- FY 2024 Request: SBIR/STTR: $2,491

[a] Legacy Information Sharing, Partnerships and Exercises (ISPE) became Preparedness, Policy, and Risk Analysis in FY24

[b] CESER funds FTEs at FECM's National Energy Technology Laboratory who are FECM employees, but support CESER activities. The FTEs are in FECM's FTE totals and are not included in the CESER's FTE totals shown on the "Federal Full Time Equivalent Employees (FTEs)" line.

**Infrastructure Investment and Jobs Act ($K)**

| Appropriated Funding Organization | FY 2022 IIJA Funding | FY 2023 IIJA Funding | FY 2024 IIJA Funding | Managing Organization |
|---|---|---|---|---|
| Cybersecurity, Energy Security, and Emergency Response (CESER) | | | | |
| Rural and Municipal Utility Adv Cybersecurity Ass Sec. 40124 | 50,000 | 50,000 | 50,000 | CESER |
| Cybersecurity for the Energy Sector RD&D Sec. 40125b | 50,000 | 50,000 | 50,000 | CESER |
| Energy Sector Op Support for Cyberresilience Sec. 40125c | 50,000 | 0 | 0 | CESER |

- **Rural and Municipal Utility Advance Cybersecurity Assessment Sec. 40124:** The goal of this investment is to enhance the security posture of rural, municipal, and small investor-owned electric utilities through investments in operational capabilities, services, technology deployments, and threat intelligence information-sharing. The FY 2024 planned activities will provide funding and technical assistance to eligible entities to: harden their cybersecurity systems and processes; improve cybersecurity incident preparedness and incident response capabilities; improve the knowledge, skills, and abilities of utility staff through cybersecurity training and technology deployments, with a specific focus on utilities serving military installations; and increase the participation of eligible utilities in threat information sharing programs. These activities will accelerate the ability of eligible entities to protect against, detect, respond to, and/or recover from a cybersecurity threat.
- **Cybersecurity for the Energy Sector RD&D Sec. 40125b:** The goal of this investment is to enhance energy sector cybersecurity through research development and demonstration of emerging technologies that are scalable and through identifying and reducing cybersecurity workforce gaps. The FY 2024 planned activities will continue to support research, development, and demonstration (RD&D) projects securing energy delivery systems. Additionally, this program will support workforce development activities for energy sector cybersecurity.
- **Energy Sector Operational Support for Cyberresilience Sec 40125c:** The goal of this investment is to enhance the Department's emergency response capabilities and testing in coordination with the other agencies, National Labs and private industry and provide technical assistance to municipal and cooperative utilities to improve cybersecurity maturity levels. Additionally, this investment is for increased intelligence community sharing and enhanced/expanded tools for monitoring the status of the energy sector. The FY 2024 planned activities are primarily centered on the ETAC Pilot. The ETAC Pilot will bring subject matter experts from the federal government and energy sector together to analyze and address threats and risks to the energy system, provide timely and actionable warnings to the energy sector and develop whole-of-sector recommendations for mitigations and defensive measures, and support DOE's emergency response functions as Sector Risk Management Agency and lead for Emergency Support Function #12 (Energy).
- 40125d: CESER's Preparedness, Policy, and Risk Analysis will manage the funds originally appropriated to the Electricity appropriations account.

**Future Years Energy Program (FYEP)**
**($K)**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| Cybersecurity, Energy Security, and Emergency Response | 245,475 | 251,000 | 256,000 | 262,000 | 268,000 |

**Outyear Priorities and Assumptions**

In the FY 2012 Consolidated Appropriations Act (P.L. 112-74), Congress directed the Department to include a future-years energy program (FYEP) in subsequent requests that reflects the proposed appropriations for five years. This FYEP shows outyear funding for each account for FY 2025 - FY 2028. The outyear funding levels use the growth rates in outyear account totals published in the FY 2024 President's Budget for both the 050 and non-050 accounts. Actual future budget request levels will be determined as part of the annual budget process.

CESER priorities in the outyears include the following:

- Invest in industry and State capacity building to manage risk
- Establish training and exercises to include leveraging cyber-physical testbed and ranges to address real-world threats
- Overcome cybersecurity workforce challenges
- Promote energy justice through studies of economically disadvantaged communities for response and recovery
- Development of risk management tools, and advanced threat information sharing tools for sector wide awareness
- Expanded regional approach to emergency response efforts
- Development of Cyber-Physical emergency response expertise

## Preparedness, Policy, and Risk Analysis (PPRA)

**Overview**

The U.S. energy sector is characterized by widely diverse infrastructure components, a multifaceted operational environment, and complex ownership and regulatory structures. As one of the priority enabling functions upon which all other critical infrastructure sectors rely, the Nation's security, public health and safety, and economy depend on energy. With the sector facing evolving threats and risks, such as natural disasters, changing conditions, cybersecurity and physical security threats, aging and evolving technologies in infrastructure, and shortage of a skilled cybersecurity workforce, a critical component of preparedness is working with the energy sector to assess risk. As the Sector Risk Management Agency (SMRA) for energy, the Office of Cybersecurity, Energy Security, and Emergency Response (CESER) continuously assesses priority energy sector risks, including, but not limited to, hurricanes/severe weather, wildfires, climate adaptation, earthquakes, cyberattacks, electromagnetic interference, third-party and supply chain risks, risks arising out of cybersecurity workforce shortages, and emerging risks to renewable energy generation and distributed energy resources (DERs).

Within CESER, the Preparedness, Policy, and Risk Analysis (PPRA)[a] division is focused on cultivating strong partnerships across all levels of government and private industry, with insights and support from academia and laboratory partnerships to identify, assess, and manage risk. PPRA also works to build sector capacity to support security and resilience of critical energy infrastructure and the communities that rely on it through sharing information, building preparedness, and promoting learning and adaption through strategic partnerships. PPRA's overarching goal is risk reduction in the energy sector with efforts that aim to buy down this risk through the activities described in this Request.

PPRA is the point of entry for State, local, Tribal, and territorial (SLTT) governments and energy sector private partners when collaborating with DOE and the Federal Government on energy critical infrastructure protection, energy security, risk mitigation, resilience, emergency preparedness, and recovery efforts.

The Department has emphasized support for Executive Order 13636, Section 9 companies[b], Defense Critical Energy Infrastructure (DCEI) companies, and investor owned, municipal, and cooperative utilities in addition to SLTT energy agencies in this request. PPRA's partnerships—with energy owners and operators, manufacturers, & trade associations; with other Federal agencies; across SLTT governments; with academia and the National Labs; and with the energy information sharing and analysis centers (ISACs)—help to advance collective preparedness and resilience to the growing landscape of threats, technology developments, and energy system trends.

**Highlights of the FY 2024 Budget Request**

The FY 2024 Budget Request supports a continued expansion of energy sector security and resilience activities in coordination with government and industry partners. By seeding public-private partnerships and cultivating trusted relationships, this program will advance the Department's efforts to support SLTT and industry in preparing for, mitigating, and recovering from all threats and hazards facing the U.S. energy sector through information sharing, risk assessments, capacity building in planning and resilience, and targeted training and exercises.

**Planning, Preparedness, and Resilience ($30 million)**

- **Manage Energy Sector Risk and Enable Sector Risk Management ($10 million):** PPRA will continue to lead the Department's activities on sector-wide energy security policy and represent DOE at the National Security Council and across the interagency for cross-sector energy security policy and risk management. This includes leading interagency risk management activities for the energy critical infrastructure including policy development. Through the Risk Management program, PPRA will:

[a] Legacy Information Sharing, Partnerships and Exercises (ISPE) became Preparedness, Policy, and Risk Analysis in FY 2024

[b] The Department of Homeland Security (DHS), in coordination with relevant SRMAs, annually identifies and maintains a list of critical infrastructure entities that meet the criteria specified in Executive Order (EO) 13636, *Improving Critical Infrastructure Cybersecurity*, Section 9(a) ("Section 9 entities") utilizing a risk-based approach. Section 9 entities are defined as "critical infrastructure where a cybersecurity incident could reasonably result in catastrophic regional or national effects on public health or safety, economic security, or national security."

- Build on existing mechanisms for risk identification and mitigation development and extend new capabilities to identify systemically important energy sector entities, perform intelligence-informed risk analysis, and coordinate with other DOE offices, the National Labs, Federal agencies, and relevant critical infrastructure sectors. As the SRMA lead, CESER will further develop its capacity to support the energy sector's (e.g., owners and operators, trade organizations, subsector coordinating councils, SLTT, Section 9) need for a cohesive and coordinated set of resources, enable sector entity risk mitigation actions through knowledge exchange, and provide for more collaborative engagement opportunities to inform risk analysis.
- Complete a risk analysis strategy and the release of CESER Investments in Risk Mitigation Publication to ensure the stakeholder community maximizes its ability to leverage the capability developed by CESER. As the diversity of resources interconnected to the energy system grows CESER will prepare and provide action-oriented, intelligence-informed threat briefings to support energy system investment and decision-making.
- Establish new coordination and relationship-building opportunities to identify and eliminate barriers to energy security information sharing across governments and industry, including for renewable and distributed energy resources (DERs). This includes developing immediate risk and resilience analyses and actions to mitigate and, in some cases even avoid, the impacts of energy supply disruptions. These products will address key knowledge gaps to improve stakeholder capacity to develop and implement policies, regulations, and training programs that support incorporating critical energy security, cybersecurity, and resilience into infrastructure systems.

- **Support Post-Disaster Recovery and Resilience ($2 million):** When a major disaster strikes, the restoration of energy systems depends on the planning and coordinated effectiveness of local, Tribal, territorial, regional, and national responses. In FY 2024, the program will expand the capability for risk analysis, energy security and resilience planning technical assistance engagements across federal, State and local response entities to improve preparedness to all-hazards including hurricanes, wildfires, fuel emergencies, cybersecurity events, and impacts from the growing threat of climate change. CESER will enhance, aggregate, and deliver dynamic data and analysis products to SLTT energy and emergency officials. These products build on lessons learned from exercises and real-world energy disruptions to improve the inclusion of security and resilience into policy and investment decisions. In addition, CESER will support communities during the recovery phase following major disasters by facilitating access to technical resources that will help them to build resilience, protect critical energy infrastructure, and reduce or avoid future incident impacts.

- **Enhance State, Local, Tribal, and Territorial Energy Security, Resilience and Emergency Preparedness Capacity ($16 million)**: Keeping the lights on and fuel flowing is a priority for governors, legislators, State energy offices, regulators, emergency management agencies, and Tribal and local governments. Energy security planning can ensure a State has a reliable, secure, and resilient energy supply. As climate change and manmade threats continue to pose greater risks to energy infrastructure, States must adapt their plans and policies, prepare for emergencies, pursue resilient and pre-hazard mitigation energy projects, and make risk-informed investment decisions. PPRA will assist SLTT entities to enhance their capacity to manage risks, mitigate threats, and prepare and respond to emergencies. In FY 2024, increased funding will support additional deployment of CESER resources across the United States to SLTT partners to provide them with actionable advice, plan templates, as well as opportunities to collaborate with local, regional, Tribal, and intrastate partners more effectively. PPRA will provide planning and preparedness support to SLTT entities through the following efforts:

    - In response to State requests for CESER to support more State and regional-led initiatives, PPRA will provide technical support, policy strategy, and risk mitigation strategies to CESER's Regional liaisons who reside locally, understand region specific hazards, interdependencies and can provide dedicated technical assistance. This direct engagement will include support for implementation of State energy security plans, hazard mitigation planning with State and FEMA officials, participation in State energy emergency exercises, facilitation of regional coordination efforts and other technical assistance efforts aimed at improving SLTT preparedness and resilience.

    - To fulfill repeated requests from local and Tribal governments for specific local resources, PPRA will develop customizable energy security and fuel planning resources. PPRA anticipates that over 200 local and Tribal governments will develop plans utilizing these tailored resources.

- State Emergency Support Function (ESF) 12 responders have been activated more often in in recent years to respond to energy emergencies. To best prepare this group to respond, PPRA will expand its successful but limited virtual State ESF-12 training to include regional workshops that will provide in-depth training and multi-state coordination.

- Designing systems with security embedded will be essential for the clean energy transition and to protect distributed energy resources (DERs) and electric vehicle supply equipment, included those deployed through funding from IIJA and IRA. PPRA will prepare States to build-in security from the start with guidance, procurement language examples and facilitated collaboration across State agencies to enable coordination and process changes that are required to accomplish the secure clean energy transition. PPRA anticipates 30 States and territories will adopt security guidelines based on PPRA assistance and uptake of previous offerings.

- PPRA will develop an All-Hazard Vulnerability and Threat Scoring Framework to help SLTT and industry partners quickly identify critical risks to energy infrastructure in the face of an unfolding threat and identify quickly implementable mitigation measures. This Framework will be developed alongside SLTT, industry, and federal partners, with the goal of ensuring that it can produce common baseline understandings of threat, vulnerability, and risk that serve the needs of the energy sector – informing planning/preparedness efforts and expenditures (including State Energy Security Plans, and long-term infrastructure planning), and supporting coordinated incident response. The Framework will begin implementation through case-by-case pilot assessments conducted by DOE and partners, with the aim of scaling to a publicly-released tool that can be used by all energy stakeholders.

- PPRA will incorporate Energy Justice (EJ) as a key component in resources developed. Specifically, model energy security programs which include input from and benefit to energy justice communities. Activities will include Energy Security Roundtable discussions (with Tribes, EJ communities, others), guidance for engagement, and model programs. PPRA anticipates producing 5-10 model programs suited for broad adoption across the 56 States and territories.

- **Defense Critical Energy Infrastructure (DCEI) ($2 million)**: The DCEI program's objective is to strengthen energy infrastructure systems for national security purposes. The DCEI program will identify, evaluate, prioritize, and assist in developing executable strategies to strengthen the energy infrastructure systems that supply critical infrastructure needed to ensure continuity of defense activities following severe natural and manmade disasters. Specifically, these investments will enable an increased confidence that necessary energy resources will be available to designated Critical Defense Facilities. CESER will continue to implement DOE's DCEI strategic plan by applying previously validated successful methods to additional critical defense facilities, increasing national defense and security readiness against power supply interruptions.

**Exercises, Cybersecurity Training, and Cyber Workforce Development ($9 million)**

In support of CESER's mission to be prepared for, respond to, and recover from, threats and hazards causing energy disruptions, this program is designed to elevate the collective sector preparedness through platforms such as relevant cybersecurity training, exercises, and cybersecurity workforce development programs.

- **Non-cyber Exercises and Training ($2 million):** Exercises are an important component of preparedness, by providing the energy sector with the opportunity to shape planning, assess and validate capabilities, and address areas for improvement. CESER supports exercises that prepare participants for all-hazards that could affect energy delivery alongside partners from federal, SLTT, oil, natural gas, and electricity subsectors, and other interdependent critical infrastructure sector organizations. In addition to cybersecurity-focused exercises, CESER will tailor upcoming exercise objectives to include the following themes: energy sector security, climate adaptation and resilience, physical security, and logistics and supply chain integrity. Clear Path is CESER's annual cornerstone all-hazards energy security and resilience exercise series. The Clear Path series is the principal forum for enhancing the energy sector's ability to coordinate and support each other in response to catastrophic incidents including terrorism, wildfires, earthquakes and impactful weather events. The series examines the energy sector's response and restoration roles, responsibilities, and plans and procedures following a major incident, stressing

interdependencies between multiple critical infrastructure sectors. Each year, Clear Path presents response officials with a diverse array of challenging exercise scenarios, allowing them to build upon and validate improvements and mitigation tactics implemented and derived from lessons learned from previous exercises and real-world incidents. A key component of exercise effectiveness is CESER's continuous improvement planning cycle which includes thorough after-action review of identified areas to sustain and/or improve. These areas and the associated corrective actions are integrated into emergency response plans and procedures as well as into future exercises for training and validation. Through final after-action reports, exercise results are shared with participants, providing clear guidance on how plans, policies, and procedures can be augmented to reduce risk and increase overall preparedness.

- **Cybersecurity Exercises, Training and Workforce Development ($7 million):** The energy sector is experiencing a significant increase in vacant cybersecurity jobs. In the attempt to mitigate the workforce gap, CESER is developing a cybersecurity workforce framework that will identify options to support the expansion of the qualified talent pipeline, broadening opportunities for non-traditional and underrepresented groups, hosting cybersecurity defense competitions, and emphasizing the concepts of apprenticeships and upskilling. In the near term, CESER's CyberForce Competition, a collegiate cybersecurity defense competition in which students defend a simulated cybersecurity -physical infrastructure against professional red-team attackers, is bringing together energy sector industry and government partners with hiring priorities and the Nation's future cybersecurity defenders. The CyberForce Program extends and encourages students from Minority Serving Institutions and from underrepresented communities to participate. To further reduce the consequences of cybersecurity -enabled sabotage, CESER has prioritized the development and delivery of cybersecurity training to the energy sector, federal, and SLTT partners through hands-on training efforts such as its CyberStrike Training program and the Operational Technology (OT) Defender Fellowship. Through hands-on training, the CyberStrike platform enhances the ability of energy sector owners and operators to prepare for a cybersecurity incident impacting operational technology. FY 2024 improvements will enhance the curriculum to expand threats by demonstrating real-world attacks attributed to nation-states and those on DERs and renewable infrastructure, such as solar and wind inverters. The OT Defender Fellowship program offers senior-level OT security and operations managers an opportunity to understand high-level strategies and tactics adversarial state and nonstate actors employ in targeting U.S. energy infrastructure. The program serves as a bi-directional information and idea exchange forum between government and energy sector experts, contributes to the collective advancement of improved cybersecurity and information sharing capabilities and processes. To validate cybersecurity training, the need for hands-on capabilities to test and evaluate cybersecurity processes, plans, procedures, incident response capabilities, and technologies is best demonstrated through preparedness exercises which incorporate testbed environments. The use of testbeds that closely mirror real-world electrical grid substations, provide direct transferable findings from experimental environments to real-world operations. The Liberty Eclipse Exercise, DOE's annual cybersecurity-focused series, leverages this testbed environment, affording industry an extremely unique and customizable opportunity. Following success of 2022's effort, DOE intends to develop opportunities to expand industry partnership, and develop a training model that is available to reach utility partners with less resources and mature plans and procedures. Through these unique DOE efforts, CESER will continue to explore emerging threats and apply educational training models to rapidly and broadly disseminate awareness of, and defensive measures against, future cybersecurity threats.

**Preparedness, Policy and Risk Analysis (PPRA) ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Preparedness, Policy and Risk Analysis[a]** | | | | | |
| Planning, Preparedness, and Resilience | 12,000 | 17,857 | 30,000 | +12,143 | +68.0% |
| Training and Exercises | 7,000 | 9,000 | 9,000 | 0 | 0.0% |
| **Total, Information Sharing, Partnerships and Exercises** | **19,000** | **26,857** | **39,000** | **+12,143** | **+45.2%** |

**Preparedness, Policy, and Risk Analysis (PPRA)**
**Explanation of Changes ($K)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| • Planning, Preparedness, and Resilience - Identify systemically important entities and perform intelligence-informed risk analysis, incorporate diversity, inclusion and energy justice in methods, approaches and tools available to the energy sector, enhance State Energy Security Plans previously submitted and incorporate renewable and DER in plans, improve mitigation and emergency preparedness through training workshops and tabletop exercises, and expand State cybersecurity incident response planning. | +12,143 |
| • Exercises, Cybersecurity Training and Cyber Workforce Development - Conduct internal and external exercises with the federal interagency, SLTT governments, and industry on both cybersecurity and natural hazards, provide cybersecurity training for operational technology and industrial control systems, enhance the CyberForce Competition, and establish a Cyber Workforce Development effort within CESER. | +0 |
| **Total, Preparedness, Policy, and Risk Analysis (PPRA)** | **+12,143** |

[a] Legacy Information Sharing, Partnerships and Exercises (ISPE) became Preparedness, Policy, and Risk Analysis in FY 2024

**Activities and Explanation of Changes ($)**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Preparedness, Policy, and Risk Analysis (PPRA)**<br>**$26,857,000** | **$39,000,000** | **+$12,143,000** |
| *Planning, Preparedness, and Resilience $17,857,000* | *$30,000,000* | *+$12,143,000* |
| • Identify systemically important entities and perform intelligence-informed risk analysis, prepare and provide action-oriented, intelligence-informed threat briefings and eliminate barriers to government-industry information sharing and operational coordination, inform State and industry, including DCEI, investment decisions and improve mitigation and emergency through dynamic risk analyses, and provide technical assistance in support of State energy security planning.<br>• Scale DOE's DCEI risk efforts by applying successful methods incubated and validated in FY 2022 to more critical defense facilities from DOE's designated list, increasing national defense and security readiness against power supply interruptions. Expand, aggregate, and deliver intelligence-informed and actionable data and analysis to SLTT energy and emergency officials and industry via dynamic risk analyses.<br>• Incorporate diversity, inclusion and energy justice in methods, approaches and tools that will enable SLTT governments to enhance and exercise energy security plans and regulatory models, incorporating | • Define and manage an understanding of systemic risks in the energy sector in partnership with labs and SCCs and Section 9 companies in particular. Manage a risk register to define and document critical infrastructure risks.<br>• Develop capabilities to identify critical energy companies (electricity, oil, and natural gas) in the U.S. in support of SRMA mission.<br>• Manage the Department's Critical Energy Infrastructure Information program.<br>• Lead SRMA engagement activities, facilitating information sharing, policy development, and risk management activities with the critical infrastructure stakeholders and interagency.<br>• Develop analytic capabilities that can dynamically identify and prioritize energy infrastructure in support of Defense Critical Energy Infrastructure.<br>• Identify and /or Assess resilience options that could be implemented to accomplish DOE and Administration strategic goals on securing energy delivery systems from all hazards. Development of ARES reports | • Enhance State Energy Security Plans submitted in FY 2023 to ensure secure, reliable, and resilient energy infrastructure in a changing threat and operational environment. Develop guidance and provide technical assistance for local and Tribal governments for energy security and fuel plans. Incorporate renewable and distributed energy resources into State plans and technical assistance efforts.<br>• Use updated tools to conduct local, State, and regional risk assessments to identify critical energy infrastructure and asset vulnerabilities and assist States with identifying and implementing mitigation measures that will reduce risks.<br>• Launch regional Emergency Support Function 12 (ESF-12) training workshops and tabletop exercises for States to enhance emergency preparedness and regional collaboration.<br>• Work with at least 10 States to expand their cybersecurity incident response plan to include response to a cyberattack that could result in physical consequences to energy delivery. |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| cybersecurity, hardening, and other resilience measures and incentives. | and other risk analysis products and communication tools.<br>• Assist SLTT entities to enhance their capacity to manage risks, mitigate threats, and prepare and respond to emergencies.<br>• Facilitate access to technical resources that will help build resilience, protect critical energy infrastructure, and reduce or avoid future incident impacts. | |
| *Exercises, Cybersecurity Training and Cyber Workforce Development $9,000,000* | *$9,000,000* | *+$0* |
| • Training and Exercises: Conduct internal and external exercises with the interagency, SLTT governments, and industry on cybersecurity and natural hazards, provide cybersecurity training for operational technology and industrial control systems, and expand the scope of the CyberForce Competition. | • Conduct internal and external exercises with the federal interagency, SLTT governments, and industry on both cybersecurity and natural hazards.<br>• Expand cybersecurity exercises and training by enhancing and leveraging existing testbed environments which can provide realistic simulation capabilities, allowing for advanced training and efficiencies.<br>• Scale cybersecurity training for operational technology and industrial control systems by increasing CyberStrike deliveries and enhance the renewable variation.<br>• Enhance the CyberForce Competition to include multiple competitive events throughout the year leading to a multi-day capstone competition event, while also emphasizing the internship and job fair opportunity. | • Continue internal and external exercises with the interagency, SLTT governments, and industry on cybersecurity and natural hazards, provide cybersecurity training for operational technology and industrial control systems, and expand the scope of the CyberForce Competition.<br>• Establish a Cyber Workforce Development framework |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| | • Establish a Cyber Workforce Development framework with the intent to decrease the workforce gap in energy cybersecurity jobs. | |

## Risk Management Tools and Technologies (RMT)

**Overview**

The dynamic threat landscape, climate crisis, advances in energy system technologies, increasing supply chain cybersecurity risks, and the use of legacy devices in an aging infrastructure are all continuous challenges to the resilience of the energy sector. Further, while we advance the energy sector by integrating new sources of generation (e.g., solar, wind), new architectures (e.g., virtual power plants, cloud resources, artificial intelligence), and new systems (e.g., grid management systems, automated management systems), we have to ensure these systems and technologies are designed and built with resilience to the growing climate, cybersecurity, and physical risks. The Office of Cybersecurity, Energy Security, and Emergency Response's (CESER) Risk Management Tools and Technologies (RMT) division does just that.

The RMT division focuses on research, development, and demonstration (RD&D) of tools, technologies, and techniques that address cybersecurity, physical, electromagnetic pulse, geomagnetic, and climate-based risks facing the energy sector. RMT spearheads innovation through partnerships that include asset owners and operators, academia, manufacturers, DOE National Laboratories, and other Federal agencies. This approach has led RMT to demonstrate and deploy a number of innovative approaches and technologies to strengthen the security and resiliency of electricity, oil, and natural gas hardware and software. The division's RD&D efforts develop tools that monitor, detect, and protect critical energy infrastructure and networks from threats; and enable automated assessments, situational awareness, and response to threats to the sector. RMT leverages state of the art national lab infrastructure and capabilities to test systems; identify vulnerabilities; and develop mitigations. The division also works closely with sector partners to transition developed technologies to practice through commercialization, and to enable sector adoption of recommended processes and practices through frameworks and guidance.

In addition to working closely with industry, RMT is leading the integration of 'cybersecurity by design' in DOE's RD&D efforts across the Department's science and applied energy offices. This approach means offices performing RD&D of energy delivery system will integrate cybersecurity requirements in their activities resulting in energy delivery systems of the future being inherently more secure. CESER facilitates this integration, as well as coordination of Research and Development (R&D) for securing legacy and emerging energy delivery systems where there are unmet needs (e.g., addressing cybersecurity needs stemming from the proliferation of EV infrastructure and other distributed energy resources). Improved coordination and integration of cybersecurity R&D will also enable CESER to prioritize RD&D of tools and technologies which apply across multiple energy systems (e.g., renewables, fossil, nuclear domains) and focus on activities such as encryption, forensics, and monitoring.

**Highlights of the FY 2024 Budget Request**

Working closely with energy sector, academia, and National Laboratories, the FY 2024 Budget Request for RMT supports a more economically competitive, environmentally responsible, secure, and resilient U.S. energy infrastructure focusing on following activities:

- **ADVANCE TOOLS TO MANAGE CYBER RISKS ($45 million)**

    - **RD&D of Cybersecurity Tools and Technologies ($30 million)**
      Research, develop, demonstrate and transition to practice next generation cybersecurity tools and technologies that provide energy companies protection, monitoring, detection, response, containment, forensics, and recovery capabilities. These tools will leverage operational data and the physics of energy delivery to inform owners and operators of anomalous cybersecurity activities on their industrial controls systems and networks. These efforts will primarily be executed through competitive funding opportunities and research calls for energy companies, academia, National Laboratories, and/or manufacturers. This work focus on tools that enable individual utilities to manage cybersecurity risks to next generation energy systems, such as microgrids, automated OT infrastructure, virtual power plants, and cloud-connected systems, positioning the industry to stay ahead of the threat.

- **RD&D of Cybersecurity Situational Awareness & Information Sharing ($10 million)**
  In addition to developing tools to address cybersecurity risks at individual organizational level, RMT is also focused on research, development, and demonstration of technologies that enable sector-wide information sharing, and USG situational awareness of cybersecurity threats through analysis and correlation with intelligence community information. This work will result in improving cybersecurity situational awareness and analysis capabilities not present today. CESER will work with National Laboratories on novel tools for collaborative defense, correlating various data sets to detect anomalous activity, and enabling real-time dissemination of threat intelligence to both DOE and owners and operators. RMT will evaluate and, where applicable, propose potential uses of these technologies by entities such as States and industry associations.

- **Energy Cybersecurity Center of Excellence ($5 million)**
  The **DOE Energy Cybersecurity Center of Excellence (CCoE)** will provide energy cybersecurity expertise and capabilities to the other DOE offices ensuring cybersecurity is integrated by design in the energy delivery systems of tomorrow and other energy projects funded by DOE. The CCoE, led by CESER, will provide DOE offices shared cybersecurity resources and services drawing from CESER programs and National Laboratory expertise. As the office responsible for energy sector cybersecurity, the establishment of the CCoE is a critical component in hardening the systems (hardware, software, virtual, etc.) that are built and deployed for use in the energy sector. CESER will also function through CCoE as the critical connection point between experts at relevant National Labs with program offices deploying funding, projects, or programs that need cybersecurity support. Using an applied approach to cybersecurity and RD&D done within CESER, the CCoE will provide cybersecurity expertise to all DOE RD&D where applicable and to integrate practices across policies, programs, and funding opportunities.

- **UNIVERSITY-BASED RD&D AND ENERGY CYBERSECURITY R&D CENTERS ($5 million)**
  RMT will expand the network of university cybersecurity R&D centers across the Nation. These university cybersecurity RD&D Centers will enable collaboration among regional utilities, National Laboratories, and regulatory bodies to perform RD&D that combines multi-disciplinary expertise including but not limited to power system engineering and the computer science of cybersecurity. This includes innovate and transition capabilities that reduce the risk of power disruption resulting from a cybersecurity incident for energy delivery systems. Academic RD&D involves unbiased, technology focused activities that, when combined with industry priorities and guidance, results in real-world, impactful solutions. Additionally, the Centers will enable integration of DOE initiatives and resources such as Cybersecurity Capability Maturity Model (C2M2) and CyOTE into university energy cybersecurity programs. This will not only provide discovery and innovation but will also contribute to energy cybersecurity learning and teaching across different communities in the country.

- **ADVANCE TOOLS TO MANAGE RISKS FROM NATURAL HAZARDS AND NON-CYBER THREATS ($20 million)**

  - **RD&D of Risk Management Tools and Technologies for Natural Hazards ($10 million)**
    RMT will address non-cybersecurity risks and hazards to the energy sector, such as those due to climate change, extreme weather, and seismic events. RMT will leverage emerging technologies to develop tools that help identify, characterize, detect and mitigate risks to energy infrastructure, such as hurricanes, flooding, droughts, and earthquakes. These tools will enable long term planning allowing the industry to more effectively prepare for and respond to these incidents.

  - **RD&D of Tools and Technologies for energy infrastructure resilience to wildfires ($4 million)**
    RMT will partner with industry, private sector RD&D partners, the National Laboratories, and other DOE offices to research, develop, and demonstrate technology solutions that enable the prevention, detection, and dynamic mitigation of wildfire risks. RMT will focus on developing and validating technologies that utilize real-life information to more accurately determine probable equipment and infrastructure failures. These investments will

result in advancements in technologies and approaches such as advance sensors, grid data analytics, satellite imagery, drones, and application of artificial intelligence.

- **RD&D of Tools and Technologies for addressing physical threats to energy systems ($1 million)**
  RMT will work with industry and interagency partners to develop and tailor tools and technologies that address physical and other man-made non-cybersecurity threats to electricity, oil, and gas infrastructure such as Metcalf Substation-style physical attacks, unmanned aerial systems (UAS), and positioning, navigation, and timing risks. Using prizes, RMT will work closely with other DOE offices, private sector research organizations, and the National Laboratories to incentivize advancements in physical security technology development, demonstration, and adoption for hardening risk prioritized infrastructure such as transmission substations and oil and natural gas pipelines.

- **Electromagnetic Pulse and Geomagnetic Disturbances ($5 million)**
  DOE will continue to engage in efforts to address the risks associated with electromagnetic pulse (EMP) and geomagnetic disturbances (GMD). These will include activities such as performing vulnerability assessments of critical assets; identifying mitigation options and estimated costs; and partnering with industry (through cost shares) to field deploy innovative cost-effective mitigation options based on results of vulnerability assessments.

- **SUPPLY CHAIN CYBERSECURITY RISK MANAGEMENT ($45 million)**

  - **Energy Cyber Sense and Cyber Testing for Resilient Industrial Control Systems (CyTRICS) ($35 million)**
    The Energy Cyber Sense program is CESER's overarching supply chain cybersecurity risk management effort. The program comprises a range of activities including the CyTRICS testing. In Q1 FY 2023, CESER completed the Energy Cyber Sense Implementation Plan and 5-Year Operating Plan. The program comprises four pillars of excellence: Understand criticality, test and establish digital supply chain transparency, aid in application of standards, norms, and best practices, and improve technology and system designs (both legacy and new). This vision of the program will enable CESER to execute more effectively on Congressional direction and assist the Energy Sector Industrial Base (ESIB) in enhancing the resilience of critical infrastructure.

    As the testing component of the broader Energy Cyber Sense program CyTRICS is focused exclusively on testing and will dovetail with Cyber Sense capabilities of identification and prioritization of critical equipment, provenance, mitigation solutions, and vulnerability disclosures. CyTRICS partners across energy sector manufacturers and asset owners to apply classified threat intelligence, identify high priority operational technology (OT) components, perform expert testing, share information about vulnerabilities in the digital supply chain, and inform improvements in component design and manufacturing. CESER leverages best-in-class test facilities and analytic capabilities at six DOE National Laboratories (INL, PNNL, SNL, NREL, ORNL, and LLNL) and strategic partnerships with technology developers, manufacturers, asset owners and operators, and interagency partners.

    FY 2024 funding will enable CESER RMT to expand the reach of the CyTRICS testing activities; with a focus on risk-based prioritized systems and components. RMT will develop partnerships with the operational technology manufacturers and integrate the testing pipeline with the broader Energy Cyber Sense program. RMT will work with interagency partners and industry on a pilot effort to research, design and develop cybersecurity label for an industrial IoT technology in the energy sector. The labeling pilot will not include enforcement or certification but will include work on promotion through standards and guidance. The CyTRICS program will also work to analyze no less than 15% of critical components in energy sector systems; and expand manufacturers participating in the program to cover no less than 30% of the market share of critical components. CyTRICS is rapidly expanding its testing capacity across six DOE National Labs and growing our vendor partnerships. This expansion will allow CyTRICS to not only test more components, but also test a greater diversity of critical systems in the energy sector. RMT will work with interagency partners and industry on a pilot effort to research, design and develop

cybersecurity label for an industrial IoT technology in the energy sector. The labeling pilot will not include enforcement or certification but will include work on promotion through standards and guidance.

- **Cybersecurity of Distributed Energy Resources ($5 million)**
  CESER will work with the National Labs to conduct cybersecurity research and related supply chain risk management of distributed energy resources (DERs). As DERs become pervasive energy sector stakeholders must increase investment in the cybersecurity of those components (e.g., solar, storage, controllable loads, etc. based on risk and technology landscape). In some communities across the U.S., DERs will begin to supply 100% of generation by 2030; consequently, it is a priority to research and address cybersecurity risks and the impacts to broader resilience to the grid. This work will be closely coordinated with technology specific research being performed in the Office of Energy Efficiency and Renewable Energy and storage research performed in the Office of Electricity. In FY 2024, this work will include demonstration pilots of cybersecurity measures being pursued in close collaboration with the Office of Energy Efficiency and Renewable Energy; research to strengthen the cybersecurity of communication protocols in the DER space; and development of tools and capabilities that ensure risks from DERs in the cloud environments are mitigated. Activities that may continue include the Clean Energy Cyber Accelerator (pilot) and Renewable Energy and Storage Cybersecurity Research (RESCue) project, which is research focused on the cybersecurity of hybrid power plants that are inclusive of wind, solar, and energy storage.

- **Cybersecurity of Electric Vehicle Charging Infrastructure ($5 million)**
  RMT is focused on ensuring cybersecurity is an integral part of the Nation's clean energy transition, to include the shift to EVs. RMT will deliver solutions that mitigate cybersecurity risks and advance EV charging infrastructure resilience and performance. CESER's EV cybersecurity portfolio of work is done in close collaboration with the Joint Office of Energy and Transportation and the Vehicles Technologies Office. RMT will work with public and private partners to support development and promotion of cybersecurity standards across the EV and EVSE ecosystem and identify opportunities for harmonization; work towards the cybersecurity attributes needed for the emerging EV and EVSE ecosystem; and conduct targeted cybersecurity R&D for the EV and EVSE ecosystem.

- **CYBER RISK ASSESSMENTS, FRAMEWORKS, AND R&D COORDINATION ($20 million)**

  - **Cyber-Informed Engineering (CIE) ($4 million)**
    The National CIE Strategy includes foundational principles to help lead the Nation's effort to integrate cybersecurity and engineering practices. RMT works with stakeholders to implement the CIE strategy in the energy sector. In FY 2024, RMT will aid energy research programs to embed CIE security by design principles into the research and development process to ensure that cyber defenses are embedded into foundational future technology design. RMT will also create the tools and technologies to enable better application of CIE principles, and to validate the effectiveness of infrastructure upgrades and mitigations. Additionally, RMT will Identify and analyze design patterns for energy sectors leading to enhanced engineering protections and drive multi-stakeholder awareness and acceptance for these design methodologies.

    In FY 2024, RMT will expand implementation of CIE into the core engineering curriculum at major U.S. research universities and work with asset owners and operators to enable CIE principles within their engineering design and infrastructure improvement efforts.

    **Consequence-Driven Cyber-Informed Engineering (CCE) ($4 million)**
    RMT will continue implementing CCE to enable Critical Function Assurance (CFA) of high risk infrastructure that is strategically critical for energy sector and national security, such as infrastructure that if compromised, could disrupt critical fuel/electricity supplies. The CCE assessments evaluate an organizations' key functions for improvements across people, processes, and technologies such that the consequences of any compromise is

significantly reduced. The CCE program will be completing the research and development phase with the goal to potentially transfer the steady operational services to commercial partners and another division of CESER.

**Development of Cyber Frameworks and Reference Architectures ($4 million)**
RMT will continue to leverage methodologies like the Cybersecurity for Operational Technology Environment (CyOTE) to further early detection of anomalous behavior and threats in OT environments. FY 2024 funding will enable RMT to further the underlying CyOTE research and innovation; transition the CyOTE tool to practice with new features and functionality; and refine training for OT and non-OT stakeholders. Specifically, advancing from methodology research the program will focus on smart data mining, reporting insights to industry, and expanding understanding of additional technical domains that matters to industry. New R&D tasking will include stress testing reference architectures of various OT environments for primary stakeholders.

- **Quantification of Cyber Risk and Cyber Risk Profiles for Critical Systems and Technologies ($3 million)**
  RMT will develop capabilities and tools that can be used by energy industry enterprise risk managers to use cybersecurity assessments with quantitative and qualitative risk data. The tool will enable risk-informed cybersecurity investment decisions allowing for optimal utilization of limited resources. RMT will continue to development and maintain the Cybersecurity Capability Maturity Model (C2M2) tool features and resources including user community forum, facilitated evaluations, and updates needed to align with Cybersecurity Framework (CSF) V2.0. RMT will also continue research of usage and impacts of NIST CSF, C2M2, and C2M2 derivatives.

- **Grid Modernization Laboratory Consortium (GMLC) and Lead Cyber RD&D Coordination Across DOE Offices ($5 million)**
  The Grid Modernization Initiative (GMI) is a DOE cross-departmental effort to coordinate the development of technology, modeling analysis, cybersecurity, and physical security strategies to facilitate grid modernization. The initiative provides mechanism to enable grid modernization RD&D through joint funding opportunities by multiple offices. CESER will be a voting member of GMLC committing to drive cybersecurity across DOE GMLC efforts. As a voting member CESER has committed to at least $3 million annually for GMLC Lab calls. In FY 2024 RMT plans to participate in a 3-year lab call.

  As directed by Congress in FY 2023, CESER will ensure cybersecurity research, development, and demonstration projects being performed across the Department are coordinated. CESER will establish a formal coordination structure to cybersecurity RD&D efforts across the department to ensure the Department is taking a strategic and coordinated approach going forward. CESER will work with relevant DOE program offices and develop a Multi-Year Cybersecurity RD&D Roadmap for Energy Sector Cybersecurity to guide DOE's overall efforts. CESER will lead regular coordination calls with relevant offices to ensure we are coordinated. Also, in CESER's role as the Sector Risk Management Agency (SRMA) for the energy sector, CESER will coordinate with CISA, industry, academia, and other external partners to ensure the cybersecurity RD&D continues to address the energy sector of the future.

**Risk Management Tools & Technologies**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Risk Management Tools & Technologies** | | | | | |
| Advance Tools to Manage Cyber Risks | 36,804 | 40,000 | 45,000 | +5,000 | +12.5% |
| University-Based RD&D and Energy Cybersecurity R&D Centers | 9,000 | 2,000 | 5,000 | +3,000 | +150.0% |
| Advance Tools to Manage Risks from Natural Hazards & Non-Cyber Threats | 37,000 | 30,000 | 20,000 | -10,000 | -33.3% |
| Supply Chain Cybersecurity Risk Management | 25,000 | 30,000 | 45,000 | +15,000 | +50.0% |
| Cyber Risk Assessments, Frameworks, and R&D Coordination | 22,000 | 23,000 | 20,000 | -3,000 | -13.0% |
| Congressionally Directed | 3,000 | 0 | 0 | 0 | 0.0% |
| **Total, Risk Management Tools & Technologies** | **132,804** | **125,000** | **135,000** | **+10,000** | **+8.0%** |

**Risk Management Tools and Technology**
**Explanation of Major Changes ($K)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| • Advanced Tools to Manage Cyber Risk: increase to establish the Cybersecurity Center of Excellence and deployment of tools & technology to the energy sector. | +5,000 |
| • University Based RD&D and Energy Cybersecurity R&D Centers: Increase will provide one R&D center and one university-based project. | +3,000 |
| • Advanced Tools to Manage Risks from Natural hazards & Non-Cyber Threats: The EAGLE-I and situational awareness tools work has moved from RMT to R&R. | -10,000 |
| • Supply Chain Cybersecurity Risk Management: supply chain testing (CyTRICS) program will expand testing scale and capabilities; and launch labeling design initiative. | +15,000 |
| • Cyber Risk Assessments, Frameworks, and R&D Coordination: CCE reduced needs as research and development phase completes, CIE development of the strategy completes and moves to implementation phase, and C2M2/Quantification effort completes development of the C2M2 product suite. | -3,000 |
| **Total, Risk Management Tools and Technology** | **+10,000** |

## Risk Management Tools and Technologies

**Activities and Explanation of Changes** ($)

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Risk Management Tools and Technologies $125,000,000** | **$135,000,000** | **+$10,000,000** |
| *Advance Tools to Manage Cyber Risks $40,000,000* | *$45,000,000* | *+$5,000,000* |
| • Work with National Labs, industry, and academia to research, develop, demonstrate, deploy and transition to practice next generation cybersecurity risk management technology and tools for broad adoption in energy industry. | • Work with National Labs, industry, and academia to research, develop, demonstrate, and transition to practice next generation cybersecurity risk management tools and technologies for adoption in energy industry. | • Establish DOE Energy Cybersecurity Center of Excellence to provide energy cybersecurity expertise and capabilities to the other DOE offices ensuring cybersecurity is integrated by design in the energy delivery systems of tomorrow.<br>• Support deployment of cybersecurity tools & technologies that will provide sector-wide collaboration, information sharing, and situational awareness. |
| *University-Based RD&D and Energy Cybersecurity R&D Centers $2,000,000* | *$5,000,000* | *+$3,000,000* |
| • Collaboration with academia not only bolsters the overall security and resilience of the energy industry through technological innovations but also helps develop a cybersecurity workforce that is well versed in both engineering and cybersecurity disciplines. | • Collaboration with academia not only bolsters the overall security and resilience of the energy industry through technological innovations but also helps develop a cybersecurity workforce that is well versed in both engineering and cybersecurity disciplines. | • Increase will fund one additional R&D center and one additional university-based project. |
| *Advance Tools to Manage Risks from Natural Hazards & Non-Cyber Threats $30,000,000* | *$20,000,000* | *-$10,000,000* |
| • This work included outlays to develop and maintain the EAGLE-I and other situational awareness platform and tools. The funding in the past was for developing and updating capabilities for situational awareness and enhanced collaboration between deployed responders, personnel at DOE Headquarters, as well as industry, State, and interagency partners. | • Research and develop tools and technologies that address risks to energy systems from natural hazards, climate change and extreme weather.<br>• Advance HEMP/GMD modeling tools, mitigation technologies and associated testing to support both and vulnerability assessments.<br>• Begin program to increase physical security and support law enforcement forensics at electrical transmission and distribution substations. | • The EAGLE-I and situational awareness tools work has moved from RMT to R&R. |

| | | |
|---|---|---|
| *Supply Chain Cybersecurity Risk Management $30,000,000* | *$45,000,000* | *+$15,000,000* |
| • This work is focused on supply chain testing and enumeration of critical energy delivery software and hardware. The work includes demonstration of security practices for emerging technologies such as Distributed Energy Resources in the energy sector. | • This work is focused on supply chain testing and enumeration of critical energy delivery software and hardware. The work includes demonstration of security practices for emerging technologies such as Distributed Energy Resources in the energy sector. | • Supply Chain testing (CyTRICS) program will expand testing scale and capabilities; and launch labeling design initiative. |
| *Cyber Risk Assessments, Frameworks, and R&D Coordination $23,000,000* | *$20,000,000* | *-$3,000,000* |
| • This work is focused on the cybersecurity standards, frameworks, and methodologies. CESER develops guidance and supporting tools and resources for energy sector owners and operators to apply in their environments to strengthen their cybersecurity posture. | • This work is focused on the cybersecurity standards, frameworks, and methodologies. CESER develops guidance and supporting tools and resources for energy sector owners and operators to apply in their environments to strengthen their cybersecurity posture.<br>• Support additional development of CyOTE tool and training. | • CCE program decreased as it completes its research and development phase.<br>• CIE effort decreased as the development of the strategy has been completed and is now in implementation phase.<br>• C2M2 Quantification effort decreased as the program completes its development of the C2M2 product suite. |

## Response and Restoration

### Overview

The U.S. Department of Energy (DOE) is the coordinating agency for Emergency Support Function (ESF) #12, under the National Response Framework, and the Sector Risk Management Agency (SRMA) for the energy sector, pursuant to Presidential Policy Directive (PPD) 21, PPD 41, Executive Order 13636, and the FAST Act. The Office of Cybersecurity, Energy Security, and Emergency Response (CESER) manages these responsibilities within the Department. CESER's Response and Restoration division leads all-hazard efforts related to ESF #12, PPD-21, PPD-41, and other energy sector response-functions, including situational awareness and analysis, for the Department, which supports CESER's preparedness, response, and restoration efforts in the energy sector, across Federal, State, Local, Tribal, and Territorial governments, private industry, trade associations, and non-governmental organizations. The Response and Restoration division also manages the Department's emergency authorities for the energy sector, including authorities delegated to CESER, by the Secretary of Energy, pursuant to the Federal Power Act, Clean Air Act, and the Defense Production Act.

During an incident requiring a coordinated federal response, CESER's Energy Response Organization is activated to manage ESF #12 and SRMA response activities, including deployment of responders and sector engagement. DOE also serves as a primary agency for the Infrastructure Systems Recovery Support Function, under the National Disaster Recovery Framework. ESF #12 provides technical expertise to Federal, State, Local, Tribal, Territories governments, and industry by collecting, evaluating, and sharing information on energy system damage and provides estimations on the effect of energy system outages within affected areas, as well as the potential state, regional, and national impact. It assists government and private sector stakeholders in overcoming inherent challenges associated with restoration of the energy system. To fulfill these responsibilities, CESER trains and coordinates a cadre of volunteer responders from across DOE to deploy virtually or physically to a disaster site upon the request of FEMA. DOE's ESF #12 volunteers perform several critical functions including conducting damage assessments, restoration planning, and technical assistance. CESER may also self-activate for energy emergencies using the Department's own authorities.

In addition, the Response and Restoration division coordinates DOE's response to cyber incidents impacting, or potentially impacting, the energy sector that require a coordinated response with industry and interagency partners, pursuant to PPD-41 and the National Cyber Incident Response Plan. The Department represents the energy sector as the SRMA and supports the Department of Homeland Security's government-wide approach. DOE can support Department of Homeland Security (DHS) cyber response teams, Federal Bureau of Investigation (FBI), and industry with energy sector subject matter expertise. This is support by subject matter experts in CESER, other offices across the Department, and specialized expertise at DOE's National Laboratories.

To ensure CESER can fulfill DOE's responsibilities, the Response and Restoration division maintains and develops capabilities to coordinate response operations, provide technical assistance, enhance situational awareness, and provide analysis of threats and incidents affecting the energy sector, including cyber threats during steady state and response operations.

In FY 2024, CESER will continue to strengthen its emergency response capabilities to support natural hazard, cyber, and physical incidents in the energy sector. The growing extreme weather (e.g., year-around wildfires, intense hurricanes, flooding), physical security incidents and threats, and increasing cyber threats by adversarial Nation-States (e.g., China, Russia, Iran, North Korea) and criminal actors (e.g., ransomware) are drivers for the increased capacity and new approaches to situational awareness, analysis, technical assistance, response, and restoration in support of one of the most complex and expansive critical infrastructure sectors in the United States.

### Highlights of the FY 2024 Budget Request

CESER will enhance its robust all-hazards emergency response capabilities with cybersecurity-specific staffing, training, tools, threat analysis, and incident response protocols; build upon its regional response approach to include targeted recruitment, staffing, and operational/collaboration facilities in strategic U.S. regions including Puerto Rico and the USVI. Additionally, CESER internally transferred the EAGLE-I program from the Risk Management and Tools (RMT) division to the Response and Restoration (R&R) division for FY 2024. This will ensure alignment with mission requirements and build out of

additional capabilities needed to maintain continuous situational awareness of the Nation's energy system and to support response operations.

- **<u>ALL-HAZARDS INCIDENT RESPONSE, REGIONAL SUPPORT, AND SITUATIONAL AWARENESS</u> ($22 million)**
  CESER must maintain an emergency all-hazards response baseline capability that ensures adequate resources and training are available to facilitate the reestablishment of damaged energy systems and components with potential impact to national and economic security. To fulfill this mission, CESER trains and coordinates a cadre of approximately 120 volunteer responders, from across the DOE enterprise. The cadre is organized into Regional Response Teams, aligned to the 10 FEMA regions, each led by an experienced Regional Coordinator. This concept has enabled CESER to respond to multiple, simultaneous, and back-to-back events. Long term commitment to the regionalization concept as an organizing structure for deployment coordination and annual refresher training will solidify current response capabilities, and provide a foundation for the expansion of skills, tools and products that improve responder effectiveness and add value and energy expertise at the regional, state, and local levels. Rather than fully relying on a volunteer response capability, the FY 2024 increase is focused on building regional capabilities and teams that will work directly with states and regions on emergency response, conduct joint exercises and training with the SLTT and industry as ESF #12 embedded responders, and strengthen DOE's partnerships with the energy sector. CESER's Response and Restoration division will also maintain baseline activities, continue to develop stakeholder relationships, and support day-to-day regional presence to work side-by-side with FEMA, interagency partners, SLTT, and industry stakeholders.

  The Response and Restoration division will also continue to recruit, train, and expand the Catastrophic Incident Response Team cadre to better support FEMA's Incident Management and Assessment Teams (IMAT), and provide specialized technical expertise in damage assessment and energy system restoration; specifically, to support island, earthquake, and other catastrophic response and restoration requiring federal assistance. The program will also build a retired reserve cadre – recruited from recently retired ESF #12 responders – available to support long term, remote, and/or catastrophic incidents that require additional subject matter expertise and support.

  CESER will continue the expansion of Situational Awareness and Analysis Program and conduct a feasibility study to develop the concept of operations for a 24/7 CESER Watch Office at DOE Headquarters. To ensure CESER can fulfill the Department's responsibilities as the SRMA for the energy sector and as the coordinating agency for ESF #12, across all-hazards, CESER needs to maintain continuous situational awareness of threats and incidents impacting, or potentially impacting, U.S. energy systems, as well as capabilities for rapid analysis to help mitigate threats and ensure timely preparedness, response, and recovery efforts. Capabilities include modeling of potential power outages from extreme weather (e.g., hurricanes, wildfires, flooding), modeling restoration times of power outages, modeling cascading impacts of energy sector disruptions on other critical lifelines, increasing visibility of the oil and natural gas sector, modeling fuel disruptions, and remote sensing to quickly identify damaged energy sector infrastructure. When an incident impacts the U.S. energy sector, the Situational Awareness and Analysis Program provides authoritative reporting for interagency and state, local, tribal, and territorial partners, as well as industry stakeholders.

  A CESER Watch Office at headquarters is envisioned to expand on existing Situational Awareness Program to help continuously monitor and anticipate disruption to the energy sector, with the capability to quickly analyze and model potential impacts to the electric power, oil, natural gas, and the growing renewable energy infrastructure to include market impacts to the economy and to determine the effect and disruption on other critical infrastructure, including Defense Critical Energy Infrastructure. The Watch Office will also provide a single point of contact for CESER's situational awareness, analysis, and response activities and enable to Department to meet growing demand for awareness and analysis to all-hazards, in real time. The watch office will also provide 24/7 situational awareness and analysis reach back for deployed ESF #12 responders.

  To fulfill the Departments requirements, CESER utilizes EAGLE-I as the situational awareness platform for the energy sector to provide vital information across the U.S. Government, as well as state, local, tribal, and territorial partners. CESER will continue to develop and maintain the EAGLE-I platform. It will expand near real-time situational awareness of both electricity and oil and natural gas systems, as well as introduce new capabilities to the platform, such as situational awareness of the fuel supply chain and remote sensing and modeling to support energy sector preparedness, response, and recovery effort related to wildfire, flooding, hurricanes, and no-notice incidents (e.g.

earthquakes). Efforts will also focus on ensuring existing capabilities are seamlessly integrated into EAGLE-I and support awareness of interdependent impacts across FEMA Lifelines. Additionally, the EAGLE-I platform is being advanced to enhanced collaboration between deployed responders, personnel at DOE Headquarters, as well as industry, state, and interagency partners.

- **CYBER INCIDENT RESPONSE AND CYBER SITUATIONAL AWARENESS ($17 million)**

  CESER is the lead for the cybersecurity of the energy sector as the SRMA, pursuant to the FAST Act, Executive Order 13636, and Presidential Policy Directive-41 (PPD-41). CESER also supports federal response efforts, when there are significant cyber incidents impacting the energy sector, pursuant to the National Cyber Incident Response Plan (NCIRP), which notes that Sector Risk Management Agencies "leverage their particular knowledge and expertise to fulfill a number of information sharing, coordination, incident response, and technical assistance responsibilities to their assigned critical infrastructure sector(s)." To fulfill DOE's responsibilities, CESER will continue to develop and expand cyber situational awareness and response capabilities the current threat landscape to support the energy sector and to provide cyber response technical assistance and expertise unique to the energy sector. Additionally, as the Nation's energy infrastructure faces consciously evolving threats that require interdisciplinary expertise and coordination, DOE is looking to develop capabilities that will enable collaboration across multiple DOE Offices, leveraging subject matter experts from the DOE National Labs, as well as industry and interagency partners to help ensure the security of the energy sector.

  CESER's Response and Restoration division's FY 2024 Budget will continue enhancement of energy sector cyber situational awareness and build upon the results of a cybersecurity mission needs and capabilities study undertaken in 2021. Leveraging this enhanced cyber situational awareness, CESER will continue to develop cyber threat analysis to rapidly assess emerging threats, new malware, and novel tactics, techniques, and procedures from adversaries, to provide timely and actionable information to trusted industry partners. The cyber situational awareness program also works to provide initial review of any reports of cyber incidents in the energy sector, including reports to the Department or victim notification from DHS or FBI, and serves at the initial point of contact for coordination. Additionally, the cyber situational awareness program provides analysis of potential impacts from cyber incidents, potential incidents, and threats in the energy sector, including potential for cascading impacts that could impact other critical infrastructure.

  CESER will continue to work with the DOE National Laboratories on expertise to leverage during a cyber incident impacting the energy sector, including the development of tools and capabilities to provide focused technical assistance. These tools and capabilities will compliment efforts by other Federal Agencies, focusing on the unique aspects of the energy sector to provide technical assistance, subject matter expertise, and support cyber incident response at scale, if multiple energy sector entities are impacted by a cyber incident simultaneously. Additionally, the Department will coordinate with federal partners to be able to provide technical assistance and subject matter expertise to help assess unattributed incidents for potential cyber nexus. The FY 2024 budget will also build on training the Department's ESF #12 responder to continue to build a deeper knowledge of energy management systems (e.g., distributed energy resources, grid SCADA controls, etc.) to support a cyber response.

  Cyber situational awareness and analysis efforts will also be integrated into the Energy Threat Analysis Center (ETAC) pilot, to help develop mitigations and recommendations to address the unique operating requirements of the energy sector. The FY 2024 request includes $5 million to develop and expand the ETAC pilot in partnership with energy sector owners and operators, National Laboratories, the intelligence community, and DHS/CISA's Joint Cyber Defense Collaborative. The pilot program will provide the sector joint analysis of classified and unclassified cyber threats, inform the intelligence community's key intelligence questions process, and provide defensive measures to the thousands of energy companies, including electricity, oil, and natural gas, from across the country by leveraging analytics, subject matter expertise, and joint analysis. Leveraging this enhanced cyber situational awareness, CESER will continue to develop cyber threat analysis products that provide timely and actionable defensive cybersecurity information to trusted industry partners. The FY 2024 pilot activities, informed by the completed ETAC Feasibility Study and FY 2023 ETAC Pilot activities, will include: 1) establishing a government and industry operational collaborative capability to develop actionable operational intelligence and offer meaningful threat mitigation advice and actions to change the trajectory of our collective (government and industry) defense, response, and resilience of the U.S. energy sector; 2)

enabling an information exchange among government and industry to address a shared problem, a process to connect the dots for national security, public health, safety and economy; 3) improving detailed understanding of national security risks associated with the energy sector which are or could be exploited by adversaries, including nation-states; 4) achieving a deeper understanding of threat actor tactics, capabilities, and activities with potential to impact systemic risks to the energy sector; and 5) facilitating increased intelligence-sharing between industry and government of actual acute threat activity, including incidents, to ensure U.S. energy security and resilience for all Americans.

**Response and Restoration**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Response and Restoration** | | | | | |
| All-Hazards Incident Response, Regional Support, and Situational Awareness | 10,400 | 11,000 | 22,000 | +11,000 | +100.0% |
| Cyber Incident Response and Cyber Situational Awareness | 7,600 | 12,000 | 17,000 | +5,000 | +41.7% |
| **Total, Response and Restoration** | **18,000** | **23,000** | **39,000** | **+16,000** | **+69.6%** |

**Response and Restoration**
**Explanation of Major Changes ($K)**

| | FY 2024 Request vs FY 2023 Request |
|---|---|
| • All-Hazards Incident Response, Regional Support, and Situational Awareness - Sustain current response capabilities while expanding regional steady state and response presence in accordance with the 2021 Regional Response Operations Strategic Plan (2021-2026). Continue the development of collaboration tools and products to provide enhanced energy sector situational awareness to interagency and industry partners, and the CESER Response Team. Further develop operational concepts for a CESER Watch Office and conduct feasibility studies for a physical facility. Moves the EAGLE-I program from RMT to R&R, gaining access to dashboards for incidents across the nation for the energy industry. | +11,000 |
| • Cyber Incident Response and Cyber Situational Awareness - Continue implementation of recommendations made in the 2021 CESER Cybersecurity Needs and Capabilities Assessment, a third-party study that identified recommendations to improve CESER's cybersecurity and cyber incident response posture. Efforts include enhancing capacities for rapid analysis of cyber threats to the energy sector and focused technical assistance to address unique challenges for cyber incident response in the sector. Continue development of the Energy Threat and Analysis Center (ETAC) operational concepts and implement recommendations from completed feasibility studies. | +5,000 |
| **Total, Response and Restoration** | **+16,000** |

**Activities and Explanation of Changes ($)**

| FY 2023 Enacted | FY 2024 Requested | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Response and Restoration $23,000,000** | **$39,000,000** | **+$16,000,000** |
| *All-Hazards Incident Response, Regional Support, and Situational Awareness $11,000,000* | *$22,000,000* | *+$11,000,000* |
| • Maintain current capabilities and expand the regional knowledge, skills, and abilities of the ESF #12 cadre of trained volunteer emergency responders, focusing efforts on hurricanes, wildfires, earthquakes, and cyber-attacks.<br>• Focus on expanding training and capabilities to support remote and rural location responses, educating responders on regionally specific energy infrastructure in order to improve emergency response to ever changing energy and cross sector interdependencies; provide support and technical assistance to the SLTT State Energy Assurance planning. Expand access to available subject matter expertise across the DOE enterprise, to include the National Labs.<br>• Execute CESER Regional Expansion Pilot program for full-time federal regional staff presence to include federal staff and regional facilities or share location in three FEMA regions.<br>• Continued focus on and commitment to CESER's Regionalization model by expanding the Office's responder recruitment including Catastrophic Incident Response Team (CIRT) and cybersecurity responders. Expand steady-state operational capabilities to support regional and state day-to-day operations and preparedness efforts. | • Maintain current capabilities and expand the regional knowledge, skills, and abilities of the ESF #12 cadre of trained volunteer emergency responders, focusing efforts on hurricanes, wildfires, earthquakes, and cyber-attacks.<br>• Focus on expanding training and capabilities to support remote and rural location responses, educating responders on regionally specific energy infrastructure in order to improve emergency response to ever changing energy and cross sector interdependencies; provide support and technical assistance to the SLTT State Energy Assurance planning. Expand access to available subject matter expertise across the DOE enterprise, to include the National Labs.<br>• The Regional Expansion Pilot will conclude with recommendations for permanent implementation including staffing (teams), management, and facilities.<br>• Continued focus on and commitment to CESER's Regionalization model by expanding the Office's responder recruitment including Catastrophic Incident Response Team (CIRT) and cybersecurity responders. Expand steady-state operational capabilities to support regional and state day-to-day operations and preparedness efforts.<br>• Ensure CESER can fulfill the Department's responsibilities as the SRMA for the energy sector | • Due to the operational capability and technical maturity of EAGLE-I as the U.S. Government's situational awareness platform for the energy sector, CESER internally transferred the EAGLE-I program from the Risk Management and Tools (RMT) division to the Response and Restoration (R&R) division for FY 2024.<br>• Increasing emergency responder capabilities and steady state regional working relationships to improve response effectiveness in an all-hazards environment through enhanced multi modal training, situational awareness products and tools, and continuity of the Federal missions and mission essential functions.<br>• Build out three regionally focused response teams that will work with states and regions on emergency response, conduct joint exercises and training with the SLTT and industry as ESF #12 embedded responders and strengthen DOE's partnerships with the energy sector to focus on blue sky days for emergency response and state energy security planning. The current response capabilities and teams are a volunteer workforce.<br>• This funding will allow CESER to conduct feasibility studies to build out a dedicated watch capability and have contracted staffing for day to day operations. The to expand on existing Situational Awareness Program to help continuously monitor and anticipate disruption to the energy sector, |

| FY 2023 Enacted | FY 2024 Requested | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| • Develop the operational concepts for a dedicated CESER Watch Office to provide daily energy sector monitoring, reporting, and support to emergency response operations.<br><br>• Adopt and integrate CESER's emergency authorities (DPA, Jones Act, FPA 202c) into standard operational processes and procedures; train DOE offices, contractors and external stakeholders; and provide accurate, comprehensive, and usable public information for those wishing to use these authorities. | and as the coordinating agency for ESF #12, across all-hazards, by maintain continuous situational awareness of threats and incidents impacting, or potentially impacting, U.S. energy systems, as well as capabilities for rapid analysis to help mitigate threats and ensure timely preparedness, response, and recovery efforts.<br>• CESER will continue to develop and maintain the EAGLE-I platform, including efforts to expand near real-time situational awareness of both electricity and oil and natural gas systems, as well the development and integration of new and/or update capabilities, including enhanced situational awareness of the fuel supply chain, such as retail fuel availability, as well as remote sensing and modeling to support energy sector preparedness, response, and recovery efforts.<br>• Conduct feasibility studies for a physical facility for a CESER Watch Office to expand on existing Situational Awareness Program to help continuously monitor and anticipate disruption to the energy sector, with the capability to quickly analyze and model potential impacts to the electric power, oil, natural gas, and the growing renewable energy infrastructure to include market impacts to the economy and to determine the effect and disruption on other critical infrastructure, including Defense Critical Energy Infrastructure.<br>• Enhance guidance, informational products, communications, and stakeholder education/engagement around CESER's emergency authorities (DPA, Jones Act, FPA 202c) including onsite training for DOE site offices, laboratories, contractors and external stakeholders. | with the capability to quickly analyze and model potential impacts to the electric power, oil, natural gas. The Watch Office will also provide a single point of contact for CESER's situational awareness, analysis, and response activities and enable to Department to meet growing demand for awareness and analysis to all-hazards, in real time. |

| FY 2023 Enacted | FY 2024 Requested | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| *Cyber Incident Response and Cyber Situational Awareness $12,000,000* | *$17,000,000* | *+$5,000,000* |
| • Funding will build on DOE's ESF#12 catastrophic response capabilities to add cybersecurity and cyber incident response capacity that better supports energy sector entities impacted by a cyber event. The enhanced capability will also improve and expand DOE's support to the Federal Government's coordinated cyber incident response as mandated by PPD-41 and the National Cyber Incident Response Plan.<br>• Implement the findings and recommendations in the 2021 CESER Cybersecurity Needs and Capabilities Study, through contract support, looking at the national lab capabilities to support cyber incident response, and conducting follow on feasibility studies for physical watch offices and secure space to support cyber operations.<br>• Develop Energy Sector Cybersecurity Response capabilities that can support CISA and FBI cyber incident response teams to provide energy sector subject matter expertise about energy systems.<br>• Identify and equip dedicated CESER classified space to support cyber response operations.<br>• Support a feasibility study and pilot for the Energy Threat Assessment Center (ETAC) concept, as part of a comprehensive approach leveraging DOE project management principles and best practices including DOE O 413.3B Program and Project Management for the Acquisition of Capital Assets. | • Continued enhancement of energy sector cyber situational awareness to rapidly assess emerging threats, new malware, and novel tactics, techniques, and procedures from adversaries, to provide timely and actionable information to trusted industry partners.<br>• Initial review of any reports of cyber incidents in the energy sector, including reports to the Department or victim notification.<br>• Analysis of potential impacts from cyber incidents, potential incidents, and threats in the energy sector, including potential for cascading impacts that could impact other critical infrastructure.<br>• Tools and capabilities to provide focused technical assistance to address unique complexities of the energy sector.<br>• Based on the FY22 ETAC pilot feasibility study and FY 2023 pilot actions with appropriate OMB and Congressional approvals, in FY 2024 CESER will begin to fully implement the ETAC in partnership with the Cybersecurity and Infrastructure Security Agency's (CISA) Joint Cyber Defense Collaborative (JCDC) to advance industry-government threat situational awareness, mitigation, and response. | • Funding will support the Energy Threat Analysis Center (ETAC) pilot focused on bringing together industry and government, intelligence and non-intelligence, and owners and operators and manufacturers to address the growing cyber threat to U.S. energy infrastructure from Nation-States and criminal groups. ETAC funding will help maintain and build on the pilot operations of the ETAC and will be implemented int close collaboration with CISA, energy sector owners and operators, and the intelligence community. |

## Program Direction

### Overview

Program Direction provides for costs associated with federal workforce staffing to include salaries, benefits, travel, training, and other related expenses. Program Direction funds also provide for costs associated with contractor services managed under the direction of the federal workforce. Contractors support the Office of Cybersecurity, Energy Security, and Emergency Response (CESER) mission. In an effort to retain and attract highly technical engineering and cybersecurity staff in the Federal government to address the growing cybersecurity, physical, and climate-based threats to energy system, CESER's FY 2024 request include cybersecurity incentives, cybersecurity training, and other measures to retain a highly-qualified staff.

**Salaries and Benefits** support federal employees who provide executive management, programmatic oversight, and analysis for the effective implementation of the CESER program. This includes staff at Headquarters and the National Energy Technology Laboratory (NETL) to support the overall mission of CESER. While CESER funds NETL staff within its budget, the NETL Federal employees are included within the full-time equivalent (FTE) total within the Fossil Energy Research and Development account.

CESER federal staff provide oversight for a wide range of energy security, resilience, cybersecurity, and emergency response functions and programs. These programs and functions include: guiding a multi-million dollar Risk Management Tools (RMT) program; staffing and managing the Department's all hazard energy sector emergency response function (ESF #12); training and coordinating a cadre of more than 100 volunteer energy sector emergency responders; overseeing annual programs of energy sector exercises, workshops, interagency and industry engagement, and coordination with states and localities before and during emergencies; and the development of reports and analyses on threats and hazards to the energy sector. An increased need is seen in the area of cybersecurity preparedness and incident response. CESER works closely with the Offices of the Chief Information Officer and Chief Human Capital Officer (OCHO) and other program offices as part of the DOE's Cyber Retention Program allowing cybersecurity incentives of up to 25% of the eligible employee's salary. Similar to programs implemented at the Cybersecurity and Infrastructure Security Agency (CISA), this provides a means to recruit and retain highly skilled cybersecurity talent at the Department. The cybersecurity field is in high demand across both public and private sectors. The Federal government salary in this field is significantly lower than the industry standard; we are finding it increasingly more difficult to recruit and retain qualified candidates. Federal staff also support crosscutting functions which include budget, procurement, contracts, and human resources.

When Presidential Disaster Declarations are issued CESER staff are called upon under the National Response Framework. Trained staff provide support for Federal Emergency Management Agency (FEMA) Emergency Support Function 12 (ESF #12) missions. Some of these trained responders may be ordinarily employed in other parts of DOE, such as the Office of Energy Efficiency and Renewable Energy or the Power Marketing Administrations. During ESF #12 activations CESER is reimbursed by FEMA for overtime expenses while CESER responder base pay is funded from the CESER Program Direction budget.

CESER's staffing efforts continues to focus on building core capabilities of partnerships with industry as the energy sector SRMA, capability building in the energy sector, risk analysis of cybersecurity, physical, and natural hazard risks, and emergency response activities. Further, the program direction will help strengthen CESER's budget and human resources staff to growing programmatic activities.

**Travel** includes transportation, per diem, and incidental expenses allowing CESER to effectively deliver on its mission. Major drivers of travel include the need to oversee development and deployment of risk management tools, programs, and projects in the field; attendance at industry, interagency and regional state government energy sector emergency response coordination meetings; and conducting emergency response training for responders in conjunction with Department of Homeland Security regional response centers. FEMA reimburses DOE for all travel associated with Presidential Disaster Declarations. CESER will continue to utilize virtual meetings and training to achieve savings.

**Support Services** include contractor support directed by Federal staff to perform administrative tasks and provide analysis to management. Additional support services may include support from Internship programs utilized through Oak Ridge Institute for Science and Education and DOE's Minority Educational Institution Student Partnership Program assignments.

**Other Related Expenses** include DOE's Working Capital Fund support, Energy Information Technology Services, minor construction, equipment purchases, upgrades, and replacements, office furniture, commercial credit card purchases using simplified acquisition procedures when possible, general and advanced training, and miscellaneous expenditures.

**Highlights of the FY 2024 Budget Request**

This budget request accounts for the increased FTE and 5.2% projected pay raise for federal employees, participation in the cybersecurity retention incentive program, and reconfiguring existing space for increased hybrid work environment, all of which are to ensure CESER is competitive in Federal government hiring and retention of a highly skilled workforce.

## Program Direction
## Funding ($K)

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Program Direction Summary** | | | | | |
| **Washington Headquarters** | | | | | |
| Salaries and Benefits | 8,751 | 15,215 | 20,683 | +5,468 | +35.9% |
| Travel | 254 | 295 | 250 | -45 | -15.3% |
| Support Services | 2,143 | 4,211 | 3,791 | -420 | -10.0% |
| Other Related Expenses | 1,392 | 1,763 | 3,771 | +2,008 | +113.9% |
| **Total, Washington Headquarters** | 12,540 | 21,484 | 28,495 | +7,011 | +32.6% |
| | | | | | |
| **National Energy Technology Laboratory** | | | | | |
| Salaries and Benefits | 1,658 | 1,754 | 2,115 | +361 | +20.6% |
| Travel | 110 | 116 | 120 | +4 | +3.4% |
| Support Services | 315 | 333 | 981 | +648 | +194.5% |
| Other Related Expenses | 1,377 | 1,456 | 764 | -692 | -47.5% |
| **Total, National Energy Technology Laboratory** | 3,460 | 3,659 | 3,980 | +321 | +8.8% |
| | | | | | |
| **Total Program Direction** | | | | | |
| Salaries and Benefits | 10,409 | 16,969 | 22,798 | +5,829 | +34.4% |
| Travel | 364 | 411 | 370 | -41 | -10.0% |
| Support Services | 2,458 | 4,544 | 4,772 | +228 | +5.0% |
| Other Related Expenses | 2,769 | 3,219 | 4,535 | +1,316 | +40.9% |
| **Total, Program Direction** | 16,000 | 25,143 | 32,475 | +7,332 | +29.2% |
| | | | | | |
| **Federal FTEs** | 44 | **93** | 113 | +20 | +21.5% |
| Additional FE FTEs at NETL supporting CESER[a] | 9 | 11 | 11 | 0 | 0.0% |
| **Total CESER-funded FTEs** | **53** | **104** | **124** | **+20** | **+19.2%** |

[a] CESER funds FTEs at FE's National Energy Technology Laboratory who support CESER activities. These 11 FTEs are in FE's FTE totals and are not included in the CESER FTE totals shown on the "Federal FTEs" line.

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Support Services and Other Related Expenses** | | | | | |
| **Support Services** | | | | | |
| Technical Support | 1,770 | 3,906 | 3,824 | -82 | -2.1% |
| Management Support | 688 | 638 | 948 | +310 | +48.6% |
| **Total, Support Services** | 2,458 | 4,544 | 4,772 | +228 | +5.0% |
| | | | | | |
| **Other Related Expenses** | | | | | |
| Other Services | 832 | 1,580 | 1,551 | -29 | -1.8% |
| EITS Desktop Services | 564 | 639 | 800 | +161 | +25.2% |
| WCF | 1,373 | 1,000 | 2,184 | +1,184 | +118.4% |
| **Total, Other Related Expenses** | 2,769 | 3,219 | 4,535 | +1,316 | +40.9% |

## Program Direction

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Enacted vs FY 2024 Request |
|---|---|---|
| **Program Direction $25,143,000** | **$32,475,000** | **+$7,332,000** |
| *Salaries and Benefits $16,969,000* | *$22,798,000* | *+$5,829,000* |
| • For 93 FTEs at HQ and 11 FTEs at NETL that provide executive management, programmatic oversight, and analysis for the effective implementation of the CESER program. | • For 93 FTEs at HQ and 11 FTEs at NETL that provide executive management, programmatic oversight, and analysis for the effective implementation of the CESER program. | • Increase of 20 FTEs, projected 5.2% pay raise and increase of recruitment and retention incentive value and quantity in participation with the DOE Cybersecurity retention incentive program to gain and maintain the highly technical engineering and cybersecurity staff required. |
| *Travel $411,000* | *$370,000* | *-$41,000* |
| • Travel includes transportation, subsistence, and incidental expenses that allow CESER to effectively facilitate its mission. | • Includes both international and U.S. travel for CESER mission needs. | • Reduced based on Mission needs and focus on workforce growth and mitigated by increased use of virtual meeting options and virtual training. |
| *Support Services $4,544,000* | *$4,772,000* | *+$228,000* |
| • Support Services includes contractor support directed by the federal staff to provide analysis to management. | • Includes support of budget, acquisition, human resources, communications, business systems, and administrative support needs. | • The increase is due to an increase in contractual costs. |
| *Other Related Expenses $3,219,000* | *$4,535,000* | *+$1,316,000* |
| • Includes equipment upgrades and replacements, office furniture, minor construction, commercial credit card purchases using simplified acquisition procedures when possible, and miscellaneous expenditures. | • Includes additional required equipment upgrades and replacements for new and existing staff, office furniture, construction, commercial credit card purchases using simplified acquisition procedures when possible, general and advanced training, and miscellaneous expenditures. | • Increase for additional support for staff, continued telework laptops and mobile devices and improved hoteling space and telecom resources.<br>• Increase in specialized training, such as Certified Information Systems Security Professional or SANS training, to recruit and retain cybersecurity specialist.<br>• Increase in WCF and EITS support associated with increased FTE. |

**Cybersecurity, Energy Security, and Emergency Response**

**Research and Development ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| Basic | 0 | 15,000 | 12,000 | -3,000 | -20.0% |
| Applied | 0 | 59,000 | 63,000 | +4,000 | +6.8% |
| Development | 70,000 | 29,000 | 31,000 | +2,000 | +6.9% |
| Total, R&D | 70,000 | 103,000 | 106,000 | +3,000 | +2.9% |

**Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| Risk Management Tools | 1,278 | 2,482 | 2,491 | +9 | +0.4% |

**DEPARTMENT OF ENERGY**

**Funding by Site**

TAS_2250 - Cybersecurity, Energy Security and Emergency Response (CESER) - FY 2024

(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Argonne National Laboratory** | | | |
| Risk Management Technology and Tools | 450 | 2,917 | 3,150 |
| Response and Restoration | 375 | 311 | 527 |
| Policy, Preparedness, and Risk Analysis | 3,490 | 5,250 | 7,624 |
| **Total Argonne National Laboratory** | **4,315** | **8,478** | **11,301** |
| **Idaho National Laboratory** | | | |
| Risk Management Technology and Tools | 16,140 | 28,165 | 35,419 |
| Response and Restoration | 0 | 5,500 | 12,326 |
| Policy, Preparedness, and Risk Analysis | 3,250 | 4,225 | 6,135 |
| Program Direction - CESER | 164 | 0 | 0 |
| **Total Idaho National Laboratory** | **19,554** | **37,890** | **53,880** |
| **Lawrence Berkeley National Laboratory** | | | |
| Risk Management Technology and Tools | 0 | 2,327 | 3,513 |
| Policy, Preparedness, and Risk Analysis | 0 | 75 | 109 |
| **Total Lawrence Berkeley National Laboratory** | **0** | **2,402** | **3,622** |
| **Lawrence Livermore National Laboratory** | | | |
| Risk Management Technology and Tools | 3,928 | 3,208 | 5,465 |
| Response and Restoration | 1,625 | 1,800 | 3,052 |
| Policy, Preparedness, and Risk Analysis | 2,390 | 2,000 | 2,904 |
| **Total Lawrence Livermore National Laboratory** | **7,943** | **7,008** | **11,421** |
| **Los Alamos National Laboratory** | | | |
| Risk Management Technology and Tools | 300 | 175 | 189 |
| **Total Los Alamos National Laboratory** | **300** | **175** | **189** |
| **National Energy Technology Lab** | | | |
| Risk Management Technology and Tools | 14,808 | 38,484 | 45,563 |
| Response and Restoration | 150 | 0 | 0 |
| Policy, Preparedness, and Risk Analysis | 2,750 | 9,926 | 14,413 |
| Program Direction - CESER | 2,460 | 3,659 | 3,980 |
| **Total National Energy Technology Lab** | **20,168** | **52,069** | **63,956** |
| **National Renewable Energy Laboratory** | | | |
| Risk Management Technology and Tools | 3,895 | 8,884 | 9,595 |
| Response and Restoration | 84 | 1,000 | 1,696 |
| Policy, Preparedness, and Risk Analysis | 600 | 1,059 | 1,538 |
| **Total National Renewable Energy Laboratory** | **4,579** | **10,943** | **12,829** |
| **Oak Ridge Institute for Science & Education** | | | |
| Risk Management Technology and Tools | 0 | 11 | 12 |
| **Total Oak Ridge Institute for Science & Education** | **0** | **11** | **12** |
| **Oak Ridge National Laboratory** | | | |
| Risk Management Technology and Tools | 8,543 | 11,073 | 14,959 |
| Response and Restoration | 1,414 | 750 | 1,272 |
| **Total Oak Ridge National Laboratory** | **9,957** | **11,823** | **16,231** |
| **Pacific Northwest National Laboratory** | | | |
| Risk Management Technology and Tools | 10,458 | 6,825 | 8,371 |
| Policy, Preparedness, and Risk Analysis | 190 | 900 | 1,307 |
| **Total Pacific Northwest National Laboratory** | **10,648** | **7,725** | **9,678** |
| **Richland Operations Office** | | | |
| Response and Restoration | 4,750 | 6,793 | 13,519 |
| Policy, Preparedness, and Risk Analysis | 200 | 325 | 472 |
| **Total Richland Operations Office** | **4,950** | **7,118** | **13,991** |
| **Sandia National Laboratories** | | | |
| Risk Management Technology and Tools | 3,137 | 6,625 | 7,156 |
| **Total Sandia National Laboratories** | **3,137** | **6,625** | **7,156** |

**DEPARTMENT OF ENERGY**
**Funding by Site**
TAS_2250 - Cybersecurity, Energy Security and Emergency Response (CESER) - FY 2024
(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Washington Headquarters** | | | |
| Risk Management Technology and Tools | 1,365 | 400 | 1,608 |
| Response and Restoration | 3,888 | 3,585 | 6,608 |
| Policy, Preparedness, and Risk Analysis | 2,789 | 3,097 | 4,498 |
| Program Direction - CESER | 12,026 | 21,484 | 28,495 |
| **Total Washington Headquarters** | **20,068** | **28,566** | **41,209** |
| **Undesignated LPI** | | | |
| Risk Management Technology and Tools | 66,780 | 15,906 | 0 |
| Response and Restoration | 5,714 | 3,261 | 0 |
| Policy, Preparedness, and Risk Analysis | 3,341 | 0 | 0 |
| Program Direction - CESER | 1,350 | 0 | 0 |
| **Total Undesignated LPI** | **80,185** | **19,167** | **0** |
| **Total Funding by Site for TAS_2250 - Cybersecurity, Energy Security and Emergency Response (CESER)** | **185,804** | **200,000** | **245,475** |

# Strategic Petroleum Reserve

# Strategic Petroleum Reserve

**Strategic Petroleum Reserve**
**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.), *$280,969,000*, to remain available until expended.

**Explanation of Changes**

The FY 2024 Request reflects increases for the Strategic Petroleum Reserve (SPR) Cavern Integrity Program, Maintenance Program, Major Maintenance Program to include additional funding for the West Hackberry Physical Security Program, Data Systems, and Cybersecurity. There is a minor decrease in the Physical Security Program activities. These activities will protect and enhance the SPR in fulfilling its mission as a national security asset; protecting American consumers from petroleum supply events; and meeting international obligations. The Request also funds the Northeast Gasoline Supply Reserve.

**Public Law Authorizations**
Public Law 109-58, "Energy Policy Act of 2005"
Bipartisan Budget Act of 2015 (P.L. 114-74, Section 403)
Bipartisan Budget Act of 2018 (P.L. 115-123)
Energy Policy and Conservation Act, P.L. 94-163, as amended, Section 151

**Strategic Petroleum Reserve**
**($K)**

| FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted |
|---|---|---|---|
| 219,000 | 207,175 | 280,969 | +73,794 |

**Overview**

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.

The Northeast Gasoline Supply Reserve (NGSR) was administratively established in 2014 as part of the SPR to ease regional shortages resulting from sudden/unexpected supply interruptions (e.g., Superstorm Sandy). The NGSR consists of 1 million barrels of gasoline blendstock stored in leased commercial storage terminals located in Maine, Massachusetts, and New Jersey.

**Highlights and Major Changes in the FY 2024 Budget Request**

The SPR Program will pursue the following major activities in FY 2024:

- Equipment and facility maintenance to sustain drawdown capability.
- Major Maintenance to West Hackberry Physical Security Program.
- Security Program and maintenance of security related infrastructure items.
- Storage cavern wellbore diagnostic and remediation activities using 1 workover rig and crew that includes 10 cavern wellbore workovers. This includes Mechanical Integrity Testing required for cavern wells, and repair actions when wells fail to meet standards during the 5-year state-required testing cycle.

FY 2024 funding includes the utilization of one rig and workover rig crew to perform 10 cavern wellbore workovers within the Cavern Integrity Program, compared to 4 cavern well workovers that were planned in FY 2023. Additional funding is included to the Major Maintenance Program for upgrades to the West Hackberry Physical Security Program to be following DOE Order 473.3A and the SPR Level III Criteria. Besides the work being done at the West Hackberry site, an additional 6 Major Maintenance construction projects are planned as compared to 0 planned in FY 2023. An increase to the Maintenance Program supports preventive and corrective maintenance to equipment and infrastructure for Drawdown Readiness in a safe, timely, and environmentally compliant manner and in performing Congressionally mandated crude oil sales. With a decrease to the Security Program, the West Hackberry site retains capable and adequate effectiveness in providing a deterrence and response posture to adversarial threats.

**Cybersecurity:** DOE is engaged in three categories of cybersecurity -related activities: protecting the DOE enterprise from a range of cybersecurity threats that can adversely impact mission capabilities; bolstering the U.S. Government's capabilities to address cybersecurity threats; and improving cybersecurity in the electric power subsector and the oil and natural gas subsector. The cybersecurity crosscut supports central coordination of the strategic and operational aspects of cybersecurity and facilitates cooperative efforts such as the Joint Cybersecurity Coordination Center for incident response and the implementation of Department-wide Identity Credential and Access Management.

| | Cybersecurity | Total |
|---|---|---|
| Facilities Development and Operations | 4,177 | 4,177 |

**Strategic Petroleum Reserve**
**Funding by Congressional Control**
**($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Strategic Petroleum Reserve** | | | | | |
| Facilities Development and Operations | 168,525 | 163,444 | 233,897 | +70,453 | +43.1% |
| Management | 28,475 | 28,651 | 30,792 | +2,141 | +7.5% |
| Northeast Gasoline Supply Reserve | 22,000 | 15,080 | 16,280 | +1,200 | +8.0% |
| **Total, Strategic Petroleum Reserve** | **219,000** | **207,175** | **280,969** | **+73,794** | **+35.6%** |
| **Federal FTEs** | **126** | **126** | **126** | **0** | |

**Future Years Energy Program (FYEP)**
**($K)**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| **Strategic Petroleum Reserve** | 280,969 | 287,000 | 294,000 | 301,000 | 308,000 |

**Outyear Priorities and Assumptions**

In the FY 2012 Consolidated Appropriations Act (P.L. 112-74), Congress directed the Department to include a future-years energy program (FYEP) in subsequent requests that reflects the proposed appropriations for five years. This FYEP shows outyear funding for each account for FY 2025 - FY 2028. The outyear funding levels use the growth rates in outyear account totals published in the FY 2024 President's Budget for both the 050 and non-050 accounts. Actual future budget request levels will be determined as part of the annual budget process.

SPR priorities in the outyears include the following:

- FY 2024 - FY 2028: Continue ongoing efforts to protect the U.S. economy from disruptions in critical petroleum supplies and meet United States (U.S.) obligations under the International Energy Program.
- FY 2024 – FY 2026: Perform required upgrades to the West Hackberry Physical Security Program.
- FY 2024 – FY 2028: Continue a robust Major Maintenance Program to ensure SPR infrastructure is performing optimally.
- FY 2024 – FY 2028: Continue modernization of SPR infrastructure for release and fill missions.
- FY 2024 – FY 2028: Continue ongoing NGSR commercial storage leases.

## Strategic Petroleum Reserve

**Overview**

The Strategic Petroleum Reserve (SPR) protects the U.S. economy from disruptions in critical petroleum supplies or demand 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 or demand whether originating from domestic and international supply disruptions, natural disasters, sabotage, and acts of terrorism.

The SPR has 372 million barrels of crude oil inventory (as of December 31, 2022) stored in underground cavern storage, providing the U.S. with multiple geostrategic benefits, and bolstering the world's collective energy security system. A release of petroleum from the SPR can mitigate the potential economic damage of an actual disruption in international or domestic petroleum supplies and the accompanying price increases. 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 a net exporter of crude oil and all petroleum products as defined by the IEA, the inventory of 372 million barrels of crude oil as of December 31, 2022, would provide about 116 days of 2022 net crude oil import protection (based on net crude oil imports of 3.204 million barrels per day as reported in the U.S. Energy Information Administration's Petroleum Supply Monthly with Data Through August 2022). The 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 42.4%, as of August 2022.

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.

**Highlights of the FY 2024 Budget Request**

Additional funding is included to the Major Maintenance Program for upgrades to the West Hackberry Physical Security Program. Continuing oil sale activities increase equipment usage and run times and require consistent preventive, predictive and corrective maintenance to prevent or address equipment failures.

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 use due to legislatively directed, multi-year crude oil sales require additional Maintenance and Major Maintenance activities to sustain operational readiness.

Major changes in FY 2024 include additional funding is included to the Major Maintenance Program for upgrades to the West Hackberry Physical Security Program to be following DOE Order 473.3A and the SPR Level III Criteria. Besides the work being done at the West Hackberry site, an additional 6 Major Maintenance construction projects are planned as compared to 0 planned in FY 2023. Increased maintenance activities in preventive and corrective maintenance, to equipment and facility infrastructure. The Cavern Integrity Program will perform 10 cavern wellbore workovers. With a minor decrease to the Security Program, the SPR retains capable and adequate effectiveness in providing a deterrence and response posture to adversarial threats.

**Strategic Petroleum Reserve**

**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Strategic Petroleum Reserve** | | | | | |
| Facilities Development and Operations | 168,525 | 163,444 | 233,897 | +70,453 | +43.1% |
| Management | 28,475 | 28,651 | 30,792 | +2,141 | +7.5% |
| Northeast Gasoline Supply Reserve | 22,000 | 15,080 | 16,280 | +1,200 | +8.0% |
| **Total, Strategic Petroleum Reserve** | **219,000** | **207,175** | **280,969** | **+73,794** | **+35.6%** |
| **Federal FTEs** | **126** | **126** | **126** | **0** | |

**Strategic Petroleum Reserve**
**Explanation of Major Changes ($K)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| **Facilities Development and Operations:** The Request reflects increases to the Cavern Integrity Program (+$6,328); the Maintenance Program (+$7,529); Major Maintenance Program (+$52,623): and replacements for support systems projects and contractor service support (+$4,451). It reflects decreases to the Physical Security Program for SPR sites (-$478). | **+70,453** |
| **Management:** The Request reflects an increase for salaries and benefits escalation, travel, rent to others, and technical support services. | **+2,141** |
| **Northeast Gasoline Supply Reserve:** The FY 2024 Budget Request reflects continuing support for the commercial gasoline storage leases. | **+1,200** |
| **Total, Strategic Petroleum Reserve** | **+$73,794** |

## Strategic Petroleum Reserve
## Facilities Development and Operations

**Description**

The Facilities Development and Operations subprogram funds activities to maintain the SPR's operational readiness capability for successful drawdowns/fills and operate 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/demand 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.

## Facilities Development and Operations
## Funding

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Facilities Development and Operations**<br>**$163,444,000** | **$233,897,000** | **+$70,453,000** |
| **Casing Inspections and Remediations**<br>**$27,840,000** | **Casing Inspections and Remediations**<br>**$34,168,000** | **Casing Inspections and Remediations +$6,328,000** |
| • Funding level supports 1 cavern workover rig and leased crew to execute 11 cavern wellbore diagnostic workovers. | • Funding level supports 1 cavern workover rig and leased crew to execute 10 cavern wellbore diagnostic workovers. | • The increase compared to FY 2023 allows for an increase of an additional 6 cavern wellbore diagnostic workover utilizing one leased rig and crew for cavern integrity operations to insure drawdown capability. |
| **Major Maintenance $3,838,000** | **Major Maintenance $56,461, 000** | **Major Maintenance +$52,623,000** |
| • Continue approach to repair, replace, or upgrade equipment including Security, Environmental, Safety & Health (ESH), Drawdown and Non-Drawdown critical systems. | • Continue approach to repair, replace, or upgrade equipment including Security, Environmental, Safety & Health (ESH), Drawdown and Non-Drawdown critical systems. | • Additional funding will support upgrades to the West Hackberry Physical Security Program to be following DOE Order 473.3A and the SPR Level III Criteria. Besides the work being done at the West Hackberry site, an additional 6 Major Maintenance construction projects are planned as compared to 0 planned in FY 2023. Continue approach to repair, replace, or upgrade equipment including Security, ESH, Drawdown and Non-Drawdown critical systems. |
| **Maintenance $28,061,000** | **Maintenance $35,590,000** | **Maintenance +$7,529,000** |
| • Provides preventive/corrective/predictive maintenance of the SPR equipment and facilities to support drawdown readiness in a safe and environmentally compliant manner. | • Provides preventive/corrective/predictive maintenance of the SPR equipment and facilities to support drawdown readiness in a safe and environmentally compliant manner. | • The increase supports additional materials and services for maintenance of pumps, motors, valves, and actuators of drawdown/fill critical equipment while maintaining an acceptable level of risk of equipment failures which could affect drawdown/fill operations. |
| **Security $23,073,000** | **Security $22,595,000** | **Security -$478,000** |
| • Protect and defend personnel, property and resources against assault, sabotage, vandalism, theft, trespass, and compromise of sensitive as well as classified information. | • Protect and defend personnel, property and resources against assault, sabotage, vandalism, theft, trespass, and compromise of sensitive as well as classified information. | • The minor decrease for replacement of security equipment will not hamper the Security Program to provide for a safe and secure workplace to meet DOE and Federal requirements for the protection of resources and information and ensuring drawdown readiness. |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Data Systems & Support $80,632,000** | **Data Systems & Support $85,083,000** | **Data Systems & Support +$4,451,000** |
| • Data Systems to support the mission of drawdown readiness, processing, sale, and receipt of goods (oil), communications, reporting, providing protection from malware and computer viruses, and all other activity associated with the use of data and information systems. Compliance requirements for Fire Protection, DOT 5-year Navigable Waterway Inspection, RMIAP (Cybersecurity), Multi-Factor Authentication and Piping Assurance Program. | • Data Systems to support the mission of drawdown readiness, processing, sale, and receipt of goods (oil), communications, reporting, providing protection from malware and computer viruses, and all other activity associated with the use of data and information systems. Compliance requirements for Fire Protection, DOT 5-year Navigable Waterway Inspection, RMIAP (Cybersecurity), Multi-Factor Authentication and Piping Assurance Program. | • Funding level reflects an increase for replacement of life-cycle site operations equipment, data system server hardware and software upgrades, Risk Management Approach Implementation Plan (Cybersecurity), technical services support activities to include Engineering, Quality Assurance, Property Management, Procurement, Safety & Health, and Financial Management. |

## Northeast Gasoline Supply Reserve
## Funding

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Northeast Gasoline Reserve $15,080,000** | **Northeast Gasoline Reserve $16,280,000** | **Northeast Gasoline Reserve +$1,200,000** |
| • The NGSR consists of 1 million barrels of gasoline blendstock stored in leased commercial storage terminals located in Maine, Massachusetts, and New Jersey. | • The NGSR awarded contracts have a 1-year Base Period with three, 1-year Option Periods | • Funding increase reflects the next option year of the current commercial leases. |

**Strategic Petroleum Reserve**
**Capital Summary[1] ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Capital Operating Expenses Summary (including MIE)** | | | | | |
| Capital Equipment > $500K (including MIE) | 4,209 | 0 | 49,337 | +49,337 | +100.0% |
| Plant Projects (GPP >$10M) | 0 | 0 | 0 | 0 | 0.0% |
| **Total, Capital Operating Expenses** | **4,209** | **0** | **49,337** | **+49,337** | **+100.0%** |
| **Capital Equipment > $500K (including MIE)** | | | | | |
| Total Non-MIE Capital Equipment (>$500K) | 4,209 | 0 | 49,337 | +49,337 | +100.0% |
| **Total, Capital Equipment (including MIE)** | **4,209** | **0** | **49,337** | **+49,337** | **+100.0%** |
| **Plant Projects (GPP - Total Estimated Cost >$10M)** | | | | | |
| **Total, Plant Projects (GPP – Total Estimated Cost)** | **0** | **0** | **0** | **0** | **0.0%** |
| **Total, Capital Summary** | **4,209** | **0** | **49,337** | **+49,337** | **+100.0%** |

[1] This list of projects is illustrative and can be adjusted based on operational requirements, priorities, and/or funding.

## Strategic Petroleum Reserve
## Management

**Overview**

Management provides funding for the salaries and related requirements of the Headquarters federal workforce 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 additional Federal workforce of the SPR Project Management Office 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 2024 Budget Request**

The Federal staff remains at 126 FTEs with additional technical support contractors. Travel is for operational field support and oversight, including site and vendor visits. Other related expenses include field building leases and telecommunications activities**.**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| Program Direction Summary | | | | | |
| Washington Headquarters | | | | | |
| Salaries and Benefits | 5,729 | 5,844 | 6,090 | +246 | +4.2% |
| Travel | 130 | 120 | 130 | +10 | +8.3% |
| Support Services | 2,109 | 1,619 | 2,000 | +381 | +23.5% |
| Other Related Expenses | 1,032 | 1,917 | 1,949 | +32 | +1.7% |
| Total, Washington Headquarters | 9,000 | 9,500 | 10,169 | +669 | +7.0% |
| Strategic Petroleum Reserve Project Management Office | | | | | |
| Salaries and Benefits | 15,552 | 15,940 | 16,993 | +1,053 | +6.6% |
| Travel | 565 | 575 | 600 | +25 | +4.3% |
| Support Services | 665 | 715 | 725 | +10 | +1.4% |
| Other Related Expenses | 2,693 | 1,921 | 2,305 | +384 | +20.0% |
| Total, SPR Project Management Office | 19,475 | 19,151 | 20,623 | +1,472 | +7.7% |
| Total Management | | | | | |
| Salaries and Benefits | 21,281 | 21,784 | 23,083 | +1,299 | +6.0% |
| Travel | 695 | 695 | 730 | +35 | +5.0% |
| Support Services | 2,774 | 2,334 | 2,725 | +391 | +16.8% |
| Other Related Expenses | 3,725 | 3,838 | 4,254 | +416 | +10.8% |
| Total, Management | 28,475 | 28,651 | 30,792 | +2,141 | +7.5% |
| Federal FTEs | 126 | 126 | 126 | 0 | |

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| Support Services | | | | | |
| Technical Support | | | | | |
| Economic & Environmental Analysis | 570 | 570 | 600 | +30 | +5.3% |
| Total, Technical Support | 570 | 570 | 600 | +30 | +5.3% |
| | | | | | |
| Management Support | | | | | |
| Training and OPM Recruitment | 150 | 150 | 150 | 0 | 0.0% |
| Technical Support | 2,054 | 1,614 | 1,975 | +361 | +22.4% |
| Total Management Support | 2,204 | 1,764 | 2,125 | +361 | +20.5% |
| Total, Support Services | 2,774 | 2,334 | 2,725 | +391 | +16.8% |
| | | | | | |
| Other Related Expenses | | | | | |
| Rent to Others | 661 | 719 | 720 | +1 | +0.1% |
| Communications, Utilities, Misc. | 73 | 119 | 150 | +31 | +26.1% |
| Other Services | 2,491 | 2,350 | 2,659 | +309 | +13.1% |
| Supplies and Materials | 50 | 50 | 75 | +25 | +50.0% |
| Equipment | 450 | 600 | 650 | +50 | +8.3% |
| Total, Other Related Expenses | 3,725 | 3,838 | 4,254 | +416 | +10.8% |

## Management
## Funding

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Management $28,651,000** | **$30,792,000** | **+$2,141,000** |
| **Salaries and Benefits $21,784,000** | **$23,083,000** | **+$1,299,000** |
| • The funding supports salaries and benefits for 126 FTEs and associated costs required to provide overall direction and execution of the SPR. The SPR mission is carried out by a workforce composed largely of M&O contractors, although there are a variety of functions that are inherently governmental (i.e., program management, contract administration, budget formulation, and interagency/international coordination) that require a dedicated Federal workforce. | • The funding supports salaries and benefits for 126 FTEs and associated costs required to provide overall direction and execution of the SPR. The SPR mission is carried out by a workforce composed largely of M&O contractors, although there are a variety of functions that are inherently governmental (i.e., program management, contract administration, budget formulation, and interagency/international coordination) that require a dedicated Federal workforce. | • Increase reflects escalation in costs. |
| **Travel $695,000** | **$730,000** | **+$35,000** |
| • Provides travel to assure capability to achieve Level 1 Performance criteria for drawdown and distribution of the Reserve. | • Provides travel to assure capability to achieve Level 1 Performance criteria for drawdown and distribution of the Reserve. | • Minor increase in travel supports travel required to ensure the reserve is drawdown ready. |
| **Support Services $2,334,000** | **$2,725,000** | **+$391,000** |
| • Activities support project-planning efforts to maintain technical, mission essential support capabilities. | • Activities support project-planning efforts to maintain technical, mission essential support capabilities. | • Increase reflects project-planning efforts for technical analysis which support programmatic planning and capability requirements. |
| **Other Related Expenses $3,838,000** | **$4,254,000** | **+$416,000** |
| • Provides teleconferencing capabilities between sites; field site building leases; analytical support services and materials; Information Technology (IT) hardware and software materials and services support. | • Provides teleconferencing capabilities between sites; field site building leases; analytical support services and materials; Information Technology (IT) hardware and software materials and services support. | • Increase reflects increases for the cost of field site building leases, Program Office Working Capital Fund, IT hardware and software materials. |

## Strategic Petroleum Reserve
## Facilities Maintenance and Repair

The SPR Program's Facilities Maintenance and Repair activities are tied to its programmatic missions, goals, and objectives. The Facilities Maintenance and Repair activities funded by this budget and displayed below are intended to halt asset condition degradation.

### Costs for Direct-Funded Maintenance and Repair (including Deferred Maintenance Reduction) ($K)

| | FY 2022 Actual Cost | FY 2022 Planned Cost | FY 2023 Planned Cost | FY 2024 Planned Cost |
|---|---|---|---|---|
| Strategic Petroleum Reserve | 34,440 | 32,113 | 30,899 | 88,407 |
| **Total, Direct-Funded Maintenance and Repair** | **34,440** | **32,113** | **30,899** | **88,407** |

### Report on FY 2022 Expenditures for Maintenance and Repair

This report responds to legislative language set forth in Conference Report (H.R. 108-10) accompanying the Consolidated Appropriations Resolution, 2003 (Public Law 108-7) (pages 886-887), which requests the Department of Energy provide an annual year-end report on maintenance expenditures to the Committees on Appropriations. This report compares the actual maintenance expenditures in FY 2022 to the amount planned for FY 2021, including congressionally directed changes.

### Total Costs for Maintenance and Repair ($K)

| | FY 2022 Actual Cost | FY 2022 Planned Cost |
|---|---|---|
| Strategic Petroleum Reserve | 34,440 | 32,113 |
| **Total, Direct-Funded Maintenance and Repair** | **34,440** | **32,113** |

**18-E-001, Strategic Petroleum Reserve (SPR) Modernization**
**Various locations**

**Project Data Sheet is for Design and Construction**

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

**Summary**

Initially, the SPR Modernization Program was comprised of two projects: the Life Extension Phase II (LE2) project, and the Marine Terminal Distribution Capability Enhancements (MTE) project; however, the MTE project has since been cancelled due to lack of current mission need. The LE2 subprogram will modernize aging SPR infrastructure through systems upgrades and associated equipment replacement to ensure continued ability to meet mission requirements for the next 25 years. LE2 activities were planned to occur at all four SPR storage sites: Bryan Mound, Big Hill, West Hackberry, and Bayou Choctaw, however due to unpresidented external impacts to the program discrete scopes have been removed. Impacts from the pandemic (supply chain disruptions, inflation and workforce challenges) and delays related to emergency sales in 2022, the LE2 activities (procurement of long lead material and construction) at West Hackberry have been suspended. The emergency oil sale delayed the start of the site outage window by 12 plus months and increased the hotel load associated with engineering and construction support. In addition the delay from the emergency oil sales caused additional cost to be incurred by the general contractor at the BM site.

The Energy Security and Infrastructure Modernization (ESIM) Fund was established as the funding source for the SPR Modernization Program. The ESIM fund contains offsetting collections from the sale of SPR crude up to the authorized annual revenue ceiling. These sales are limited to the period of fiscal years 2017 through 2020. However, the final sale in FY 2020 did not occur because of a lack of demand related to the COVID-19 virus. Section 14002 of the CARES Act (P.L. 116-136) provided the Department flexibility to conduct the final sale in FY 2020, FY 2021, or FY 2022. The final sale was ultimately conducted in FY 2021.

**Significant Changes**

LE2 Project:
The Office of Petroleum Reserves has transitioned from Fossil Energy to Cybersecurity Energy Security and Emergency Response (CESER) in Fiscal Year 2022.

This Construction Project Data Sheet (CPDS) is an update from the Fiscal Year 2023 Congressional Request and does not include a new start for the budget year. Design has been significantly completed and the program (Bryan Mound, Bayou Choctaw, and Big Hill) received a Critical Decision (CD)-2 Approved Project Baseline and CD-3 Approved Start of Construction in June FY 2021. CD-2 Approve Project Baseline and CD-3 Approved Start of Construction in FY 2023 for West Hackberry has been suspended. The Total Project Cost for the project was $1.42 billion, but is now forecast at $1.92B due to pandemic increases related cost increases and delays related to emergency sales in 2022. Therefore scope has been deferred Bryan Mound (BM) and Bayou Choctaw (BC) Physical Protect and the Degas Plan module fabrication and installation at BC to allow portions of the project to complete within the $1.42 B funding level. LE2 construction activities are underway at all SPR sites. The large BC, BM and BC General Construction (GC) contracts have been awarded which address the Key Performance Parameters of the LE2 program. The BM General Contractor (GC) construction on subsystems not impacting drawdown activities continues despite the impact of the emergency oils sales that continued through December 2022, with plans executed to allow the GC to work activities on facility subsystems that do not impact oil movements. The emergency oil sales have delayed the previously scheduled BM site outage by a minimum of 12 months, with a forecasted date of May 1, 2023. The site outages, site unavailable to receive or drawdown oil, are required to facilitate construction activities including replacement of critical equipment. Additionally, staff working on LE2 collaborated with staff from Maintenance and Operations to identify new outage windows for the remaining SPR sites and the Bayou Choctaw outage started February 2023, and Big Hill (BH) in March 2024. At West Hackberry (WH), the LE2 team completed work on the construction laydown area and the subcontractor subsequently demobilized in January 2023.

During July, the Integrated Project Team (IPT) has worked closely with the DOE Office of Project Management (PM-30) team to resolve the few remaining issues and achieved Earned Value Management System (EVMS) Program Certification. In July, CD-3E long-lead procurement activities for the re-scoped sub-project was submitted for approval.

Many external factors (COVID-19 pandemic effects on commodity and labor markets, Presidentially directed emergency oil sales, etc.) required a reassessment of scope for the project, resulting in the decision to reallocate the remaining West Hackberry (WH) $216M funding to the three (previously baselined) SPR sites.

DOE O 413.3B approved CD-1 for LE2 on December 16, 2016 with a total project cost range of $750 million to $1.4 billion does not include the supplemental appropriations that will be requested to fund the descoped scopes and the WH sub-project, and a CD-4 completion date range of September 2022 to September 2026. Multiple CD-3X's, acquisition of long lead equipment and site preparatory work, were approved between FY 2017 and FY 2022. A Federal Project Director (FPD) has been assigned to this project and has approved this Construction Project Data Sheet (CPDS).

MTE Project:
The Marine Terminal Distribution Capability Enhancements project scope did not receive Congressional funding authority in fiscal year 2018. On May 21, 2018, the Under Secretary of Energy signed a memorandum approving the cancelation of the Strategic Petroleum Reserve Marine Terminal Distribution Capability Enhancement project. The acting Federal Project Director for the LE2 program is certified at Level I with the application of Level II/III pending.

**Life Extension Phase II:**

**Critical Milestone History**

| | CD-0 | Conceptual Design Complete | CD-1 | CD-2 | Final Design Complete | CD-3 | CD-4 |
|---|---|---|---|---|---|---|---|
| FY 2018* | 10/30/15 | 09/01/16 | 12/22/16 | 3rd Qtr 2019 | 3rd Qtr 2019 | 3rd Qtr 2019 | 4th Qtr 2024 |
| FY 2019* | 10/30/15 | 09/01/16 | 12/22/16 | 3rd Qtr 2019 | 3rd Qtr 2019 | 3rd Qtr 2019 | 4th Qtr 2024 |
| FY 2020* | 10/30/15 | 09/01/16 | 12/22/16 | 4th Qtr 2020 | 4th Qtr 2020 | 4th Qtr 2020 | 4th Qtr 2024 |
| FY 2021* | 10/30/15 | 09/01/16 | 12/22/16 | 2nd Qtr 2021 | 2nd Qtr 2021 | 2nd Qtr 2021 | 4th Qtr 2024** |
| FY 2022* | 10/30/15 | 09/01/16 | 12/22/16 | 3rd Qtr 2021 | 2nd Qtr 2021 | 3rd Qtr 2021 | 4th Qtr 2026** |
| FY 2023*** | 10/30/15 | 09/01/16 | 12/22/16 | 3rd Qtr 2021 | 2nd Qtr 2021 | 3rd Qtr 2021 | 4th Qtr 2026** |
| FY 2024**** | 10/30/15 | 09/01/16 | 12/22/16 | 3rd Qtr 2021 | 2nd Qtr 2021 | 3rd Qtr 2021 | Various |

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

***Project does not have CD-2 approval and has not been baselined.**
**The costs are only estimates and consistent with the high end of the cost ranges.**
****CD-4 for three sites is currently estimated FY 2026.**
***** Project has CD-2 and CD-3 approval for Bryan Mound, Bayou Choctaw, and Big Hill.**

****** Project has CD-2 and CD-3 approval for Bryan Mound, Bayou Choctaw, and Big Hill. New CD-4 dates for baselined sites: Bryan Mound 4th Qtr FY 2026, Bayou Choctaw 1st Qtr FY 2026, and Big Hill 4th Qtr FY 2026.**

| Site | Current Baseline CD-4 Date | Proposed Baseline CD-4 Date | Delta in Months |
|---|---|---|---|
| Bayou Choctaw | 2/6/2025 | 1/25/2025 | -0.5 |
| Big Hill | 2/28/2025 | 8/24/2026 | 18 |
| Bryan Mound | 5/23/2025 | 1/26/2026 | 7.5 |

| Fiscal Year | Performance Baseline Validation | CD-3A | CD-3B | CD-3C | CD-3D | CD-3E |
|---|---|---|---|---|---|---|
| FY 2017 | | 07/14/17 | | | | |
| FY 2018 | | | | | | |
| FY 2019 | | | 11/20/18 | 10/25/2019 | | |
| FY 2020 | | | | | 01/2021 | |
| FY 2021 | 6/17/2021* | | | | | |
| FY 2022 | | | | | | TBD |

**CD-3A** – Approve Long-Lead Procurements, Original Scope
**CD-3B** – Approve Long-Lead Procurements, Revised Scope
**CD-3C** – Approve Long-Lead Procurements, Revised Scope
**CD-3D** – Approve Long-Lead Procurements, Revised Scope
**CD-3E** – Approve Long-Lead Procurements, Revised Scope

***** Baseline validation for Bryan Mound, Bayou Choctaw and Big Hill only

**Project Cost History**

| | TEC, Design ($000) | TEC, Construction ($000) | TEC, Total ($000) | OPC Except D&D ($000) | OPC, D&D ($000) | OPC, Total ($000) | TPC ($000) |
|---|---|---|---|---|---|---|---|
| FY 2018 | $100,628 | $1,299,372 | $1,400,000 | $6,711 | $0 | $6,711 | $1,406,711 |
| FY 2019 | $199,749* | $800,251 | $1,000,000** | $5,250 | $0 | $5,250 | $1,005,250 |
| FY 2020 | $276,383 | $1,163,617*** | $1,440,000*** | $5,250 | $0 | $5,250 | $1,445,250*** |
| FY 2021 | $392,886 | $1,047,114 | $1,440,000 | $5,250 | $0 | $5,250 | $1,445,250 |
| FY 2022 | $392,886 | $1,022,888 | $1,415,774 | $5,250 | $0 | $5,250 | $1,421,024 |
| FY 2023 | $354,657 | $1,061,117 | $1,415,774 | $5,250 | $0 | $5,250 | $1,421,024 |
| FY 2024 | $354,657 | $1,561,117 | $1,915,774 | $5,250 | $0 | $5,250 | $1,921,024**** |

**The costs are only estimates as of July 2022 and consistent with the high end of the cost ranges. No construction funds, except for approved long lead procurement, will be used until the project performance baseline for each sub-project has been validated and CD-3 has been approved. CD-3 was approved in June 2021 for the Bayou Choctaw, Big Hill, and Bryan Mound sites.**

***The increase in design cost is due to: 1) competing the design contract instead of using a reach-back contract to the M&O contractor partner; 2) adding fee to competed contract; 3) adding escalation to schedule delay caused by competing design contract; and 4) adding engineering cost associated with additional scope (deleted scope was represented completely in construction cost).**
**** The maximum range project cost of $1.4B was approved at CD-1.**

*****The initial Project Scope was expanded to include drilling 17 new wells at two sites. The costs for FY 2020 entry were revised to reflect the increase in scope. This scope has since been removed to stay within the $1.42 B funding limit.**

**2. Project Scope and Justification**

**Scope**

The Strategic Petroleum Reserve-Life Extension 2 (SPR-LE2) project involved work at all four SPR storage sites: Bryan Mound, Big Hill, West Hackberry, and Bayou Choctaw. The SPR-LE2 project will be managed as four sub-projects based on site location for baseline development, field execution, and project completion. Completion of the SPR-LE2 project will extend SPR key equipment and infrastructure capabilities for an additional 15-25 years and assure the required drawdown of 4.4 million barrels per day of hydraulic capability is maintained. Actual drawdown rate is highly dependent on cavern/site fill level. The scope at each of the four SPR storage facilities includes modernization of aging SPR infrastructure through systems upgrades and associated equipment replacement including repair or replace crude oil transfer systems, raw water systems, brine disposal systems, power distribution and lighting systems, and physical security systems. The West Hackberry project has been deferred to stay within the current funding level.

**Justification**

In August 2016, the Department of Energy published a Long-Term Strategic Review (LTSR) of SPR capabilities and infrastructure. The LTSR compared current operational capability to Level 1 Technical and Performance Criteria and identified gaps within the storage site infrastructure and distribution system necessary to provide the design delivery rate of 4.4 million barrels per day if capacity is completely filled, now and for the next 25 years. The results indicated that a significant investment in infrastructure and process equipment is critical to ensure the SPR can maintain readiness, meet mission requirements, and operate in an environmentally responsible manner. The SPR-LE2 Project addresses these requirements. Current surface assets and systems are at or near their original design life of 25 years and early analysis suggests the required Life Extension Program (LEP) could take up to six years to complete. Revitalization of many, but not all, of those assets and systems last occurred from 1995 to 2000 under the first LEP. As these assets continue to age, modernization will be required – either through additional maintenance and/or repair, or outright replacement.

The project is being conducted in accordance with the project management requirements in DOE O 413.3B, Program and Project Management for the Acquisition of Capital Assets.

**Key Performance Parameters (KPPs)**

The Threshold KPPs represent the minimum acceptable performance that the project must achieve. Achievement of the Threshold KPPs will be a prerequisite for approval of CD-4, Project Completion. The Objective KPPs represent the desired project performance. The preliminary KPPs will be finalized when the project is baselined at CD-2.

| Performance Measure | Threshold | Objective |
|---|---|---|
| Raw Water Withdrawal Rate | TBD | 4.5 MMBD* |
| Peak Sustained Drawdown Rate | TBD | 4.4 MMBD* |
| Site Fill Rate | TBD | 605 MBD** |

***At full capacity. MMBD is Million Barrels per day.**

****At full capacity. MBD is Thousand Barrels per day.**

**3. Project Cost and Schedule (assumes additional funding of $500 million requested in supplemental appropriations is approved sometime in early FY 2023)**

**Financial Schedule (LE2 Project Summary)**

($K)

| | Appropriations | Obligations | Costs |
|---|---|---|---|
| Total Estimated Cost (TEC) | | | |
| Design | | | |
| FY 2015 | $0 | $0 | $0 |
| FY 2016 | $0 | $0 | $0 |
| FY 2017 | $137,215 | $137,215 | $4,159 |
| FY 2018 | $116,377 | $116,377 | $59,036 |
| FY 2019 | $68,480 | $68,480 | $74,893 |
| FY 2020 | $7,760 | $7,760 | $68,487 |
| FY 2021 | $24,825 | $24,825 | $44,039 |
| FY 2022 | $0 | $0 | $47,028 |
| FY 2023 | $0 | $0 | $34,916 |
| FY 2024 | $0 | $0 | $20,395 |
| FY 2025 | $0 | $0 | $1,704 |
| Total, Design **a** | $354,657 | $354,657 | $354,657 |
| Construction | | | |
| FY 2015 | $0 | $0 | $0 |
| FY 2016 | $0 | $0 | $0 |
| FY 2017 | $27,400 | $27,400 | $0 |
| FY 2018 **b** | $338,284 | $338,284 | $483 |
| FY 2019 | $262,459 | $262,459 | $729 |
| FY 2020 | $0 | $0 | $26,076 |
| FY 2021 | $432,974 | $432,974 | $61,857 |
| FY 2022 | $0 | $0 | $249,357 |
| FY 2023 | $500,00 | $500,000 | $500,906 |
| FY 2024 | $0 | $0 | $462,270 |
| FY 2025 | $0 | $0 | $209,440 |
| FY 2026 | $0 | $0 | $49,999 |
| Total, Construction | $1,561,117 | $1,561,117 | $1,561,117 |

**Financial Schedule (LE 2 Project Summary) continued**

($K)

| | Appropriations | Obligations | Costs |
|---|---|---|---|
| TEC | | | |
| FY 2015 | $0 | $0 | $0 |
| FY 2016 | $0 | $0 | $0 |
| FY 2017 | $164,615 | $164,615 | $4,159 |
| FY 2018 | $454,661 | $454,661 | $59,519 |
| FY 2019 | $330,939 | $330,939 | $75,622 |
| FY 2020 | $7,760 | $7,760 | $94,563 |
| FY 2021 | $457,799 | $457,799 | $105,896 |
| FY 2022 | $0 | $0 | $296,385 |
| FY 2023 | $500,000 | $500,000 | $535,822 |
| FY 2024 | $0 | $0 | $482,665 |
| FY 2025 | $0 | $0 | $211,144 |
| FY 2026 | $0 | $0 | $49,999 |
| Total, TEC | $1,915,774 | $1,915,774 | $1,915,774 |
| Other Project Cost (OPC) | | | |
| FY 2015 **c,d** | $88 | $88 | $88 |
| FY 2016 **c,d** | $4,190 | $4,190 | $4,190 |
| FY 2017 **d** | $972 | $972 | $699 |
| FY 2018 **d** | $0 | $0 | $273 |
| FY 2019 | $0 | $0 | $0 |
| FY 2020 | $0 | $0 | $0 |
| FY 2021 | $0 | $0 | $0 |
| FY 2022 | $0 | $0 | $0 |
| FY 2023 | $0 | $0 | $0 |
| FY 2024 | $0 | $0 | $0 |
| FY 2025 | $0 | $0 | $0 |
| Total, OPC | $5,250 | $5,250 | $5,250 |

($K)

| | Appropriations | Obligations | Costs |
|---|---|---|---|
| Total Project Cost (TPC) | | | |
| FY 2015 | $88 | $88 | $88 |
| FY 2016 | $4,190 | $4,190 | $4,190 |
| FY 2017 **e** | $340,972 | $165,587 | $4,859 |
| FY 2018 **f** | $350,000 | $454,661 | $59,792 |
| FY 2019 **g, j** | $300,000 | $330,939 | $75,622 |
| FY 2020 **h** | $0 | $7,760 | $94,563 |
| FY 2021 **i** | $425,774 | $457,799 | $105,896 |
| FY 2022 | $0 | $0 | $296,385 |
| FY 2023 l | $500,000 | $500,000 | $535,822 |
| FY 2024 | $0 | $0 | $482,665 |
| FY 2025 | $0 | $0 | $211,143 |
| FY 2026 | $0 | $0 | $49,999 |
| Total, TPC **d,k** | $1,921,024 | $1,921,024 | **$1,921,024** |

**a**: DOE and DOE support labor; M&O project support
**b:** Bayou Choctaw CD-3A Degas Plant
**c**: Includes costs for Office of Project Management
**d:** Funding requirements are included in the Facilities Appropriation 089X0218.
**e**: FY 2017 Omnibus authorized oil sales target of $340,000,000 (Appropriation). Actual proceeds were $323,195,827.
**f**: FY 2018 Omnibus authorized oil sales target of $350,000,000 (Appropriation). Actual proceeds were $347,828,624
**g**: FY 2019 Omnibus authorized oil sales target of $300,000,000 (Appropriation). Actual proceeds were $299,999,961
**h**: FY 2020 Omnibus authorized oil sales target of $450,000,000 (Appropriation). Sales postponed and authorized completion no later than FY 2022 as part of the CARES Act (P.L. 116-136).
**i**. FY 2021 Omnibus authorized oil sales target of $450,000,000 (Appropriation). Actual proceeds were $499,999,980
**j**: Includes costs for Office of Project Management EIR which will be funded from the DOE Contingency within LE 2 funds
**k:** The Total Project Cost (TPC) of $1.4B was approved at CD-1, and final scope will be established at CD-2. The TPC for obligations and costs is the total of funds from Facilities Appropriation and funding received through the sale of SPR crude oil.
**L: Scope was cut to stay within the $1.42 B.**

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**Financial Schedule – Bryan Mound**

| | (dollars in thousands) | |
|---|---|---|
| | Obligations | Costs |
| Total Estimated Cost (TEC) | | |
| Design | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $14,956 | $874 |
| FY 2018 | $22,289 | $11,676 |
| FY 2019 | $10,480 | $11,699 |
| FY 2020 | $1,940 | $12,747 |
| FY 2021 | $19,996 | $9,125 |
| FY 2022 | $0 | $9,977 |
| FY 2023 | $0 | $7,852 |
| FY 2024 | $0 | $5,711 |
| FY 2025 | $0 | $0 |
| Total, Design | $69,661 | $69,661 |
| Construction | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $3,400 | $0 |
| FY 2018 | $48,884 | $353 |
| FY 2019 | $50,000 | $0 |
| FY 2020 | $0 | $2,289 |
| FY 2021 | $141,386 | $13,563 |
| FY 2022 | $0 | $74,844 |
| FY 2023 | $172,313 | $112,557 |
| FY 2024 | $0 | $126,221 |
| FY 2025 | $0 | $68,925 |
| FY 2026 | $0 | $17,231 |
| Total, Construction | $415,983 | $415,983 |

**Financial Schedule – Bryan Mound, continued**

(dollars in thousands)

| | Obligations | Costs |
|---|---|---|
| TEC | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $18,356 | $874 |
| FY 2018 | $71,173 | $12,029 |
| FY 2019 | $60,480 | $11,699 |
| FY 2020 | $1,940 | $15,036 |
| FY 2021 | $161,382 | $22,688 |
| FY 2022 | $0 | $84,821 |
| FY 2023 | $172,313 | $120,409 |
| FY 2024 | $0 | $131,932 |
| FY 2025 | $0 | $68,925 |
| FY 2026 | $0 | $17,231 |
| Total, TEC | $485,644 | $485,644 |
| Other Project Cost (OPC) | | |
| FY 2015 | $22 | $22 |
| FY 2016 | $1,048 | $1,048 |
| FY 2017 | $243 | $175 |
| FY 2018 | $0 | $68 |
| FY 2019 | $0 | $0 |
| FY 2020 | $0 | $0 |
| FY 2021 | $0 | $0 |
| FY 2022 | $0 | $0 |
| FY 2023 | $0 | $0 |
| FY 2024 | $0 | $0 |
| FY 2025 | $0 | $0 |
| Total, OPC | $1,313 | $1,313 |

**Financial Schedule – Bryan Mound, continued**

(dollars in thousands)

| | Obligations | Costs |
|---|---|---|
| Total Project Cost (TPC) | | |
| FY 2015 | $22 | $22 |
| FY 2016 | $1,048 | $1,048 |
| FY 2017 | $18,599 | $1,049 |
| FY 2018 | $71,173 | $12,097 |
| FY 2019 | $60,480 | $11,699 |
| FY 2020 | $1,940 | $15,036 |
| FY 2021 | $161,382 | $22,688 |
| FY 2022 | $0 | $84,821 |
| FY 2023 | $172,313 | $120,409 |
| FY 2024 | $0 | $131,932 |
| FY 2025 | $0 | $68,925 |
| FY 2026 | $0 | $17,231 |
| Total, TPC | $486,957 | $486,957 |

**Financial Schedule – West Hackberry**

| | (dollars in thousands) | |
|---|---|---|
| | Obligations | Costs |
| Total Estimated Cost (TEC) | | |
| Design | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $24,801 | $1,072 |
| FY 2018 | $27,043 | $14,861 |
| FY 2019 | $23,000 | $21,382 |
| FY 2020 | $1,940 | $16,889 |
| FY 2021 | $18,524 | $12,622 |
| FY 2022 | $0 | $10,367 |
| FY 2023 | $0 | $9,379 |
| FY 2024 | $0 | $7,032 |
| FY 2025 | $0 | $1,704 |
| Total, Design | $95,308 | $95,308 |
| Construction | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $3,000 | $0 |
| FY 2018 | $111,269 | $130 |
| FY 2019 | $99,819 | $710 |
| FY 2020 | $0 | $1,426 |
| FY 2021 | ($16,255) | $12,394 |
| FY 2022 | $0 | $38,101 |
| FY 2023 | $62,260 | $96,663 |
| FY 2024 | $0 | $70,099 |
| FY 2025 | $0 | $34,344 |
| FY 2026 | $0 | $6,226 |
| Total, Construction | $260,093 | $260,093 |

**Financial Schedule – West Hackberry, continued**

(dollars in thousands)

| | Obligations | Costs |
|---|---|---|
| TEC | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $27,801 | $1,072 |
| FY 2018 | $138,312 | $14,991 |
| FY 2019 | $122,819 | $22,092 |
| FY 2020 | $1,940 | $18,315 |
| FY 2021 | $2,269 | $25,016 |
| FY 2022 | $0 | $48,468 |
| FY 2023 | $62,260 | $106,042 |
| FY 2024 | $0 | $77,131 |
| FY 2025 | $0 | $36,048 |
| FY 2026 | $0 | $6,226 |
| Total, TEC | $355,401 | $355,401 |
| Other Project Cost (OPC) | | |
| FY 2015 | $22 | $22 |
| FY 2016 | $1,046 | $1,046 |
| FY 2017 | $243 | $174 |
| FY 2018 | $0 | $69 |
| FY 2019 | $0 | $0 |
| FY 2020 | $0 | $0 |
| FY 2021 | $0 | $0 |
| FY 2022 | $0 | $0 |
| FY 2023 | $0 | $0 |
| FY 2024 | $0 | $0 |
| FY 2025 | $0 | $0 |
| Total, OPC | $1,311 | $1,311 |

**Financial Schedule – West Hackberry, continued**

(dollars in thousands)

| | Obligations | Costs |
|---|---|---|
| Total Project Cost (TPC) | | |
| FY 2015 | $22 | $22 |
| FY 2016 | $1,046 | $1,046 |
| FY 2017 | $28,044 | $1,246 |
| FY 2018 | $138,312 | $15,060 |
| FY 2019 | $122,819 | $22,092 |
| FY 2020 | $1,940 | $18,315 |
| FY 2021 | $2,269 | $25,016 |
| FY 2022 | $0 | $48,468 |
| FY 2023 | $62,260 | $106,042 |
| FY 2024 | $0 | $77,131 |
| FY 2025 | $0 | $36,048 |
| FY 2026 | $0 | $6,226 |
| Total, TPC | $356,712 | $356,712 |

**Financial Schedule – Bayou Choctaw**

| | (dollars in thousands) | |
|---|---|---|
| | Obligations | Costs |
| Total Estimated Cost (TEC) | | |
| Design | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $33,074 | $1,003 |
| FY 2018 | $43,111 | $18,600 |
| FY 2019 | $19,000 | $21,981 |
| FY 2020 | $1,940 | $20,941 |
| FY 2021 | ($2,787) | $9,535 |
| FY 2022 | $0 | $10,595 |
| FY 2023 | $0 | $8,772 |
| FY 2024 | $0 | $2,911 |
| FY 2025 | $0 | $0 |
| Total, Design | $94,338 | $94,338 |
| Construction | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $0 | $0 |
| FY 2018 | $127,713 | $0 |
| FY 2019 | $24,820 | $19 |
| FY 2020 | $0 | $5,146 |
| FY 2021 | $106,601 | $20,778 |
| FY 2022 | $0 | $67,800 |
| FY 2023 | $121,956 | $130,303 |
| FY 2024 | $0 | $96,066 |
| FY 2025 | $0 | $48,783 |
| FY 2026 | $0 | $12,195 |
| Total, Construction | $381,090 | $381,090 |

**Financial Schedule – Bayou Choctaw, continued**

(dollars in thousands)

| | Obligations | Costs |
|---|---|---|
| TEC | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $33,074 | $1,003 |
| FY 2018 | $170,824 | $18,600 |
| FY 2019 | $43,820 | $22,000 |
| FY 2020 | $1,940 | $26,087 |
| FY 2021 | $103,814 | $30,313 |
| FY 2022 | $0 | $78,395 |
| FY 2023 | $121,956 | $139,075 |
| FY 2024 | $0 | $98,977 |
| FY 2025 | $0 | $48,783 |
| FY 2026 | $0 | $12,195 |
| Total, TEC | $475,428 | $475,428 |
| Other Project Cost (OPC) | | |
| FY 2015 | $22 | $22 |
| FY 2016 | $1,048 | $1,048 |
| FY 2017 | $243 | $175 |
| FY 2018 | $0 | $68 |
| FY 2019 | $0 | $0 |
| FY 2020 | $0 | $0 |
| FY 2021 | $0 | $0 |
| FY 2022 | $0 | $0 |
| FY 2023 | $0 | $0 |
| FY 2024 | $0 | $0 |
| FY 2025 | $0 | $0 |
| Total, OPC | $1,313 | $1,313 |

**Financial Schedule – Bayou Choctaw, continued**

(dollars in thousands)

| | Obligations | Costs |
|---|---|---|
| Total Project Cost (TPC) | | |
| FY 2015 | $22 | $22 |
| FY 2016 | $1,048 | $1,048 |
| FY 2017 | $33,317 | $1,178 |
| FY 2018 | $170,824 | $18,668 |
| FY 2019 | $43,820 | $22,000 |
| FY 2020 | $1,940 | $26,087 |
| FY 2021 | $103,814 | $30,313 |
| FY 2022 | $0 | $78,395 |
| FY 2023 | $121,956 | $139,075 |
| FY 2024 | $0 | $98,977 |
| FY 2025 | $0 | $48,783 |
| FY 2026 | $0 | $12,195 |
| Total, TPC | $476,741 | $476,741 |

**Financial Schedule – Big Hill**

(dollars in thousands)

| | Obligations | Costs |
|---|---|---|
| Total Estimated Cost (TEC) | | |
| Design | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $64,384 | $1,210 |
| FY 2018 | $23,934 | $13,899 |
| FY 2019 | $16,000 | $19,831 |
| FY 2020 | $1,940 | $17,910 |
| FY 2021 | ($10,908) | $12,757 |
| FY 2022 | $0 | $16,089 |
| FY 2023 | $0 | $8,913 |
| FY 2024 | $0 | $4,741 |
| FY 2025 | $0 | $0 |
| Total, Design | $95,350 | $95,350 |
| Construction | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $21,000 | $0 |
| FY 2018 | $50,418 | $0 |
| FY 2019 | $87,820 | $0 |
| FY 2020 | $0 | $17,215 |
| FY 2021 | $201,242 | $15,122 |
| FY 2022 | $0 | $68,612 |
| FY 2023 | $143,471 | $161,383 |
| FY 2024 | $0 | $169,884 |
| FY 2025 | $0 | $57,388 |
| FY 2026 | $0 | $14,347 |
| Total, Construction | $503,951 | $503,951 |

**Financial Schedule – Big Hill, continued**

(dollars in thousands)

| | Obligations | Costs |
|---|---|---|
| TEC | | |
| FY 2015 | $0 | $0 |
| FY 2016 | $0 | $0 |
| FY 2017 | $85,384 | $1,210 |
| FY 2018 | $74,352 | $13,899 |
| FY 2019 | $103,820 | $19,831 |
| FY 2020 | $1,940 | $35,125 |
| FY 2021 | $190,334 | $27,879 |
| FY 2022 | $0 | $84,701 |
| FY 2023 | $143,471 | $170,296 |
| FY 2024 | $0 | $174,625 |
| FY 2025 | $0 | $57,388 |
| FY 2026 | $0 | $14,347 |
| Total, TEC | $599,301 | $599,301 |
| Other Project Cost (OPC) | | |
| FY 2015 | $22 | $22 |
| FY 2016 | $1,048 | $1,048 |
| FY 2017 | $243 | $175 |
| FY 2018 | $0 | $68 |
| FY 2019 | $0 | $0 |
| FY 2020 | $0 | $0 |
| FY 2021 | $0 | $0 |
| FY 2022 | $0 | $0 |
| FY 2023 | $0 | $0 |
| FY 2024 | $0 | $0 |
| FY 2025 | $0 | $0 |
| Total, OPC | $1,313 | $1,313 |

**Financial Schedule – Big Hill, continued**

(dollars in thousands)

| | Obligations | Costs |
|---|---|---|
| Total Project Cost (TPC) | | |
| FY 2015 | $22 | $22 |
| FY 2016 | $1,048 | $1,048 |
| FY 2017 | $85,627 | $1,385 |
| FY 2018 | $74,352 | $13,967 |
| FY 2019 | $103,820 | $19,831 |
| FY 2020 | $1,940 | $35,125 |
| FY 2021 | $190,334 | $27,879 |
| FY 2022 | $0 | $84,701 |
| FY 2023 | $143,471 | $170,296 |
| FY 2024 | $0 | $174,625 |
| FY 2025 | $0 | $57,388 |
| FY 2026 | $0 | $14,347 |
| Total, TPC | $600,614 | $600,614 |

**Details of Project Cost Estimate at High Range at CD-1**

(dollars in thousands)

| | Current Total Estimate | Previous Total Estimate | Original Validated Baseline |
|---|---|---|---|
| Total Estimated Cost (TEC) | | | |
| Design (PED) | | | |
| Design | $354,657 | $354,657 | N/A |
| Contingency | $0 | $0 | N/A |
| Total,PED | $354,657 | $354,657 | N/A |
| Land Acquisition | $0 | $1,733 | N/A |
| Construction | | | |
| Site Facilities Construction | $1,208,210 | $825,905 | N/A |
| Off-Site Facilities | $12,043 | $9,195 | N/A |
| Drilling/Wellhead/Casings | $33,831 | $23,877 | N/A |
| Pipeline Construction | $104,268 | $77,176 | N/A |
| Construction Management | $58,799 | $41,369 | N/A |
| Project Support | $50,117 | $35,161 | N/A |
| Contingency | $93,849 | $46,701 | N/A |
| Total, Construction | $1,561,117 | $1,059,384 | N/A |
| Total, TEC | $1,915,774 | $1,415,774 | N/A |
| Contingency, TEC | $93,849 | $46,701 | N/A |
| Other Project Cost (OPC) | | | |
| OPC except D&D | | | |
| Conceptual Design | $1,368 | $1,366 | N/A |
| Other OPC Costs | $3,882 | $3,884 | N/A |
| Start-up | $0 | $0 | N/A |
| Contingency | $0 | $0 | N/A |
| Total, OPC except D&D | $5,250 | $5,250 | N/A |
| D&D | | | |
| D&D | $0 | $0 | N/A |
| Contingency | $0 | $0 | N/A |
| Total, D&D | $0 | $0 | N/A |
| Total, OPC | $5,250 | $5,250 | N/A |
| Contingency, OPC | $0 | $0 | N/A |
| Total, TPC | $1,921,024 | $1,421,024 | N/A |
| Total, Contingency | $93,849 | $46,701 | N/A |

**Note**: Project is being funded through the sale of SPR crude oil and not through the normal congressional appropriations process, with the possible exception of $500 million requested in supplemental funding.

**Details of Project Cost Estimate – Bryan Mound**

(dollars in thousands)

| | Current Total Estimate - Bryan Mound | Previous Total Estimate | Original Validated Baseline |
|---|---|---|---|
| Total Estimated Cost (TEC) | | | |
| Design (PED) | | | |
| Design | $69,661 | $69,661 | $69,661 |
| Contingency | $0 | $0 | $0 |
| Total,PED | $69,661 | $69,661 | $69,661 |
| Land Acquisition | $0 | $0 | 0 |
| Construction | | | |
| Site Facilities Construction | $353,381 | $200,735 | $200,735 |
| Off-Site Facilities | $0 | $0 | $0 |
| Drilling/Wellhead/Casings | $12,422 | $7,640 | $7,640 |
| Pipeline Construction | $0 | $0 | $0 |
| Construction Management | $16,709 | $10,277 | $10,277 |
| Project Support | $15,638 | $9,618 | $9,618 |
| Contingency | $17,833 | $15,400 | $15,400 |
| Total, Construction | $415,983 | $243,670 | $243,670 |
| Total, TEC | $485,644 | $313,331 | $313,331 |
| Contingency, TEC | $17,833 | $15,400 | $15,400 |
| Other Project Cost (OPC) | | | |
| OPC except D&D | | | |
| Conceptual Design | $342 | $342 | $342 |
| Other OPC Costs | $971 | $971 | $971 |
| Start-up | $0 | $0 | $0 |
| Contingency | $0 | $0 | $0 |
| Total, OPC except D&D | $1,313 | $1,313 | $1,313 |
| D&D | | | |
| D&D | N/A | N/A | N/A |
| Contingency | N/A | N/A | N/A |
| Total, D&D | N/A | N/A | N/A |
| Total, OPC | $1,313 | $1,313 | $1,313 |
| Contingency, OPC | $0 | $0 | $0 |
| Total, TPC | $486,957 | $314,644 | $314,644 |
| Total, Contingency | $17,833 | $15,400 | $15,400 |

**Details of Project Cost Estimate – West Hackberry**

(dollars in thousands)

| | Current Total Estimate - West Hackberry | Previous Total Estimate | Original Validated Baseline |
|---|---|---|---|
| Total Estimated Cost (TEC) | | | |
| Design (PED) | | | |
| Design | $95,308 | $95,308 | N/A |
| Contingency | $0 | $0 | N/A |
| Total,PED | $95,308 | $95,308 | N/A |
| Land Acquisition | $0 | $1,733 | N/A |
| Construction | | | |
| Site Facilities Construction | $214,689 | $160,220 | N/A |
| Off-Site Facilities | $6,639 | $5,195 | N/A |
| Drilling/Wellhead/Casings | $14,677 | $11,484 | N/A |
| Pipeline Construction | $0 | $0 | N/A |
| Construction Management | $10,298 | $8,058 | N/A |
| Project Support | $10,022 | $7,842 | N/A |
| Contingency | $3,768 | $3,300 | N/A |
| Total, Construction | $260,093 | $196,099 | N/A |
| Total, TEC | $355,401 | $293,140 | N/A |
| Contingency, TEC | $3,768 | $3,300 | N/A |
| Other Project Cost (OPC) | | | |
| OPC except D&D | | | |
| Conceptual Design | $342 | $342 | N/A |
| Other OPC Costs | $969 | $971 | N/A |
| Start-up | $0 | $0 | N/A |
| Contingency | $0 | $0 | N/A |
| Total, OPC except D&D | $1,311 | $1,313 | N/A |
| D&D | | | |
| D&D | | N/A | N/A |
| Contingency | | N/A | N/A |
| Total, D&D | $0 | $0 | N/A |
| Total, OPC | $1,311 | $1,313 | N/A |
| Contingency, OPC | $0 | $0 | N/A |
| Total, TPC | $356,712 | $294,453 | N/A |
| Total, Contingency | $3,768 | $3,300 | N/A |

**Details of Project Cost Estimate – Bayou Choctaw**

(dollars in thousands)

| | Current Total Estimate - Bayou Choctaw | Previous Total Estimate | Original Validated Baseline |
|---|---|---|---|
| Total Estimated Cost (TEC) | | | |
| Design (PED) | | | |
| Design | $94,338 | $94,338 | $94,338 |
| Contingency | $0 | $0 | $0 |
| Total,PED | $94,338 | $94,338 | $94,338 |
| Land Acquisition | $0 | $0 | $0 |
| Construction | | | |
| Site Facilities Construction | $315,349 | $220,800 | $220,800 |
| Off-Site Facilities | $0 | $0 | $0 |
| Drilling/Wellhead/Casings | $6,732 | $4,753 | $4,753 |
| Pipeline Construction | $0 | $0 | $0 |
| Construction Management | $14,562 | $10,281 | $10,281 |
| Project Support | $11,756 | $8,300 | $8,300 |
| Contingency | $32,691 | $15,000 | $15,000 |
| Total, Construction | $381,090 | $259,134 | $259,134 |
| Total, TEC | $475,428 | $353,472 | $353,472 |
| Contingency, TEC | $32,691 | $15,000 | $15,000 |
| Other Project Cost (OPC) | | | |
| OPC except D&D | | | |
| Conceptual Design | $342 | $342 | $342 |
| Other OPC Costs | $971 | $971 | $971 |
| Start-up | $0 | $0 | $0 |
| Contingency | $0 | $0 | $0 |
| Total, OPC except D&D | $1,313 | $1,313 | $1,313 |
| D&D | | | |
| D&D | N/A | N/A | N/A |
| Contingency | N/A | N/A | N/A |
| Total, D&D | N/A | N/A | N/A |
| Total, OPC | $1,313 | $1,313 | $1,313 |
| Contingency, OPC | $0 | $0 | $0 |
| Total, TPC | $476,741 | $354,785 | $354,785 |
| Total, Contingency | $32,691 | $15,000 | $15,000 |

**Details of Project Cost Estimate – Big Hill**

(dollars in thousands)

| | Current Total Estimate - Big Hill | Previous Total Estimate | Original Validated Baseline |
|---|---|---|---|
| Total Estimated Cost (TEC) | | | |
| Design (PED) | | | |
| Design | $95,350 | $95,350 | $95,350 |
| Contingency | $0 | $0 | $0 |
| Total,PED | $95,350 | $95,350 | $95,350 |
| Land Acquisition | $0 | $0 | $0 |
| Construction | | | |
| Site Facilities Construction | $324,791 | $244,150 | $244,150 |
| Off-Site Facilities | $5,404 | $4,000 | $4,000 |
| Drilling/Wellhead/Casings | $0 | $0 | $0 |
| Pipeline Construction | $104,268 | $77,176 | $77,176 |
| Construction Management | $17,230 | $12,753 | $12,753 |
| Project Support | $12,701 | $9,401 | $9,401 |
| Contingency | $39,557 | $13,000 | $13,000 |
| Total, Construction | $503,951 | $360,480 | $360,480 |
| Total, TEC | $599,301 | $455,830 | $455,830 |
| Contingency, TEC | $39,557 | $13,000 | $13,000 |
| Other Project Cost (OPC) | | | |
| OPC except D&D | | | |
| Conceptual Design | $342 | $342 | $342 |
| Other OPC Costs | $971 | $971 | $971 |
| Start-up | $0 | $0 | $0 |
| Contingency | $0 | $0 | $0 |
| Total, OPC except D&D | $1,313 | $1,313 | $1,313 |
| D&D | | | |
| D&D | N/A | N/A | N/A |
| Contingency | N/A | N/A | N/A |
| Total, D&D | N/A | N/A | N/A |
| Total, OPC | $1,313 | $1,313 | $1,313 |
| Contingency, OPC | $0 | $0 | $0 |
| Total, TPC | $600,614 | $457,143 | $457,143 |
| Total, Contingency | $39,557 | $13,000 | $13,000 |

**Schedule of Appropriations Requests**

Section 404 of the Bipartisan Budget Act of 2015 authorizes drawdown and sale of SPR crude oil over four fiscal years (FY 2017 – FY 2020) to finance SPR modernization. This CPDS reflects the high end of the cost ranges. The Total Project Cost (TPC) of $1.4B was approved at CD-1, and final scope was completed at CD-2, which occurred in June 2021 for BC, BH, and BM. The intent is to execute SPR modernization within the authorized revenue ceiling proposed in the FY 2020 budget request shown below, with the exception of an additional $500 million requested in supplemental funding. The table below assumes receipt of the additional funding. Should that not be made available, scope will be reduced to fit within the $1.4B raised under Section 404 of the Bipartisan Budget Act of 2015, which would limit LE2 work almost exclusively to the Bryan Mound, Big Hill, and Bayou Choctaw SPR sites.

($000)

| Request | | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 | FY 2024 | FY 2025 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FY 2018 | TEC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | OPC | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | |
| | TPC | $ - | $ - | $375,400 | $350,000 | $174,600 | $100,000 | $ - | $ - | $ - | $ - | $ - | $1,000,000 |
| FY 2019 | TEC | $ - | $ - | $ 340,000 * | $ 350,000 | $ 300,000 | $ 10,000 | $ - | $ - | $ - | $ - | $ - | $1,000,000 |
| | OPC | $ 88 | $ 4,190 | $ 972 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $5,250 |
| | TPC | $ 88 | $ 4,190 | $ 340,972 | $ 350,000 | $ 300,000 | $ 10,000 | $ - | $ - | $ - | $ - | $ - | $1,005,250 |
| FY 2020 | TEC | $ - | $ - | $ 340,000 * | 350,000 ** | $ 300,000 | $ 450,000 | $ - | $ - | $ - | $ - | $ - | $1,440,000 |
| | OPC | $ 88 | $ 4,190 | $ 972 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $5,250 |
| | TPC | $ 88 | $ 4,190 | $ 340,972 | $ 350,000 | $ 300,000 | $ 450,000 | $ - | $ - | $ - | $ - | $ - | $1,445,250 |
| FY 2021 | TEC | $ - | $ - | $ 340,000 * | $ 350,000 ** | $300,000 *** | $450,000 *** | $ - | $ - | $ - | $ - | $ - | $1,440,000 |
| | OPC | $ 88 | $ 4,190 | $ 972 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $5,250 |
| | TPC | $ 88 | $ 4,190 | $ 340,972 | $ 350,000 | $ 300,000 | $ 450,000 | $ - | $ - | $ - | $ - | $ - | $1,445,250 |
| FY 2022 | TEC | $ - | $ - | $ 340,000 * | $ 350,000 ** | $300,000 *** | $ - | $425,774**** | $ - | $ - | $ - | $ - | $1,415,774 |
| | OPC | $ 88 | $ 4,190 | $ 972 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $5,250 |
| | TPC | $ 88 | $ 4,190 | $ 340,972 | $ 350,000 | $ 300,000 | $ - | $ 425,774 | $ - | $ - | $ - | $ - | $1,421,024 |
| FY 2023 | TEC | $ - | $ - | $ 340,000 * | $ 350,000 ** | $300,000 *** | $ - | $425,774***** | $ - | $ - | $ - | $ - | $1,415,774 |
| | OPC | $ 88 | $ 4,190 | $ 972 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $5,250 |
| | TPC | $ 88 | $ 4,190 | $ 340,972 | $ 350,000 | $ 300,000 | $ - | $ 425,774 | $ - | $ - | $ - | $ - | $1,421,024 |
| FY 2024 | TEC | $ - | $ - | $ 340,000 * | $ 350,000 ** | $300,000 *** | $ - | $425,774***** | $ - | $ - | $ - | $ - | $1,415,774 |
| | OPC | $ 88 | $ 4,190 | $ 972 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $5,250 |
| | TPC | $ 88 | $ 4,190 | $ 340,972 | $ 350,000 | $ 300,000 | $ - | $ 425,774 | $ - | $ - | $ - | $ - | $1,421,024 |

***** FY 2017 Omnibus authorized oil sales target of $340,000,000 (Appropriation). Actual proceeds were $323,195,827.

****** FY 2018 Omnibus authorized oil sales target of $350,000,000 (Appropriation). Actual proceeds were $347,828,624.

*** FY 2019 Omnibus authorized oil sales target of $300,000,000 (Appropriation). Actual proceeds were $299,999,961.

**** FY 2020 Omnibus authorized oil sales target of $450,000,000 (Appropriation). Sale postponed, and authorized completion changed to no later than FY 2022 as part of the CARES Act (P.L. 116-136).

***** FY 2021 Omnibus authorized oil sales target of $450,000,000 (Appropriation). Actual proceeds were $499,999,980.

The appropriation table reflects the approved appropriations for the LE2 Program, however there is still a $500,000,000 shortfall of program requirements.

**4. Related Operations and Maintenance Funding Requirements**

**Not applicable for PED.**

| | |
|---|---|
| Start of Operation or Beneficial Occupancy (fiscal quarter or date) | Establish at CD-2 |
| Expected Useful Life (number of years) | 25 |
| Expected Future Start of D&D of this capital asset (fiscal quarter) | N/A |

**(Related Funding requirements)**

(dollars in thousands)

| | Annual Costs | | Life Cycle Costs | |
|---|---|---|---|---|
| | Current Total Estimate | Previous Total Estimate | Current Total Estimate | Previous Total Estimate |
| Operations | | N/A | | N/A |
| Maintenance & Repair | | N/A | | N/A |
| Total * | | N/A | | N/A |

*** Funding requirements are included in the Facilities Appropriation 089X0218.**

**5. D&D Information**

This project does not require D&D funding.

**6. Acquisition Approach**

The existing Strategic Petroleum Reserve Management and Operating Contractor did originally procure the Architect-Engineer contractor. With S-3 concurrence in FY 2019, the M&O Contractor is self-performing the remaining A-E scope and will procure all Government Furnished Property and firm fixed priced construction contracts.

# DEPARTMENT OF ENERGY
## Funding by Site
TAS_0218 - Strategic Petroleum Reserve - FY 2024
(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **National Energy Technology Lab** | | | |
| Strategic Petroleum Reserve (SPR) | 499 | 300 | 300 |
| **Total National Energy Technology Lab** | **499** | **300** | **300** |
| **Northeast Gasoline Supply Reserve (NGSR) - South Portland** | | | |
| Northeast Gasoline Supply Reserve | 2,562 | 2,209 | 2,329 |
| **Total Northeast Gasoline Supply Reserve (NGSR) - South Portland** | **2,562** | **2,209** | **2,329** |
| **Northeast Gasoline Supply Reserve (NGSR) - Revere** | | | |
| Northeast Gasoline Supply Reserve | 4,977 | 0 | 0 |
| **Total Northeast Gasoline Supply Reserve (NGSR) - Revere** | **4,977** | **0** | **0** |
| **Northeast Gasoline Supply Reserve (NGSR) - Raritan Bay** | | | |
| Northeast Gasoline Supply Reserve | 14,461 | 12,871 | 13,951 |
| **Total Northeast Gasoline Supply Reserve (NGSR) - Raritan Bay** | **14,461** | **12,871** | **13,951** |
| **Oak Ridge National Laboratory** | | | |
| Strategic Petroleum Reserve (SPR) | 570 | 570 | 600 |
| **Total Oak Ridge National Laboratory** | **570** | **570** | **600** |
| **Sandia National Laboratories** | | | |
| Strategic Petroleum Reserve (SPR) | 3,410 | 4,000 | 3,656 |
| **Total Sandia National Laboratories** | **3,410** | **4,000** | **3,656** |
| **Strategic Petroleum Reserve - Bayou Choctow** | | | |
| Strategic Petroleum Reserve (SPR) | 14,333 | 13,687 | 17,067 |
| **Total Strategic Petroleum Reserve - Bayou Choctow** | **14,333** | **13,687** | **17,067** |
| **Strategic Petroleum Reserve - Big Hill** | | | |
| Strategic Petroleum Reserve (SPR) | 20,834 | 19,827 | 22,965 |
| **Total Strategic Petroleum Reserve - Big Hill** | **20,834** | **19,827** | **22,965** |
| **Strategic Petroleum Reserve - Bryan Mound** | | | |
| Strategic Petroleum Reserve (SPR) | 18,863 | 19,162 | 25,745 |
| **Total Strategic Petroleum Reserve - Bryan Mound** | **18,863** | **19,162** | **25,745** |
| **Strategic Petroleum Reserve - West Hackberry** | | | |
| Strategic Petroleum Reserve (SPR) | 23,561 | 20,142 | 73,056 |
| **Total Strategic Petroleum Reserve - West Hackberry** | **23,561** | **20,142** | **73,056** |
| **Strategic Petroleum Reserve Project Office** | | | |
| Strategic Petroleum Reserve (SPR) | 106,500 | 105,477 | 111,731 |
| **Total Strategic Petroleum Reserve Project Office** | **106,500** | **105,477** | **111,731** |
| **Washington Headquarters** | | | |
| Strategic Petroleum Reserve (SPR) | 8,430 | 8,930 | 9,569 |
| **Total Washington Headquarters** | **8,430** | **8,930** | **9,569** |
| **Total Funding by Site for TAS_0218 - Strategic Petroleum Reserve** | **219,000** | **207,175** | **280,969** |

## SPR Petroleum Account
## 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).

**Public Law Authorizations**

Energy Policy and Conservation Act, Public Law 94-163, as amended.
Energy and Water Development and Related Agencies Appropriations Act, 2023.

**SPR Petroleum Account**
**($K)**

| FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|
| $7,350 | $100 | $0 |

**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.

**Highlights and Major Changes in the FY 2024 Budget Request**

Sections 403 of the Bipartisan Budget Act of 2015 (P.L. 114-74), Section 30204 of the Bipartisan Budget Act, 2018, (P.L. 115-141) and Section 32204 of the Surface Transportation Reauthorization Act of 2015 (P.L. 114-94) direct non-emergency, multi-year oil sales.

**SPR Petroleum Account**
**Funding by Congressional Control**
**($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **SPR Petroleum Account** | | | | | |
| Petroleum Acquisition, Transportation and Drawdown | 7,350 | 100 | 0 | -100 | -100% |
| **Total, SPR Petroleum Account** | **7,350** | **100** | **0** | **-100** | **-100%** |
| **Federal FTEs** | **0** | **0** | **0** | **0** | **0** |

**Future Years Energy Program (FYEP)**
**($K)**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| **SPR Petroleum Account** | 0 | 0 | 0 | 0 | 0 |

**Outyear Priorities and Assumptions**

In the FY 2012 Consolidated Appropriations Act (P.L. 112-74), Congress directed the Department to include a future-years energy program (FYEP) in subsequent requests that reflects the proposed appropriations for five years. This FYEP shows outyear funding for each account for FY 2025 - FY 2028. The outyear funding levels use the growth rates in outyear account totals published in the FY 2024 President's Budget for both the 050 and non-050 accounts. Actual future budget request levels will be determined as part of the annual budget process.

FY 2024 – FY 2028: Continue ongoing efforts execute emergency sales and exchanges, as necessary, in response to disruptions in U.S. petroleum supplies.
FY 2028: Congressionally mandated sales are resumed through FY 2031.

## 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*

As of December 31, 2022, the SPR crude oil inventory was 372 million barrels. Currently, the Department is undergoing a series of non-emergency, multi-year oil sales pursuant to the Bipartisan Budget Act (BBA) of 2015 (Public Law 114–74), and the Fixing America's Surface Transportation (FAST) Act (Public Law 114-94), the Act to provide for reconciliation pursuant to titles II and V of the concurrent resolution on the budget for fiscal year 2018. Drawdown and sales are scheduled as follows:

From FY 2018 through FY 2023 (six consecutive years) – sell 38 million barrels of crude oil, with 10 million barrels to be sold in FY 2023. Proceeds will be deposited into the General Fund of the Treasury (Bipartisan Budget Act 2015, (Public Law 114-74 Section 403) Please note that sales for 2024 and 2025 under this act (20MMB) were cancelled by Consolidated Appropriations Act of 2023 in exchange for $10.4B in rescissions.

- From FY 2017 through FY 2020 (four consecutive years) – sell the required volumes of SPR inventory to raise up to the authorized revenue ceiling to be deposited into the Energy Security and Infrastructure Modernization Fund (Bipartisan Budget Act, Section 404). In FY 2017, 6.3 million barrels were sold; in FY 2018, 4.7 million barrels were sold, and in FY 2019 4.2 million barrels were sold. Oil sales of 6.6 million barrels scheduled for FY 2020 were postponed until FY 2021 with revenues totaling $1.4 billion. Section 14002 of the CARES Act (P.L. 116-136) provides the Department flexibility to postpose through Fiscal Year 2022 a sale of crude oil from the Strategic Petroleum Reserve that was originally authorized for FY 2020.
- From FY 2017 through FY 2019 (three consecutive years) – sell 10 million barrels of crude oil in FY 2017, 9 million barrels in FY 2018, and 6 million barrels in FY 2019, for a total of 25 million barrels. Proceeds will be deposited in the General Fund of the Treasury (21st Century Cures Act, Section 5010).
- From FY 2020 through FY 2021, sell 10 million barrels of crude oil. Proceeds will be deposited in the General Fund of the Treasury (Consolidated Appropriations Act, 2018, Section 501).
- In FY 2023 sell 16 million barrels of crude oil in FY 2023. Proceeds will be deposited in the General Fund of the Treasury (Fixing America's Surface Transportation Act, Section 32204).
- From FY 2026 through FY 2027, sell 7 million barrels of crude oil. Proceeds shall be deposited in the General Fund of the Treasury during the fiscal year in which the sale occurs (An Act to provide for reconciliation pursuant to titles II and V of the concurrent resolution on the budget for fiscal year 2018, Section 20003).

In FY 2022 sell 30 million barrels of crude oil. Proceeds will be deposited in the General Fund of the Treasury (Bipartisan Budget Act of 2018 (Public Law 115-123).

- 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 up to 88 million barrels of crude oil. 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). (Infrastructure Investment and Jobs Act, Section 90002). NOTE: at current prices, these sales would total 87.6 MMB

No New FY 2024 Budget Authority is requested.

**SPR Petroleum Account**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **SPR Petroleum Account** | | | | | |
| Petroleum Acquisition, Transportation and Drawdown | 7,350 | 100 | 0 | -100 | -100% |
| **Total, SPR Petroleum Account** | **7,350** | **100** | **0** | **-100** | **-100%** |

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **SPR Petroleum Account** | | |
| **Petroleum Acquisition, Transportation and Drawdown $100** | **$0** | **-$100** |
| *Non-Emergency Drawdown*<br>• FY 2021 provides for the SPR Petroleum Account to pay for the costs of certain statutorily mandated crude oil sales. | • The remaining balance for the SPR Petroleum Account is to pay for the costs of certain statutorily mandated crude oil sales. | • The remaining balance for the SPR Petroleum Account is to pay for the costs of certain statutorily mandated crude oil sales. |

**DEPARTMENT OF ENERGY**

**Funding by Site**

TAS_0233 - Strategic Petroleum Reserve Petroleum Account - FY 2024

(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Strategic Petroleum Reserve Project Office** | | | |
| SPR - Petroleum Account | 7,350 | 100 | 0 |
| **Total Strategic Petroleum Reserve Project Office** | **7,350** | **100** | **0** |
| **Total Funding by Site for TAS_0233 - Strategic Petroleum Reserve Petroleum Account** | **7,350** | **100** | **0** |

**Naval Petroleum and Oil Shale Reserves**
**Proposed Appropriation Language**

For Department of Energy expenses necessary to carry out naval petroleum and oil shale reserve activities, *13,010,000* 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.

**Explanation of Changes**

FY 2024 Budget Authority will fund continued NPR-1 environmental assessment and remediation activities.

**Public Law Authorizations**

- P.L. 94-258, U.S. Naval Petroleum Reserves Production Act of 1977
- P.L. 95-91, U.S. Department of Energy Organization Act of 1977
- P.L. 104-106, The National Defense Authorization Act for Fiscal Year 1996
- P.L. 105-261, The Strom Thurmond National Defense Act for Fiscal Year 1999
- P.L. 109-58, Energy Policy Act of 2005

**Naval Petroleum and Oil Shale Reserves**
**($K)**

| FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY2024 Request vs FY 2023 Enacted |
|---|---|---|---|
| 13,650 | 13,004 | 13,010 | +6 |

**Overview**

The Naval Petroleum and Oil Shale Reserves (NPOSR) 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 until a closure permit is issued by the Wyoming Department of Environmental Quality (WDEQ). Landfill remediation activities were completed in FY 2017 and ground water sampling began in compliance with WDEQ requirements. The period of sampling will be specified by WDEQ but is expected to continue for one to four years. No new FY 2024 Budget Authority is requested for NPR-3.

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.

**Highlights and Major Changes in the FY 2024 Budget Request**

New FY 2024 Budget Authority of $13,010 million will support continued work with the California DTSC and other stakeholders on the environmental remediation and cultural resource activities in accordance with the 2008 DTSC Corrective Action Consent Agreement to obtain NFA status for all 131 AOCs.

Also included is the payment to former NPR-1 M&O contractor employees for post-employment medical and dental benefits**.** NPR-3 will continue groundwater sampling activities for the landfill closure with oversight by the Washington, D.C., Headquarters office.

**Naval Petroleum and Oil Shale Reserves**
**Funding by Congressional Control ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Naval Petroleum and Oil Shale Reserves** | | | | | |
| Production Operations | 11,650 | 11,004 | 11,010 | +6 | +0.1% |
| Management | 2,000 | 2,000 | 2,000 | 0 | 0.0% |
| **Total, Naval Petroleum and Oil Shale Reserves** | **13,650** | **13,004** | **13,010** | **+6** | **+0.1%** |
| **Federal FTEs** | **4** | **4** | **4** | **0** | **0.0%** |

**Future Years Energy Program (FYEP)**
**($K)**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| **Naval Petroleum and Oil Shale Reserves** | 13,010 | 13,000 | 14,000 | 14,000 | 14,000 |

**Outyear Priorities and Assumptions**
In the FY 2012 Consolidated Appropriations Act (P.L. 112-74), Congress directed the Department to include a future-years energy program (FYEP) in subsequent requests that reflects the proposed appropriations for five years. This FYEP shows outyear funding for each account for FY 2025 - FY 2028. The outyear funding levels use the growth rates in outyear account totals published in the FY 2024 President's Budget for both the 050 and non-050 accounts. Actual future budget request levels will be determined as part of the annual budget process.
NPOSR priorities in the outyears include the following:

- 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.

## Naval Petroleum and Oil Shale Reserves
## Production Operations

**Overview**

The NPR-1 program continues to work towards closing out the remaining environmental restoration and remediation activities for 131 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 NPR-3 program will continue post-sale activities for the closure of the landfill using prior-year balances. No new FY 2024 Budget Authority is requested for NPR-3.

**Highlights of the FY 2024 Budget Request**

The Department is requesting new FY 2024 Budget Authority of $13,010 million to fund the remediation work at the NPR-1 site.

Of the 131 AOCs for which DOE is responsible for environmental cleanup, as of March 2021, 111 AOCs have received NFA certification from California's DTSC. The remaining 20 AOCs that require remediation are larger-scale projects with substantial funding requirements. New FY 2024 Budget Authority of $13,010 million supports remediation of 3 AOCs.

**Production Operations**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| NPR-1 Closeout | 11,650 | 11,004 | 11,010 | +6 | +0.1% |
| NPR-3 Disposition | 0 | 0 | 0 | 0 | 0.0% |
| **Total, Production Operations** | **11,650** | **11,004** | **11,010** | **+6** | **+0.1%** |

**Production Operations**
**Explanation of Major Changes**
**($K)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| **NPR-1 Closeout:** FY 2024 Budget Authority will finance continued environmental assessment and remediation activity, in accordance with NPR-1 post-sale legal agreements. | **+$6** |
| **NPR-3 Disposition:** No FY 2024 Budget Authority is requested. NPR-3 ongoing post-sale remediation monitoring activities will continue through NPR-3 closeout in one to four years. | **$0** |
| **Total, Production Operations** | **+$6** |

**Production Operations**
**Funding**

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Production and Operations $11,004,000** | **$11,010,000** | **+$6,000** |
| **NPR-1 Closeout $11,004,000** | **$11,010,000** | **+$6,000** |
| • Program will continue the ongoing activities to attain release from the remaining environmental findings related to the sale of NPR-1. The FY 2023 Request includes funding that supports remediation of 3 AOCs. | • Program will continue the ongoing activities to attain release from the remaining environmental findings related to the sale of NPR-1. The FY 2024 Request includes funding that supports remediation of 3 AOCs. | • Funding supports the ongoing remediation work at the NPR-1 site. |
| **NPR-3 Disposition $0** | **$0** | **$0** |
| • Disposition completed; post-sale remediation monitoring activities for the landfill are ongoing. | • Disposition completed; post-sale remediation monitoring activities for the landfill are ongoing. | • No change. |

## Naval Petroleum and Oil Shale Reserves
## 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 2024 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.

NPR-3/RMOTC final office closeout was completed December 30, 2015; however, administrative oversight of the landfill closure will continue to be conducted by the Department of Energy Headquarters office. No new FY 2024 Budget Authority is requested for NPR-3.

**Management**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Washington Headquarters** | | | | | |
| Salaries and Benefits | 530 | 530 | 540 | +10 | +1.9% |
| Travel | 50 | 50 | 40 | -10 | -20.0% |
| Support Services | 420 | 420 | 420 | 0 | 0.0% |
| Other Related Expenses | 1,000 | 1,000 | 1,000 | 0 | 0.0% |
| **Total, Washington Headquarters** | **2,000** | **2,000** | **2,000** | **0** | **-0.0%** |
| | | | | | |
| **NPR – Wyoming** | | | | | |
| Salaries and Benefits | 0 | 0 | 0 | 0 | 0.0% |
| Travel | 0 | 0 | 0 | 0 | 0.0% |
| Support Services | 0 | 0 | 0 | 0 | 0.0% |
| Other Related Expenses | 0 | 0 | 0 | 0 | 0.0% |
| **Total, NPR – Wyoming** | **0** | **0** | **0** | **0** | **0.0%** |
| | | | | | |
| **Total Management** | | | | | |
| Salaries and Benefits | 530 | 530 | 540 | +10 | +1.9% |
| Travel | 50 | 50 | 40 | -10 | -20.0% |
| Support Services | 420 | 420 | 420 | 0 | 0.0% |
| Other Related Expenses | 1,000 | 1,000 | 1,000 | 0 | 0.0% |
| **Total, Management** | **2,000** | **2,000** | **2,000** | **0** | **-0.0%** |
| **Federal FTEs** | **4** | **4** | **4** | **0** | **0.0%** |
| | | | | | |
| **Support Services** | | | | | |
| Technical Support | | | | | |
| Environmental, Safety, Security & Health | 0 | 0 | 0 | 0 | 0.0% |
| Technical Services | 420 | 420 | 420 | 0 | 0.0% |
| Total, Technical Support | **420** | **420** | **420** | **0** | **0.0%** |
| | | | | | |
| Management Support | | | | | |
| Business Administration | 0 | 0 | 0 | 0 | 0.0% |
| IT Support | 25 | 25 | 20 | -5 | -20.0% |
| Total Management Support | 25 | 25 | 20 | -5 | -20.0% |

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Total, Support Services** | **425** | **425** | **420** | **-5** | **-1.2%** |
| | | | | | |
| **Other Related Expenses** | | | | | |
| Rent to Others | 0 | 0 | 0 | 0 | 0.0% |
| Communications, Utilities & Misc. | 0 | 0 | 0 | 0 | 0.0% |
| Other Services | 1,000 | 1,000 | 1,000 | 0 | 0.0% |
| Operation and Maintenance of Equipment | 0 | 0 | 0 | 0 | 0.0% |
| Supplies and Materials | 0 | 0 | 0 | 0 | 0.0% |
| **Total, Other Related Expenses** | **1,000** | **1,000** | **1,000** | **0** | **0.0%** |

**Management**
**Funding**

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Management $2,000,000** | **$2,000,000** | **$0** |
| **Salaries and Benefits $530,000** | **$540,000** | **$+10,000** |
| • Continue monitoring activities at NPR-1 (cultural resources mitigation, environmental clean-up, oversight, and audit). | • Continue monitoring activities at NPR-1 (cultural resources mitigation, environmental clean-up, oversight, and audit). | • The cost of salaries and benefits has increased due to annual escalation. |
| **Travel $50,000** | **$40,000** | **$-10,000** |
| • Federal travel will be required for environmental cleanup at NPR-1. | • Federal travel will be required for environmental cleanup at NPR-1. | • The cost of travel has decreased due to meetings being held virtually. |
| **Support Services $420,000** | **$420,000** | **$0** |
| • Support Services for environmental clean-up of NPR-1. | • Support Services for environmental clean-up of NPR-1. | • No change |
| **Other Related Expenses $1,000,000** | **$1,000,000** | **$0** |
| • As in prior years, funding provides for post-employment medical and dental benefits for former M&O contractor employees at NPR 1. | • As in prior years, funding provides for post-employment medical and dental benefits for former M&O contractor employees at NPR 1. | • No change. |

# DEPARTMENT OF ENERGY
## Funding by Site
TAS_0219 - Naval Petroleum and Oil Shale Reserve - FY 2024
(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Naval Petroleum Reserve No 1** | | | |
| Naval Petroleum and Oil Shale Reserve | 11,650 | 11,004 | 11,010 |
| **Total Naval Petroleum Reserve No 1** | **11,650** | **11,004** | **11,010** |
| **Washington Headquarters** | | | |
| Naval Petroleum and Oil Shale Reserve | 2,000 | 2,000 | 2,000 |
| **Total Washington Headquarters** | **2,000** | **2,000** | **2,000** |
| **Total Funding by Site for TAS_0219 - Naval Petroleum and Oil Shale Reserve** | **13,650** | **13,004** | **13,010** |

## Northeast Home Heating Oil Reserve
## Proposed Appropriation Language

For necessary expenses for the Northeast Home Heating Oil Reserve storage, operation, and management activities pursuant to the Energy Policy and Conservation Act, [$0] *$7,150,000* to remain available until expended.

### Explanation of Changes

New budget authority of $7,150,000 is required in FY 2024 to maintain Northeast Home Heating Oil Reserve storage, operation, and management activities.

**Public Law Authorizations**

- P.L. 109-58, Energy Policy Act of 2005

**Northeast Home Heating Oil Reserve**

**($K)**

| FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted |
|---|---|---|---|
| 6,500 | 7,000 | 7,150 | +2.14 |

**Overview**

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. In FY 2012, NEHHOR converted from 2 million barrels of high sulfur heating oil to 1 million barrels of Ultra Low Sulfur Diesel (ULSD) to meet new Northeast states' emission standards. The FY 2024 program will continue operation of the 1 million barrel Reserve. New leased commercial storage contracts went into effect on April 1, 2020, with the final option year extending through March 31, 2024.

**Future Years Energy Program (FYEP)**

**($K)**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| **Northeast Home Heating Oil Reserve** | 7,150 | 7,000 | 7,000 | 7,000 | 8,000 |

**Outyear Priorities and Assumptions**

In the FY 2012 Consolidated Appropriations Act (P.L. 112-74), Congress directed the Department to include a future-years energy program (FYEP) in subsequent requests that reflects the proposed appropriations for five years. This FYEP shows outyear funding for each account for FY 2025 - FY 2028. The outyear funding levels use the growth rates in outyear account totals published in the FY 2024 President's Budget for both the 050 and non-050 accounts. Actual future budget request levels will be determined as part of the annual budget process.

Northeast Home Heating Oil Reserve priorities in the outyears include the following:

- FY 2024 – FY 2028: Continue ongoing NEHHOR commercial storage leases.
- FY 2024 - FY 2028: Continue ongoing efforts to protect the Northeast region from disruptions in heating oil (Ultra Low Sulfur Diesel) supplies.

**Highlights and Major Changes in the FY 2024 Budget Request**

FY 2024 will focus on ongoing commercial leases, oversight, management and quality analysis of the Reserve as well as ongoing information technology support for the Reserve's sales system.

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

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Northeast Home Heating Oil Reserve** | | | | | |
| Northeast Home Heating Oil Reserve | 6,500 | 7,000 | 7,150 | +150 | +2.14% |
| **Total, Northeast Home Heating Oil Reserve** | **6,500** | **7,000** | **7,150** | **+150** | **+2.14%** |
| **Federal FTEs** | **0** | **0** | **0** | **0** | **0** |

**Northeast Home Heating Oil Reserve**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Northeast Home Heating Oil Reserve** | | | | | |
| Commercial Leases | 6,000 | 6,500 | 6,500 | +0 | +0% |
| Information Technology Support | 400 | 400 | 500 | +100 | +25.0% |
| Quality Control and Analysis | 100 | 100 | 150 | +50 | +50.0% |
| **Total, Northeast Home Heating Oil Reserve** | **6,500** | **7,000** | **7,150** | **+150** | **+2.14%** |

**Northeast Home Heating Oil Reserve**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Northeast Home Heating Oil Reserve** | | | | | |
| Commercial Leases | 6,000 | 6,500 | 6,500 | 0 | 0.0% |
| Information Technology Support | 400 | 400 | 500 | +100 | +25.0% |
| Quality Control and Analysis | 100 | 100 | 150 | +50 | +50.0% |
| **Total, Northeast Home Heating Oil Reserve** | **6,500** | **7,000** | **7,150** | **+150** | **+2.14%** |

**Northeast Home Heating Oil Reserve**
**Explanation of Major Changes ($K)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| **Northeast Home Heating Oil Reserve**: The Request of $7,000 will cover full requirements in FY 2023, to include the full cost of leased commercial storage contracts, information technology support costs, and costs for product quality control and analysis. | +150 |
| **Total, Northeast Home Heating Oil Reserve** | **+150** |

# DEPARTMENT OF ENERGY
## Funding by Site
TAS_0316 - Northeast Home Heating Oil Reserve - FY 2024
(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Washington Headquarters** | | | |
| Northeast Home Heating Oil Reserves | 800 | 960 | 1,075 |
| **Total Washington Headquarters** | **800** | **960** | **1,075** |
| **Grants** | | | |
| Northeast Home Heating Oil Reserves | 5,700 | 6,040 | 6,075 |
| **Total Grants** | **5,700** | **6,040** | **6,075** |
| **Total Funding by Site for TAS_0316 - Northeast Home Heating Oil Reserve** | **6,500** | **7,000** | **7,150** |

# Grid Deployment Office

# Grid Deployment Office

## Grid Deployment
## Proposed Appropriation Language

*For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for grid deployment 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, $106,600,000, to remain available until expended: Provided, That of such amount, $13,100,000 shall be available until September 30, 2025, for program direction.*

## Explanation of Changes

The FY 2024 Request establishes a new appropriation account for the Grid Deployment Office. The Energy and Water Development and Related Agencies Appropriation Act, 2023, appropriations for the Electricity account support both the Grid Deployment Office and the Office of Electricity. Of the $350,000,000 appropriated in FY 2023 for the Electricity account, $64,707,000 supports the Grid Deployment Office. Within those amounts, of the $23,000,000 provided for program direction, $5,207,000 supports Grid Deployment Office program direction.

**Public Law Authorizations**

- Public Law 95–91, "Department of Energy Organization Act", 1977
- Public Law 109-58, "Energy Policy Act of 2005"
- Public Law 110-140, "Energy Independence and Security Act, 2007"
- Public Law 114-94, "Fixing America's Surface Transportation Act," 2015
- Public Law 116-260, Division Z, "Energy Act of 2020"
- Public Law 117-58, Division D, "Infrastructure Investment and Jobs Act," 2021
- Public Law 117-169, Subtitle D, "Inflation Reduction Act," 2022

**Grid Deployment Office**
**($K)**

| FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|
| 11,000 | 64,707 | 106,600 | +41,893 | +64.7% |

**Overview**

The Grid Deployment Office (GDO) works to provide electricity to everyone, everywhere by maintaining and investing in critical generation facilities to ensure resource adequacy and improving and expanding transmission and distribution systems to make sure all communities have access to reliable, affordable electricity. Working in strong partnership with energy sector stakeholders on a variety of grid initiatives, GDO supports the resilience of our Nation's electric system by mitigating risk and strengthening our transmission and distribution infrastructure. GDO's priorities are to develop and deploy innovative grid modernization solutions to address local, state, regional and national electricity system needs, and ensure the availability of clean, firm generation capacity, like hydropower and nuclear energy.

Through the Building a Better Grid Initiative[a], GDO works to modernize and upgrade the Nation's power sector, deploying cost-effective, cleaner, reliable, and more resilient electricity delivery technologies to benefit all communities. With a strong commitment to collaboration, the office brings together community and industry stakeholders to identify national transmission and distribution needs. Within the Department, GDO takes a holistic view of the electricity system by closely collaborating with the Offices of Electricity, Energy Efficiency and Renewable Energy, Clean Energy Demonstrations, Cybersecurity Energy Security and Emergency Response, Power Marketing Administrations, and other offices.

GDO fully utilizes its unique tools and authorities for coordination, planning, financing, and permitting to drive transmission investment. These tools and authorities are critical to overcoming transmission challenges and addressing opportunities including, but not limited to:

- Insufficient transmission capacity—especially transmission that facilitates transfer of power across regions
- Increasingly vulnerable aging and poorly maintained transmission and distribution infrastructure
- Energy supply disruptions and climate and extreme weather impacts to infrastructure investments
- Transmission permitting challenges, such as long timelines for permitting and environmental reviews
- Transmission interconnection-specific challenges, such as with offshore wind
- Transmission cost allocation issues
- Market failures for grid investments
- Integration of grid-scale renewable energy resources
- Implications of energy interdependencies to improve the alignment and integration of generation, distribution, and transmission planning, with appropriate consideration for flexibility-providing resources including energy storage
- Increasing electrification of transportation and other new and emerging sectors
- Affordability, evolving customer expectations and behaviors, electricity access, and equity issues

Investments in the distribution system must accompany transmission deployment to modernize, harden, and expand the grid. GDO provides technical assistance to inform the formulation and implementation of policies, programs, and strategies for electricity system planning, design, and operation for all levels of a decarbonized grid. In addition, GDO will carry out the provisions provided through the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA). Through these lines of effort, GDO will make the U.S. power grid more resilient to the impacts of natural and man-made threats, increase access to affordable and reliable clean energy, and create American jobs across industry sectors.

[a]https://www.energy.gov/gdo/building-better-grid-initiative

Within the Request, GDO funds activities that supports four key priorities:

- Planning – modernize distribution and transmission planning processes to drive the development of highest-need grid projects that provide largest long-term benefits to consumers.
- Financing – deploy IIJA and IRA authorities and coordinate existing financial tools within the Department to help accelerate interregional transmission builds and enhance the resilience of the grid.
- Permitting – coordinate with States and Federal permitting agencies to help facilitate and streamline siting and permitting processes.
- Coordination – early, frequent, and collaborative engagement with government entities, including States, Territories, American Indian Tribes, and Alaska Natives, and other stakeholders throughout the process of evaluating needed transmission and distribution infrastructure to meet energy goals and deploying the Department's tools and authorities to accelerate the infrastructure deployment, integrating energy justice principles.

**Grid Modernization Initiative and Grid Modernization Laboratory Consortium**: The Grid Modernization Initiative (GMI) works across the U.S. Department of Energy (DOE) to create the modern grid of the future. The Grid Modernization Laboratory Consortium (GMLC) is a crosscutting strategic partnership between DOE and the national laboratories to bring together leading experts, technologies, and resources to collaborate on the goal of modernizing the Nation's grid. GDO activities will support the GMI and GMLC.

**Highlights and Major Changes in the FY 2024 Budget Request**

**Transmission Planning and Permitting** ($56,500,000; +$13,500,000) supports innovative efforts in transmission reliability and clean energy analysis and programs in addition to energy infrastructure and risk analysis to enhance grid resilience. The FY 2024 Request focuses on assisting states and regions with implementing the results of the National Transmission Planning Study[a], which will identify pathways necessary for large-scale transmission system buildout that meets regional and national interests. The National Transmission Planning Study will also expand its geographic scope from the 48 contiguous states to include Alaska, Hawaii, and the U.S. Territories.

**Distribution and Markets** ($36,750,000; +$20,250,000) works with electricity system partners and stakeholders to establish and improve centrally-organized market components and bilateral market arrangements as well as advance distribution-level market opportunities that will enable a clean, reliable, resilient, and equitable grid. In FY 2024, the Request establishes two new activities: EV Grid Planning and Markets, which supports grid management and integration for EV deployment and related technologies into the distribution market, and Territory, Tribal, and Rural Community Development, which provides technical assistance to ensure that communities have access to clean, reliable, and affordable electricity.

**Hydropower Incentives** ($250,000; +$250,000) invests in flexible hydropower assets, building upon the IIJA's hydropower incentives program. The FY 2024 Request supports the development of analytics for follow-up monitoring of the impact of hydropower incentives for the modernization and maintenance of existing U.S. hydropower assets.

**FY 2022 Key Accomplishments**

**National Transmission Planning Study**: Assembled a multi-laboratory team to develop transmission planning scenarios and completed an initial analysis of 192 scenarios. These scenarios examined combinations of four transmission development architectures; two electricity demand forecasts; three emission reduction trajectories; and 14 modeling sensitivities (covering uncertainty in transmission, storage, and generation capital costs; fuel prices; siting constraints; distributed energy resource adoption; advanced technology availability; and climate change impacts).

**Offshore Wind Transmission**: Worked across DOE and other agencies to host a series of collaborative roundtable workshops to discuss grid interconnection, integration, and interoperability of offshore wind transmission infrastructure. GDO hosted six workshops bringing together leaders from Tribal Nations, State Energy Offices, Public Utility Commissions, Regional Transmission Organizations, and Electric Reliability Organizations in the Atlantic region, as well as Federal representatives. Leaders and experts from nearly 150 organizations participated in conversations to inform policy, economic, technical, siting, and permitting needs for offshore wind transmission.

[a] https://www.energy.gov/gdo/national-transmission-planning-study

**Transmission Needs Study**: Completed the analysis and drafting of the National Transmission Needs Study, the DOE's triennial state of the grid report. This is the first report since 2007 to explicitly discuss needs for new transmission solutions on the power grid to meet our reliability, economic, and clean energy goals. The Needs Study includes over ten different analyses from over 80 different data sources. The Needs Study serves as a primary tool for the Department to engage with States, Indian Tribes, grid reliability coordinators, industry, and other stakeholders to understand and address their needs for reliable power delivery. As requested by Congress, this is also the very first state of the grid report to consider future needs of the power system.

**Geospatial Energy Mapper**:[a] Formerly known as the Energy Zones Mapping Tool, the Geospatial Energy Mapper (GEM), rebranded and relaunched as an interactive web-based tool that allows users to locate areas with high suitability for clean power generation and potential energy transmission corridors in the United States. GEM uses more than 300 geographic information system data layers for mapping and nearly 100 layers for modeling. The database contains more than 100 environmental data layers to ensure that protected lands, imperiled species, and other environmental factors are taken into account when determining the suitability of certain areas for clean energy resource development.

[a] https://gem.anl.gov/

**Grid Deployment Office**
**Funding by Congressional Control ($K)**

| | FY 2022 Enacted | FY 2022 Enacted (Comparable)[a] | FY 2023 Enacted | FY 2023 Enacted (Comparable)[ab] | FY 2024 Request[a] | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|---|---|
| Transmission Planning and Permitting | 0 | 8,000 | 0 | 43,000 | 56,500 | +13,500 | +31.4% |
| Distribution and Markets | 0 | 0 | 0 | 16,500 | 36,750 | +20,250 | +122.7% |
| Hydropower Incentives | 0 | 0 | 0 | 0 | 250 | +250 | N/A |
| Program Direction | 0 | 3,000 | 0 | 5,207 | 13,100 | +7,893 | +151.6% |
| **Total, Grid Deployment Office** | **0** | **11,000** | 0 | **64,707** | **106,600** | **+41,893** | **+64.7%** |
| | | | | | | | |
| **Federal Full Time Equivalent Employees (FTEs)** | **0** | **7** | **0** | **19** | **48** | **+29** | **+152.6%** |
| Additional FECM FTEs at NETL supporting GDO[c] | 0 | 1 | 0 | 2.5 | 5 | +2.5 | +100.0% |
| Total GDO-funded FTEs | 0 | 8 | 0 | 21.5 | 53 | +31.5 | +146.5% |

[a] The FY 2024 Budget Request to Congress proposes to split the Electricity appropriation account into two accounts: Electricity and Grid Deployment. Had the proposed FY 2024 structure been in place in FY 2022 and FY 2023, the $11 million shown under the Electricity account in FY 2022 and the $64.7 million in FY 2023 would have appeared in Grid Deployment. The Comparability Matrix on the next page shows details for the prior and proposed budget structures.
[b] The Consolidated Appropriations Act, 2023 provided an additional $1 billion in the Disaster Relief Supplemental to improve the resilience of the Puerto Rican electric grid. Funding was appropriated to the Electricity account and will be managed by GDO.
[c] GDO funds FTEs at the Office of Fossil Energy and Carbon Management's (FECM) National Energy Technology Laboratory (NETL) who are FECM employees but support GDO activities. The FTEs are included in FECM's FTE totals and not in the GDO FTE totals shown on the "Federal Full Time Equivalent Employees (FTEs)" line.

**Comparability Matrix**

The table below show the funding allocation for GDO for the FY 2023 Enacted and FY 2024 Request under the prior and the proposed budget structures.

**FY 2023 Enacted Comparability Matrix**
**($K)**

| | FY 2024 Proposed Budget Structure | | | | |
|---|---|---|---|---|---|
| | Grid Deployment Office | | | | |
| | Transmission Planning and Permitting | Distribution and Markets | Hydropower Incentives | Program Direction | **Total** |
| **FY 2023 Budget Structure** | | | | | |
| Grid Planning and Development | 16,000 | 0 | 0 | 0 | **16,000** |
| Grid Technical Assistance | 25,000 | 0 | 0 | 0 | **25,000** |
| Wholesale Electricity Market Technical Assistance and Grants | 0 | 16,500 | 0 | 0 | **16,500** |
| Interregional and Offshore Transmission Planning | 2,000 | 0 | 0 | 0 | **2,000** |
| Program Direction | 0 | 0 | 0 | 5,207 | **5,207** |
| **Total** | **43,000** | **16,500** | **0** | **5,207** | **64,707** |

**FY 2024 Request Comparability Matrix**
**($K)**

| | FY 2024 Proposed Budget Structure | | | | |
|---|---|---|---|---|---|
| | Grid Deployment Office | | | | |
| | Transmission Planning and Permitting | Distribution and Markets | Hydropower Incentives | Program Direction | **Total** |
| **FY 2023 Budget Structure** | | | | | |
| Grid Planning and Development | 22,000 | 0 | 0 | 0 | **22,000** |
| Grid Technical Assistance | 26,500 | 0 | 0 | 0 | **26,500** |
| Wholesale Electricity Market Technical Assistance and Grants | 0 | 19,000 | 0 | 0 | **19,000** |
| Interregional and Offshore Transmission Planning | 8,000 | 0 | 0 | 0 | **8,000** |
| New GDO Programs in FY 2024 | 0 | 17,750 | 250 | 0 | **18,000** |
| Program Direction | 0 | 0 | 0 | 13,100 | **13,100** |
| **Total** | **56,500** | **36,750** | **250** | **13,100** | **106,600** |

**Infrastructure Investment and Jobs Act (IIJA) Investments**
**($K)**

GDO received IIJA appropriations for FY 2022 and advance appropriations for FY 2023 to 2026 under the Electricity, Clean Energy Demonstrations, Energy Efficiency and Renewable Energy, and Nuclear Energy accounts. IIJA appropriations for GDO activities will remain in the initially appropriated accounts and will be managed by GDO. These activities managed by GDO are listed below.

| Appropriated Funding Account[a] | FY 2022 IIJA Funding | FY 2023 IIJA Funding | FY 2024 IIJA Funding | Managing Organization |
|---|---|---|---|---|
| **Electricity** | | | | |
| Preventing Outages and Enhancing the Resilience of the Electric Grid / Hazard Hardening (40101)<br><br>Total funding: $5 billion | 1,000,000 | 1,000,000 | 1,000,000 | GDO |
| Transmission Facilitation Program – Revolving Fund (40106)<br><br>Borrowing authority: $2.5 billion | N/A (revolving fund) | N/A (revolving fund) | N/A (revolving fund) | GDO |
| Transmission Facilitation Program – Administration (40106)<br><br>Total funding: $50 million | 10,000 | 10,000 | 10,000 | GDO |
| Smart Grid Investment Matching Grant Program (40107)<br><br>Total funding: $3 billion | 600,000 | 600,000 | 600,000 | GDO |
| Modeling and Assessing Energy Infrastructure Risk (40125(d))<br><br>Total funding: $50 million | 50,000 | 0 | 0 | GDO |
| **Total, Electricity** | **1,660,000** | **1,610,000** | **1,610,000** | |
| **Clean Energy Demonstrations** | | | | |
| Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency (40103(b))<br><br>Total funding: $5 billion | 1,000,000 | 1,000,000 | 1,000,000 | GDO |
| **Total, Clean Energy Demonstrations** | **1,000,000** | **1,000,000** | **1,000,000** | |
| **Energy Efficiency and Renewable Energy** | | | | |
| Hydroelectric Production Incentives (40331)<br><br>Total funding: $125 million | 125,000 | 0 | 0 | GDO |
| Hydroelectric Efficiency Improvement Incentives (40332)<br><br>Total funding: $75 million | 75,000 | 0 | 0 | GDO |

[a] All provisions except the Transmission Facilitation Program include Program Direction to support Federal salaries and support services contractors. The Transmission Facilitation Program includes a separate administrative fund which supports these activities.

| | | | | |
|---|---|---|---|---|
| Maintaining and Enhancing Hydroelectricity Incentives (40333)<br><br>Total funding: $553,600 million | 276,800 | 276,800 | 0 | GDO |
| **Total, Energy Efficiency and Renewable Energy** | **476,800** | **276,800** | **0** | |
| **Nuclear Energy** | | | | |
| Civil Nuclear Credit Program (40323)<br><br>Total funding: $6 billion | 1,200,000 | 1,200,000 | 1,200,000 | GDO |
| **Total, Nuclear Energy** | **1,200,000** | **1,200,000** | **1,200,000** | |
| **Total, Grid Deployment Office IIJA Coordination** | **4,336,800** | **4,086,800** | **3,810,000** | |

- **Preventing Outages and Enhancing the Resilience of the Electric Grid / Hazard Hardening (40101**): The goal of this investment is to strengthen and modernize America's power grid against wildfires, extreme weather, and other natural disasters. FY 2024 funding will support awards for competitive grants for industry and formula grants for states, territories, and American Indian Tribes.
- **Transmission Facilitation Program – Revolving Fund (40106):** The goal of this $2.5 billion revolving fund program is to provide federal support to overcome the financial hurdles in the development of new large-scale transmission lines and upgrades to existing transmission as well as the connection of microgrids in select states and U.S. territories. In FY 2024, the revolving fund will support an additional application cycle and the issuance of project awards.
- **Transmission Facilitation Program – Administration (40106):** IIJA authorizes funding for administrative expenses to carry out the Transmission Facilitation Program. FY 2024 funding will support Federal salaries, support services contractors, transmission project viability assessments (market, financial, engineering, and legal), capacity re-marketing contracts, and environmental reviews.
- **Smart Grid Investment Matching Grant Program (40107):** The goal of this investment is to promote a broader suite of grid enhancing technologies that will increase the capacity of the existing transmission system; prevent faults that may lead to wildfires or other system disturbances; integrate ever increasing-renewable resources; and deploy technologies that are better able monitor and analyze the impact of transportation and building electrification on the grid. FY 2024 funding will support awards for grant applications.
- **Modeling and Assessing Energy Infrastructure Risk (40125(d)):** The goal of this investment will increase the functional preservation of electric grid operations or natural gas and oil operations in the face of threats and hazards through modeling, analysis, and assessments. FY 2024 funding will continue to support activities to secure energy networks.
- **Program Upgrading Our Electric Grid and Ensuring Reliability and Resiliency (40103(b)):** The goal of this investment is to demonstrate innovative approaches to transmission, storage, and distribution infrastructure to harden and enhance grid resilience and reliability. FY 2024 funding will support awards to states, Tribal nations, state regulators, and local governments.
- **Hydroelectric Production Incentives (40331):** The goal of this program is to provide incentive payments to qualified hydroelectric facilities for electricity generated and sold, with an emphasis on communities with inadequate electric service. FY 2024 funding will support providing incentive payments to qualified hydroelectric facilities.
- **Hydroelectric Efficiency Improvement Incentives (40332):** The goal of this program is to provide incentive payments to owners or operators of existing hydroelectric facilities for capital improvements that can increase efficiency of a hydroelectric facility by at least 3%. FY 2024 funding will support providing incentive payments to qualified facilities.
- **Maintaining and Enhancing Hydroelectricity Incentives (40333):** The goal of this program is to provide incentive payments to enhance existing hydropower facilities through capital improvements directly related to three main areas: grid resiliency, dam safety, and environmental improvements. FY 2024 funding will support providing incentive payments to qualified hydroelectric facilities.
- **Civil Nuclear Credit Program (40323):** The goal of this program is to oversee a $6 billion investment to prevent premature retirement of existing zero-carbon nuclear plants. FY 2024 funding will support continuing the awards cycles to allocate credits.

**Inflation Reduction Act (IRA) Investments**
**($K)**

GDO received IRA appropriations in FY 2022 under the Electricity account. IRA appropriations for GDO activities will remain in the Electricity account and will be managed by GDO. These activities managed by GDO are listed below.

| Appropriated Funding Account | FY 2022 IRA Funding | Managing Organization |
|---|---|---|
| **Electricity** | | |
| Transmission Facility Financing (50151) | 2,000,000 (direct loan) | GDO |
| Grants to Facilitate the Siting of Interstate Electricity Transmission Lines (50152) | 760,000 | GDO |
| Interregional and Offshore Wind Electricity Transmission Planning, Modeling and Analysis (50153) | 100,000 | GDO |
| Environmental Reviews (50301) | 115,000 | GDO |
| **Total, Grid Deployment Office IRA Coordination** | **2,975,000** | |

- **Transmission Facility Financing (50151):** The goal of this program is to provide direct loans for the construction or modification of electric transmission facilities designated by the Secretary to be necessary in the national interest under section 216(a) of the Federal Power Act.
- **Grants to Facilitate the Siting of Interstate Electricity Transmission Lines (50152):** The goal of this program is to support states and local communities in the siting and permitting of interstate and offshore electricity transmission lines. Additionally, this program includes grants for economic development for communities that may be affected by the construction and operation of transmission projects. FY 2024 funding will support activities to award Transmission Siting and Economic Development Grants.
- **Interregional and Offshore Wind Electricity Transmission Planning, Modeling and Analysis (50153):** The goal of this investment is to conduct planning, modeling, and analysis for interregional electricity transmission and transmission of electricity that is generated by offshore wind. FY 2024 funding will support continuing efforts to advance interregional transmission planning and will expand the geographic scope of offshore wind transmission activities to include the Gulf of Mexico.
- **Environmental Reviews (50301):** The goal of this program is to facilitate timely and efficient environmental reviews and authorizations.

**Future Years Energy Program**
**($K)**

| | FY 2024 | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| Grid Deployment | 106,600 | 109,000 | 112,000 | 115,000 | 117,000 |

In the FY 2012 Consolidated Appropriations Act (P.L. 112-74), Congress directed the Department to include a future-years energy program (FYEP) in subsequent requests that reflects the proposed appropriations for five years. This FYEP shows outyear funding for each account for FY 2024 - FY 2028. The outyear funding levels use the growth rates from and match the outyear account totals published in the FY 2024 President's Budget. Actual future budget request levels will be determined as part of the annual budget process.

Grid Deployment Office priorities in the outyears include the following:

- Planning – modernize distribution and transmission planning processes to drive the development of highest-need grid projects that provide largest long-term benefits to consumers.
- Financing – deploy the Infrastructure and Investment Jobs Act (IIJA) and the Inflation Reduction Act (IRA) authorities and coordinate existing financial tools within the Department to help accelerate buildout of interregional nation's transmission and distribution system and enhance the resilience of the grid.
- Permitting – coordinate with States and Federal permitting agencies to help facilitate and streamline siting and permitting processes.
- Coordination – early, frequent, and collaborative engagement with government entities, including States, Territories, American Indian Tribes, and Alaska Natives, and other stakeholders throughout the process of evaluating needed transmission and distribution infrastructure to meet energy goals and deploying the Department's tools and authorities to accelerate the infrastructure deployment, integrating energy justice principles.

## Transmission Planning and Permitting

### Overview

The Transmission Planning and Permitting (TPP) program supports innovative efforts in transmission reliability and clean energy analysis and programs, and energy infrastructure and risk analysis to enhance grid resilience.

A robust transmission system is the backbone of the Nation's economic, energy, and national security and a strong distribution system is critical for consumer resilience. The growing deployment of renewable and clean energy resources, already underway and expected to continue, including onshore and offshore wind, solar, and emerging technologies, requires a significant buildout of transmission infrastructure to interconnect these resources and deliver their output and economic and reliability benefits to customers. More frequent natural and man-made threats to the grid also require a resilient and robust transmission network to ensure continued reliability of service. A transmission network that meets all of these national imperatives requires deliberate planning and a different approach that identifies long-term, flexible, and interregional solutions that will meet national interests. Improved transmission planning alone is not enough, however, to achieve the objectives above. States and regions face challenges with siting and permitting and require technical assistance to overcome those institutional barriers. For example, siting and permitting of interstate and inter-regional high-voltage transmission generally requires action by many different authorities governing the federal, state, local, and Tribal lands, as well as private lands, that transmission facilities will pass through.

TPP addresses transmission planning and permitting challenges to ensure a resilient, reliable, clean, and equitable electricity system. Modernizing transmission planning and improving permitting can provide greater certainty to drive investment to the highest-need transmission projects and enable development of the projects with the largest long-term benefit for consumers.

### Highlights of the FY 2024 Budget Request

Interregional Planning and Development

In FY 2024, TPP will focus on the National Transmission Planning Study (NTP Study) and supports other inter and intra-regional planning and development efforts.

GDO's NTP Study will identify longer-term transmission needs and potential solutions to those needs that can provide broad-scale benefits to electric customers, inform regional and interregional transmission planning processes, and inform interregional and national strategies to accelerate decarbonization while maintaining system reliability. In FY 2023, the NTP Study will refine and model several scenarios, informed by robust stakeholder engagement and defined by transmission, demand, and generation drivers. The results of the scenario study will:

- Link several long-term and short-term power system models to test a number of transmission buildout scenarios
- Inform existing planning processes
- Test transmission options that lie outside of current planning
- Prove a wide range of economic, reliability, and resilience indicators for each transmission scenario

In FY 2024, TPP will assist regional planning bodies in implementing the results of the NTP Study through further analysis, modeling, or other planning activities. The study will be particularly informative for interregional and inter-interconnect transmission expansion, which utility planning does not typically address. The NTP Study results will also be one of several analyses the Department will rely on to guide the application of funding for programs identified in the Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA). The geographic scope of the current NTP Study includes the 48 contiguous states. In FY 2024, the NTP Study will initiate efforts to expand the study to include Alaska, Hawaii, and the U.S. Territories. With robust modeling and stakeholder engagement, the results and recommendations of the NTP Study will facilitate the building of new transmission that makes the future power grid more economical, clean, reliable, and resilient.

TPP will continue efforts in the National Interest Electric Transmission Corridor (NIETC) designation process in FY 2024. The consultation process for designating a NIETC started in FY 2023. The Department can designate a NIETC after taking into

consideration the National Electric Transmission Needs Study (Transmission Needs Study), which was conducted in FY 2022 and released in FY 2023. The Transmission Needs Study identified high-priority national transmission needs—specifically, where new or upgraded transmission facilities could relieve expected future constraints and congestion driven by insufficient infrastructure needed to meet reliability and resilience demands; deployment of clean energy consistent with Federal, State, and local policy and consumer preferences; higher electric demand as a result of building and transportation electrification; and insufficient transfer capacity across regions. In FY 2023, TPP will develop a process for NIETC designation on a transmission route-specific, applicant-driven basis to facilitate the efficient consideration of projects seeking a FERC-issued permit. Particular consideration will be given to proposed NIETCs that, to the greatest degree possible, overlap with or utilize existing highway, rail, utility, and Federal land rights-of-way. TPP will prioritize engaging with stakeholders early and often, ensuring that impacted communities are considered when designating a NIETC.

In addition to the NTP Study and NIETC designation, TPP will work with states and regions to improve transmission planning processes through analysis, modeling, and convenings in FY 2024.

Offshore Wind Planning and Development

TPP's activities in Offshore Wind Planning and Development (OSW) transmission will build upon the provisions in the IRA to provide technical assistance for phased transmission development that allows for the grid interconnection, integration, and interoperability of OSW along U.S. coasts in a way that:

- Identifies a coordinated generation and transmission pathway to enable offshore wind deployment
- Improves onshore grid reliability and resilience and minimizes congestion and curtailment
- Aligns with near-term and long-term State and Federal decarbonization goals and utility resource needs
- Seeks to minimize environmental and community impacts, institutionalizes energy justice and equity in transmission planning, promotes ocean co-use, and aligns with Tribal equities
- Identifies potential system benefits, cost allocation approaches, and cost efficiencies to maximize the utility of existing points of interconnection and future shared transmission infrastructure

The FY 2024 request will provide technical assistance to encourage OSW electricity transmission and forward-looking transmission development for OSW integration. The request will expand the geographic scope from the Atlantic Coast to include the Pacific and Gulf Coasts. TPP will issue a funding opportunity announcement (FOA) for grants that will provide technical assistance to help future-proof the transmission system and reduce the overbuild risk for developers specifically to facilitate offshore wind deployment.

Within the Department, GDO closely collaborates with the Office of Energy Efficiency & Renewable Energy's Wind Energy Technologies Office to ensure OSW technologies align with transmission needs.

Technical Assistance

TPP works with experts around the country, including the national laboratories and the Power Marketing Administrations, to provide data, tools, analyses, and other solutions to address the challenges and opportunities driven and impacted by the modernization of the North American grid. TPP expects increased demand for transmission technical assistance as issues surrounding permitting and siting of transmission infrastructure, State and interregional utility analytical needs, and macro-economic benefit determinations continue to grow in complexity and urgency.

The FY 2024 Request prioritizes providing permitting technical assistance to facilitate the completion of transmission projects. TPP will conduct analyses, facilitate convenings, and develop new or enhanced tools to help spur transmission siting and permitting in order to achieve a clean, resilient, and reliable electric grid. Additionally in FY 2024, TPP will partner with other Federal agencies, national and regional associations, and industry to identify regulatory hurdles in Federal siting and permitting processes, collaborate to remove those identified barriers, and provide robust grid technical assistance to accelerate Federal transmission infrastructure development.

Other technical assistance areas include:

- Identifying regulatory, operations, and business models that align incentives for transmission development
- Identifying implications of energy interdependencies to improve the alignment and integration of generation, distribution, and transmission planning
- Integrating affordability, evolving customer expectations and behaviors, and electricity access and equity issues
- Finding solutions to address aging and poorly maintained transmission infrastructure
- Exploring different approaches to climate resilience planning support to mitigate future risks
- Identifying interregional transmission needed to accommodate increases in demand, such as electrification of transportation and new or growing industries
- Modeling ways to achieve grid-scale renewable energy and distributed energy resource integration
- Identifying investment options to meet established and emerging grid needs and analysis for grid investment decision making
- In coordination with the Office of Cybersecurity, Energy Security, and Emergency Response, assisting stakeholders in addressing cybersecurity issues in transmission infrastructure

In FY 2024, TPP will also 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:

- Conducting environmental reviews and technical analyses needed for Federal authorization of transmission projects that cross U.S. international borders and exports of electric energy
- Coordinating Federal permitting by other agencies of new transmission infrastructure that involves Federal authorizations, as required by Section 216(h) of the Federal Power Act
- Evaluating any new applications under Section 1222 of the Energy Policy Act of 2005, which authorizes DOE to participate in third party-financed transmission projects within the Western Area Power Administration and the Southwestern Power Administration regions

In addition to the regulatory and statutory actions above, TPP will review projects funded through IIJA and IRA that require review under the National Environmental Policy Act.

**Transmission Planning and Permitting**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Transmission Planning and Permitting** | | | | | |
| Interregional Planning and Development | 3,000 | 16,000 | 22,000 | +6,000 | +37.5% |
| Offshore Wind Planning and Development | 0 | 2,000 | 8,000 | +6,000 | +300.0% |
| Technical Assistance | 5,000 | 25,000 | 26,500 | +1,500 | +6.0% |
| **Total, Transmission Planning and Permitting** | **8,000** | **43,000** | **56,500** | **+13,500** | **+31.4%** |

**Transmission Planning and Permitting**
**Explanation of Major Changes ($K)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| • Expands National Transmission Planning Study to include Alaska, Hawaii, and the U.S. Territories | +6,000 |
| • Increases technical assistance to states for offshore wind transmission planning | +6,000 |
| • Increases technical assistance to states and expands benefit analysis as transmission development accelerates | +1,500 |
| **Total, Transmission Planning and Permitting** | **+13,500** |

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Transmission Planning and Permitting $43,000,000** | **$56,500,000** | **+$13,500,000** |
| *Interregional Planning and Development $16,000,000* | *$22,000,000* | *+$6,000,000* |
| • The NTP Study:<br>  ○ Work with regional transmission planning organizations, States, developers, and other stakeholders to build a national-scale, long-term (i.e., 15- to 30-year) transmission planning analysis<br>  ○ Develop alternative approaches to national transmission planning<br>  ○ Develop new transmission planning models to vet transmission scenarios<br>• In consultation with key stakeholders, develop a process to designate NIETCs and make designations, as appropriate<br>• Convene and lead several regional workshops to develop interregional transmission plans<br>• As an outcome of the regional workshops, develop a robust set of resources to support transmission planners and other stakeholders in advancing interregional transmission planning processes | • Provide assistance to implement results of NTP Study to regional planning bodies<br>• Expand geographic scope of NTP Study from the 48 contiguous states to include Alaska, Hawaii, and the U.S. Territories.<br>• Help inform selection of funding applications for IIJA or IRA programs, such as the Transmission Facilitation Program | • Expands geographic scope of NTP Study from the 48 contiguous states to include Alaska, Hawaii, and the U.S. Territories |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| *Offshore Wind Planning and Development $2,000,000* | *$8,000,000* | *+$6,000,000* |
| • Issue FOA/grants to facilitate transmission development to connect OSW<br>• Conduct planning, modeling, and analysis on OSW electricity topics informed by stakeholders and industry groups<br>• Conduct five stakeholder workshops and codified a radial and network-ready strategy for OSW development in the Northeast | • Provide technical assistance to OSW stakeholders on the Atlantic, Pacific, and Gulf coasts | • Increase to provide technical assistance to states as IRA funding accelerates planning, modeling, and analysis |
| *Technical Assistance $25,000,000* | *$26,500,000* | *+$1,500,000* |
| • Issue FOAs/grants to States to pilot innovative approaches to facilitate transmission development<br>• Expand suite of tools for transmission development, such as tools for transmission data analytics, expanded benefit analysis, seams modeling, renewable zones, or investment decision making<br>• Provide technical assistance for energy justice and ensure energy justice considerations are built into new models<br>• As part of a joint initiative with USDA, provide technical assistance for rural electric utilities to support the transition to carbon pollution-free electricity by 2035<br>• Conduct environmental reviews and technical analyses needed for Federal authorization of transmission projects that cross U.S. international borders | • Identify regulatory barriers and overcome challenges to accelerate transmission development by providing permitting technical assistance<br>• Assist other Federal agencies to provide grid technical assistance for Federal transmission projects<br>• Expand suite of tools for transmission development, focusing on siting and permitting<br>• Conduct environmental reviews and technical analyses needed for IIJA projects and/or Federal authorization of transmission projects that cross U.S. international borders | • Increase to provide technical assistance to states and expand benefit analysis as transmission development accelerates<br>• Transfers rural electrification technical assistance activities, enacted in FY 2023, from Transmission Planning and Permitting to Distribution and Markets in FY 2024 |

## Distribution and Markets

### Overview

The mission of the Distribution and Markets program is to work with electricity system partners and stakeholders to establish and improve centrally-organized market components and bilateral market arrangements as well as advance distribution-level market opportunities that will enable a clean, reliable, resilient, and equitable grid. Market designs that incentivize price-responsive demand response have the potential to improve efficiency and momentarily support intermittent renewable generation resources. Utility-scale storage and storage technologies at substations and in the distribution system could dramatically change how supply and demand are balanced in the short run. Markets can enable efficient, long-duration investments, such as capacity markets and scarcity pricing, and value generator attributes (e.g., black-start, reactive power, emissions profile) to support reliability, resilience, and environmental goals. The need for integration of inverter-based resources and electric vehicles (EVs) has resulted in market and operational gaps for utilities and regulators. Analysis and market studies are necessary to develop innovative solutions to optimize and efficiently integrate these resources.

### Highlights of the FY 2024 Budget Request

Wholesale Markets Technical Assistance and Grants

The mission of the Wholesale Electricity Market Technical Assistance and Grants subprogram is to work with electricity system partners and stakeholders to establish and improve centrally organized market components and bilateral market arrangements to ensure a clean, reliable, resilient, and equitable grid.

Most Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs) operate day-ahead and real-time electricity markets, and ancillary services markets.[a] This includes day-ahead, real-time, and ancillary services markets. Areas where current markets need to evolve include resource adequacy, capacity markets, and ancillary services markets. These areas need to evolve to better ensure grid reliability, to better value reliability, to maintain transmission system operation.

Funding will continue to support activities initiated in FY 2023 to address electricity market expansion and the value of organized markets in alignment with clean energy integration. Specifically, the Department plans on engaging regulators in a new vision, Dynamic Resource Adequacy, where short- and long-term signals minimize the cost of resource adequacy throughout all meaningful time periods (e.g., seconds, minutes, hours, days, months, seasons, and years, depending on the issue). Building blocks for realizing this vision include translating maturing tools into simulations that help regulators envision future electricity markets and business structures.

Priorities for FY 2024 include advancing regulators' and market participants' understanding of the issues and possible transformative solutions by using and improving existing modelling capability to:

- Provide analysis to enable effective market/regulatory structures that yield transparent real-time price signals in all regions.
- Estimate the magnitude of expected price volatility increases and their effects on short run operational responses, financial viability of needed resources, and long-term investment in all regions.
- Develop options for modifying economic-based incentives and/or requiring specific actions to minimize resource adequacy cost while ensuring reliability.
- Quantify the operational, system, and cost/revenue risks posed by different resources and resource mixes over a large spectrum of operating scenarios as well as develop paths, incentives, and requirements and standards for mitigating those risks.

FY 2024 activities also include helping states and regions identify appropriate transitional mixes of generation and load to ensure sufficient firm resources. Electricity markets have driven the system to offer the lowest costs, with the consequence

[a] https://www.nga.org/electricity-markets/

of eliminating reserves needed to mitigate extreme weather events that are occurring more frequently. Energy markets, as they are currently formulated, cannot incent the cushion needed to address these issues. Supplementary actions, either through price or operating requirements, are currently being developed and implemented. Collective sharing of experiences, options, and solutions may help states and regions find cost-effective paths to provide extra market incentives and requirements to address issues associated with more extreme events and less firm generation. DOE's activities in this area will include:

- Evaluating load as a coequal partner in setting price and ultimately reducing the costs of resource adequacy. Load is critical to flexibility, reliability, and even resilience. A key component in a functioning market is the ability of demand to respond to price. For the technology used in the low- and zero-carbon grid to deliver its full benefits at the lowest cost, load must be a far more significant agent than it has proven to be to date. For example, future cooling loads and EV loads will dramatically change modeling assumptions and increase the need for load management programs.
- Identifying successful load management and demand response programs (e.g., virtual power plants, rates, electric vehicle charging incentives) and characterize why they have been successful. Activities will include sharing case studies among states, local governments, utilities, and consumer groups.
- Aiding states in preparing roadmaps to achieve more flexible load, including design of programs, applicable incentives, and outreach programs. This will be more critical with the integration of EVs and industrial electrification.

EV Grid Planning and Markets

This subprogram will support the grid management and integration for EV deployment and related technologies into the distribution market. EVs can play an important part in balancing the energy on the grid by serving as distributed sources of stored energy, a concept called "vehicle-to-grid." By drawing on a multitude of batteries plugged into the Smart Grid throughout its service territory, a utility can potentially inject extra power into the grid during critical peak times, avoiding brownouts and rolling blackouts. EVs also have the potential to help keep isolated parts of the grid operating during blackouts. They could also help integrate variable power sources into the grid, including wind and solar power. For balancing authorities, distribution utilities, and market operators, the greatest needs are to establish a market and to develop the associated managed charging infrastructure to enable the continued growth of EVs. FY 2024 funding will support deployment studies and analyses to enable markets, energy storage, and EV integration in the distribution system.

Territory, Tribal, and Rural Community Development

Energy justice continues to be a high priority for GDO. Territory, Tribal, and Rural Community Development will work to ensure that communities have access to clean, reliable, and affordable electricity. GDO's FY 2024 funding, along with contributions from other DOE offices, will support DOE's Communities Local Energy Action Program (LEAP). Communities LEAP aims to facilitate sustained community-wide economic and environmental benefits primarily through DOE's clean energy deployment work. This opportunity is specifically open to low-income, energy-burdened communities that are also experiencing either direct environmental justice impacts, or direct economic impacts from a shift away from historical reliance on fossil fuels. Additionally, work will support technical assistance to rural utilities (in partnership with U.S. Department of Agriculture) and Tribal and territorial studies for deploying microgrids and enabling clean energy development while ensuring resource adequacy.

## Distribution and Markets

**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Distribution and Markets** | | | | | |
| Wholesale Markets Technical Assistance and Grants | 0 | 16,500 | 19,000 | +2,500 | +15.2% |
| EV Grid Planning and Markets | 0 | 0 | 5,000 | +5,000 | N/A |
| Territory, Tribal, and Rural Community Development | 0 | 0 | 12,750 | +12,750 | N/A |
| **Total, Distribution and Markets** | **0** | **16,500** | **36,750** | **+20,250** | **+122.3%** |

## Distribution and Markets
## Explanation of Major Changes ($K)

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| • Increases the number of grants available to assist States and ISO/RTOs to explore wholesale market challenges and opportunities | +2,500 |
| • Increases support for the development of a partnership program with communities and utilities to deploy distribution-level market solutions such as distribution system storage and vehicle-to-grid solutions | +5,000 |
| • Increase due to the transfer of rural electrification technical assistance activities, enacted in FY 2023, from Transmission Planning and Permitting to Distribution and Markets and an expansion of tools and technology solutions for territories and rural communities | +12,750 |
| **Total, Distribution and Markets** | **+20,250** |

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Distribution and Markets $16,500,000** | **$36,750,000** | **+$20,250,000** |
| *Wholesale Markets Technical Assistance and Grants $16,500,000* | *$19,000,000* | *+2,500,000* |
| • Initiate at least one major study on wholesale market challenges and potential solutions<br>• Award at least three grants to States and ISO/RTOs for evaluating new markets and market improvements | • Conduct at least one major study on wholesale market challenges and potential solutions<br>• Award at least three to four grants to States and ISO/RTOs for evaluating new markets and market improvements | • Increases grant opportunities to assist States and ISO/RTOs |
| *EV Grid Planning and Markets $0* | *$5,000,000* | *+$5,000,000* |
| N/A | • Partner with communities and utilities to deploy distribution-level market solutions such as distribution system storage and vehicle-to-grid solutions | • New program established in FY 2024 |
| *Territory, Tribal, and Rural Community Development $0* | *$12,750,000* | *+$12,750,000* |
| N/A | • Provide assistance to U.S. territories, Tribal communities, remote and rural areas, and other disadvantaged communities for a resilient, clean, and equitable grid<br>• Fund the Department's Communities LEAP initiative | • New program established in FY 2024 and transfers rural electrification technical assistance activities, requested in FY 2023, from Transmission Planning and Permitting to Distribution and Markets in FY 2024 |

## Hydropower Incentives

### Overview

The U.S. hydropower fleet, which currently provides almost seven percent of the electricity to the Nation's grid[a], offers short and long-term flexibility to support and complement the deployment of generation sources of variable renewable energy. As the Nation's first renewable source of electricity, hydropower has provided clean, low-cost electricity for over a century. Today's evolving power system has created new opportunities for hydropower to play an important role in a clean energy future. In FY 2022, hydroelectricity accounted for about 6.3% of U.S. utility-scale electricity generation and 29.4% of utility-scale renewable electricity generation[b]. However, the existing U.S. hydropower fleet faces key challenges, including asset modernization, operations optimization, and cybersecurity threats. The average U.S. hydropower plant is 64 years old[c], and as the fleet continues to age, maintaining efficient and cost-effective operations and ensuring the safety of hydropower dams becomes increasingly challenging. Maintaining and enhancing the existing hydropower fleet provides opportunities to restore reliability and performance as well as mitigate high operation and maintenance costs.

Of the 90,000 existing dams across the Nation, about 2,270 are Federal Energy Regulatory Commission regulated dams that have hydropower facilities for electricity generation[d]. Retrofitting existing dams and adding generation at non-powered dams can increase renewable energy production. DOE's landmark 2016 Hydropower Vision report estimated that almost 5 GW of renewable energy could be developed at non-powered dams by FY 2050 utilizing existing water infrastructure with minimal environmental impacts[e]. However, due in part to lack of adequate financing[f] and a lengthy and uncertain regulatory process[g], hydropower development at non-powered dams has stalled in recent years.

To address the challenges of the existing U.S. hydropower fleet and incentivize new hydropower development at non-powered dams, the Infrastructure Investment and Jobs Act (IIJA) included provisions amending the Energy Policy Act 2005 (EPAct 2005) and appropriated funding to DOE to implement three hydropower incentive opportunities:

- Maintaining and Enhancing Hydroelectricity Incentives (Section 40333) - Section 40333 added Section 247 to the EPAct 2005 and directed $553.6 million to DOE for this new program. The program provides incentive payments to support and enhance existing hydropower facilities through capital improvements directly related to three main areas: improving grid resiliency, improving dam safety, and environmental improvements.
- Hydroelectric Efficiency Improvement Incentives (Section 40332) – Section 40332 amended the existing EPAct 2005 Section 243 to authorize DOE to provide $75 million of incentive payments to support owners or operators of existing hydroelectric facilities in making capital improvements that can improve their hydroelectric generation efficiency by at least 3%.
- Hydroelectric Production Incentives (Section 40331) – Section 40331 amended the existing EPAct 2005 Section 242 to authorize DOE to provide $125 million in incentive payments to hydroelectric projects developed at non-powered dams and to projects with less than 20 MW of capacity in areas of "inadequate electric service" for electricity generated and sold.

In FY 2023, GDO established the Hydropower Incentives Program to implement the IIJA's hydropower incentives provisions and engaged or will engage in the following activities:

- Conducted a public workshop and one-on-one feedback sessions with prospective applicants with respect to the EPAct 2005 Sections 243 and 247 Request for Information.
- Initiated the ninth solicitation period since FY 2014 for incentives under EPAct Section 242.

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[a] https://www.energy.gov/sites/default/files/2021/01/f82/us-hydropower-market-report-full-2021.pdf
[b] https://www.eia.gov/energyexplained/hydropower/
[c] https://www.eia.gov/todayinenergy/detail.php?id=30312#
[d] https://www.energy.gov/sites/default/files/2021/01/f82/us-hydropower-market-report-full-2021.pdf
[e] https://www.energy.gov/sites/default/files/2018/02/f49/Hydropower-Vision-021518.pdf
[f] https://www.energy.gov/sites/default/files/2021/01/f82/us-hydropower-market-report-full-2021.pdf
[g] https://www.nrel.gov/docs/fy22osti/79242.pdf

- Issued guidance and will open the first solicitation for hydroelectric incentives under EPAct 2005 Section 243.
- Issued draft and final guidance, conducted a public workshop for applicants, and will open the first solicitation for hydroelectric incentives under EPAct 2005 Section 247.

In FY 2024, GDO's Hydropower Incentives Program will continue its efforts under the IIJA provisions, including:

- Reviewing applications and awarding incentive payments to qualified projects.
- Initiating a formal rulemaking to codify the applicant guidance for EPAct 2005 Section 242.

**Highlights of the FY 2024 Budget Request**

Once the EPAct 2005 hydropower incentives have been distributed, follow-up monitoring and analysis are needed to ensure realization of a vision to: 1) modernize and maintain existing U.S. hydropower assets; 2) support grid reliability and the integration of other energy resources; 3) promote environmental sustainability; and 4) ensure the safety and integrity of the Nation's hydropower dams. Therefore, the Hydropower Incentives Program requests resources to:

- Develop an annual report that summarizes the types of projects and level of funding that were approved under both EPAct 2005 Sections 247 and 243.
- Develop modeling and analytics with respect to hydroelectric improvement sub-topic areas under EPAct 2005 Section 247:
    - **Environmental** – number of river miles opened for fish habitat by fish passage improvements; impact on visitor usage resulting from recreational improvements; habitat improvement for fish species of special concern.
    - **Grid Resiliency** - areas of grid resiliency area that will be improved (e.g., black start capability, improved communications and controls); cost-effectiveness of improvements; geographic scope of improvements.
    - **Dam Safety –** an assessment of where upgrades of infrastructure (such as spillways, gates, etc.) for dam safety could simultaneously incorporate technologies and approaches for additional generation and/or support improved environmental flows; an economic assessment of improvements to flood risk reduction.
- Develop modeling and analytics with respect to hydroelectric generation efficiency improvements across the U.S. hydropower fleet supported by EPAct 2005 Section 243, including distribution and characteristics of funded projects (e.g., type of hydropower project, capacity, age, ownership, location, type of improvement, realized efficiency vs estimated, most successful estimation methods, cost effectiveness, and cumulative efficiency gains).

**Hydropower Incentives**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Request ($) | FY 2024 Request vs FY 2023 Request (%) |
|---|---|---|---|---|---|
| **Hydropower Incentives** | **0** | **0** | **250** | **+250** | **N/A** |

**Hydropower Incentives**
**Explanation of Major Changes ($K)**

| | FY 2024 Request vs FY 2023 Request |
|---|---|
| ▪ Develops analytics for monitoring the impact of hydropower incentives on the modernization and maintenance of existing U.S. hydropower assets | +250 |
| **Total, Hydropower Incentives** | **+250** |

**Hydropower Incentives Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Hydropower Incentives $0** | **$250,000** | **+$250,000** |
| | • Develop analytics for monitoring the impact of hydropower incentives on the modernization and maintenance of existing U.S. hydropower assets. | • New program in 2024 |

## Program Direction

### Overview

Program Direction provides for the costs associated with the Federal workforce, including salaries, benefits, travel, training, building occupancy, IT services, security clearance, and other related expenses. It also provides for the costs associated with contractor services that, under the direction of the Federal workforce, support the Grid Deployment Office (GDO) mission.

**Salaries and Benefits** support Federal employees who provide executive management, programmatic oversight, and analysis for the effective implementation of the GDO program. This includes staff at Headquarters (HQ) and at the National Energy Technology Laboratory (NETL). While GDO funds NETL staff within its budget, the NETL Federal employees are included within the full-time equivalent (FTE) total for the Office of Fossil Energy and Carbon Management (FECM) account.

**Travel** includes transportation, subsistence, and incidental expenses that allow GDO to effectively provide the Department's electricity-related outreach to regions, states, Territories, and Tribes regarding planning needs and issues, policies, siting protocols, and new energy facilities.

**Support Services** include contractor support directed by the Federal staff to perform administrative tasks and provide analyses to management. These efforts include issue-oriented support on science, engineering, environment, and economics that benefit strategic planning; technology and market analysis to improve strategic and annual goals; development of management tools and analyses to improve overall office efficiency; assistance with communications and outreach to enhance GDO's external communication and responsiveness to public needs; and development of program-specific information tools that consolidate organizational knowledge, track performance, inventory data, improve accessibility, and facilitate use by staff.

**Other Related Expenses** include corporate IT support (i.e., DOE's Energy Information Technology Services [EITS] desktop services and IT equipment) and working capital fund (WCF) expenses, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes office safety requirements, equipment upgrades and replacements, commercial credit card purchases using simplified acquisition procedures where possible, security clearance expenses, and other needs.

### Highlights of the FY 2024 Budget Request

The FY 2024 Program Direction Request reflects increased staffing to support the new and expanded program activities requested for GDO in FY 2024.

**Program Direction**
**Funding ($K)**

| | FY 2022 Enacted | FY 2022 Enacted (Comparable)[a] | FY 2023 Enacted | FY 2023 Enacted (Comparable)[a] | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|---|---|
| **Program Direction Summary** | | | | | | | |
| **Washington Headquarters** | | | | | | | |
| Salaries and Benefits | 0 | 1,960 | 0 | 3,360 | 8,490 | +5,130 | +152.7% |
| Travel | 0 | 50 | 0 | 30 | 70 | +40 | +133.3% |
| Support Services | 0 | 363 | 0 | 1,111 | 3,000 | +1,889 | +170.0% |
| Other Related Expenses | 0 | 297 | 0 | 235 | 599 | +364 | +154.9% |
| **Total, Washington Headquarters** | **0** | **2,670** | **0** | **4,736** | **12,159** | **+7,423** | **+156.7%** |
| **National Energy Technology Laboratory** | | | | | | | |
| Salaries and Benefits | 0 | 232 | 0 | 442 | 884 | +442 | +100.0% |
| Travel | 0 | 30 | 0 | 4 | 7 | +3 | +75.0% |
| Support Services | 0 | 51 | 0 | 0 | 0 | - | - |
| Other Related Expenses | 0 | 17 | 0 | 25 | 50 | +25 | +100% |
| **Total, National Energy Technology Laboratory** | **0** | **330** | **0** | **471** | **941** | **+470** | **+99.8%** |
| **Total Program Direction** | | | | | | | |
| Salaries and Benefits | 0 | 2,192 | 0 | 3,802 | 9,374 | +5,572 | +146.6% |
| Travel | 0 | 80 | 0 | 34 | 77 | +43 | +126. 5% |
| Support Services | 0 | 414 | 0 | 1,111 | 3,000 | +1,889 | +170.0% |
| Other Related Expenses | 0 | 314 | 0 | 260 | 649 | +389 | +149.6% |
| **Total, Program Direction** | **0** | **3,000** | **0** | **5,207** | **13,100** | **+7,893** | **+151.6%** |

[a] The FY 2024 Budget Request to Congress proposes to split the Electricity appropriation account into two accounts: Electricity and Grid Deployment. To allow an apples-to-apples comparison to the FY 2024 Request, the comparable amounts for FY 2022 and 2023 include a portion of the Electricity appropriation's Program Direction funding equivalent to what would have been in the GDO had the proposed structure been in place since FY 2022.

| | FY 2022 Enacted | FY 2022 Enacted (Comparable)[a] | FY 2023 Enacted | FY 2023 Enacted (Comparable)[a] | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|---|---|
| **Federal FTEs** | **0** | **7** | **0** | **19** | **48** | **+29** | **+152.6%** |
| Additional FECM FTEs at NETL supporting GDO[b] | 0 | 1 | 0 | 2.5 | 5 | +2.5 | +100.0% |
| Total GDO-funded FTEs | **0** | **8** | **0** | **21.5** | **53** | **+31.5** | **+146.5%** |
| | | | | | | | |
| **Support Services and Other Related Expenses** | | | | | | | |
| **Support Services** | | | | | | | |
| Technical Support | 0 | 220 | 0 | 577 | 1,659 | +1,082 | +187.5% |
| Management Support | 0 | 194 | 0 | 534 | 1,341 | +807 | +151.1% |
| **Total, Support Services** | **0** | **414** | **0** | **1,111** | **3,000** | **+1,889** | **+170.0%** |
| | | | | | | | |
| **Other Related Expenses** | | | | | | | |
| Other Services | 0 | 16 | 0 | 196 | 492 | +296 | +151.0% |
| EITS Desktop Services | 0 | 62 | 0 | 64 | 157 | +93 | +145.3% |
| WCF[c] | 0 | 236 | 0 | 0 | 0 | - | - |
| **Total, Other Related Expenses** | **0** | **314** | **0** | **260** | **649** | **+389** | **+149.6%** |

[b] GDO funds FTEs at FECM's NETL that support GDO activities. The FTEs are included in FECM's FTE totals and not in the GDO FTE totals shown on the "Federal FTEs" line.
[c] WCF will be funded alternately between Program Direction from the Infrastructure Investment and Jobs Act (IIJA), the Inflation Reduction Act (IRA), and GDO's annual appropriations. IIJA Program Direction will pay FY 2023 WCF and IIJA/IRA Program Direction will pay for FY 2024 WCF.

## Program Direction

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Program Direction $5,207,000** | **$13,100,000** | **+7,893,000** |
| *$3,802,000* | *$9,374,000* | *+$5,572,000* |
| • Salaries and Benefits support 21.5 FTEs at HQ and NETL that provide executive management, programmatic oversight, and analysis for the effective implementation of the GDO program. | • Salaries and Benefits support 53 FTEs at HQ and NETL that provide executive management, programmatic oversight, and analysis for the effective implementation of the GDO program. | • Supports the 2024 Federal pay increase and 31.5 new FTE's |
| *$34,000* | *$77,000* | *+$43,000* |
| • Travel includes transportation, subsistence, and incidental expenses that allow GDO to effectively facilitate its mission. | • Travel includes transportation, subsistence, and incidental expenses that allow GDO to effectively facilitate its mission. | • Increase in travel for new FTE's |
| *$1,111,000* | *$3,000,000* | *+$1,889,000* |
| • Support Services include contractor support directed by the Federal staff to perform administrative tasks and provide analysis to management. Support Services may include support for post-doctoral fellows and IPA assignments. | • Support Services include contractor support directed by the Federal staff to perform administrative tasks and provide analysis to management. Support Services may include support for Presidential Management Fellows and IPA assignments. | • Reflects increase for support service contracts for new and expanded program activities |
| *$260,000* | *$649,000* | *+389,000* |
| • Other Related Expenses include EITS desktop services and WCF expenses, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes equipment upgrades and replacements, commercial credit card purchases using the simplified acquisition procedures to the maximum extent possible, security clearance expenses and other needs. | • Other Related Expenses include EITS desktop services and WCF expenses, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes equipment upgrades and replacements, commercial credit card purchases using the simplified acquisition procedures to the maximum extent possible, security clearance expenses and other needs. | • Other Related Expenses increase due to the number of new FTEs |

# DEPARTMENT OF ENERGY
## Funding by Site
Grid Deployment Office - FY 2024
(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Argonne National Laboratory** | | | |
| Transmission Planning & Permitting (GDO) | 0 | 0 | 500 |
| **Total Argonne National Laboratory** | **0** | **0** | **500** |
| **Lawrence Berkeley National Laboratory** | | | |
| Transmission Planning & Permitting (GDO) | 0 | 0 | 6,500 |
| Distribution & Markets (GDO) | 0 | 0 | 5,500 |
| **Total Lawrence Berkeley National Laboratory** | **0** | **0** | **12,000** |
| **National Energy Technology Lab** | | | |
| Program Direction - GDO | 0 | 0 | 941 |
| Total Program Direction (OE) | 0 | 0 | 941 |
| **Total National Energy Technology Lab** | **0** | **0** | **941** |
| **National Renewable Energy Laboratory** | | | |
| Transmission Planning & Permitting (GDO) | 0 | 0 | 16,600 |
| Distribution & Markets (GDO) | 0 | 0 | 6,000 |
| Hydropower Incentives (GDO) | 0 | 0 | 250 |
| **Total National Renewable Energy Laboratory** | **0** | **0** | **22,850** |
| **Pacific Northwest National Laboratory** | | | |
| Transmission Planning & Permitting (GDO) | 0 | 0 | 12,000 |
| Distribution & Markets (GDO) | 0 | 0 | 2,000 |
| **Total Pacific Northwest National Laboratory** | **0** | **0** | **14,000** |
| **Sandia National Laboratories** | | | |
| Transmission Planning & Permitting (GDO) | 0 | 0 | 400 |
| **Total Sandia National Laboratories** | **0** | **0** | **400** |
| **Washington Headquarters** | | | |
| Transmission Planning & Permitting (GDO) | 0 | 0 | 9,000 |
| Distribution & Markets (GDO) | 0 | 0 | 3,000 |
| Program Direction - GDO | 0 | 0 | 12,159 |
| Total Program Direction (OE) | 0 | 0 | 12,159 |
| **Total Washington Headquarters** | **0** | **0** | **24,159** |
| **Grants** | | | |
| Transmission Planning & Permitting (GDO) | 0 | 0 | 11,500 |
| Distribution & Markets (GDO) | 0 | 0 | 20,250 |
| **Total Grants** | **0** | **0** | **31,750** |
| **Total Funding by Site for Grid Deployment Office** | **0** | **0** | **106,600** |

# Federal Energy Management Program

# Federal Energy Management Program

**Federal Energy Management Program**

**Proposed Appropriation Language**

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for Federal energy management 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, $82,200,000, to remain available until expended: Provided, That of such amount, $17,200,000 shall be available until September 30, 2025, for program direction.

P.L. 95-91, "Department of Energy Organization Act" (1977)
P.L. 109-58, "Energy Policy Act of 2005"
P.L. 110-140, "Energy Independence and Security Act of 2007"
P.L. 115-246, "Department of Energy Research and Innovation Act" (2018) Energy Act of 2020, Section 1012 (42 U.S.C. 8253(i))

## Federal Energy Management Program

### Overview

The Federal government is the single largest U.S. energy consumer with more than 360,000 buildings and structures comprising 3 billion square feet and 600,000 vehicles. The Federal Energy Management Program's (FEMP) mission, in accordance with the Energy Act of 2020, Section 1012 (42 U.S.C. 8253(i)), is to facilitate the implementation by the Federal government of cost-effective energy and water management and energy-related investment practices; (A) to coordinate and strengthen Federal energy and water efficiency and resilience; and (B) to promote environmental stewardship.

The Federal government has successfully reduced its energy use and carbon footprint since 2008. In FY 2021, the Federal government used 1.2 quads of primary energy at a cost of $15.0 billion, which represents a reduction in consumption of 21.8% since 2008.[1] Energy used in buildings and facilities represents about 59 percent of the total energy use of the Federal government, and vehicle and equipment energy use accounts for 41 percent.[2] In FY 2021, the emissions from onsite building fuels, electricity use, and vehicle fuels (grouped as scope 1 and 2 emissions)from standard and non-standard Federal operations[3] totaled 66.8 million metric tons of carbon dioxide equivalent (MTCO2e), which represents a 35.5 percent reduction in emissions.[4]

There is a significant opportunity and responsibility for the Federal government to cut its energy costs and use: agencies estimated and reported just over $7 billion[5] of potential cost-effective efficiency investments that would result in energy and water savings. Federal agencies have a tremendous opportunity and responsibility to lead by example, both in sharing practices and approaches that state, local and private sector actors can adopt and by demonstrating and deploying technologies at scale to drive market transformation.

FEMP's activities are responsive to Administration priorities, statutory requirements, and Federal agency needs. Federal agencies are required to comply with Executive Order (EO) and statutory mandates while maintaining resilient, efficient, and secure installations in support of mission assurance. Federal agencies' needs include technology development and integration; infrastructure improvements; energy project development and implementation assistance; and workforce development.

FEMP works with its stakeholders to build Federal agencies' capacity to meet those goals by supplying agencies with the information, tools, and assistance they need to meet and track their energy-related requirements and goals, a main instrument in deploying energy infrastructure across the Federal government is by administering the Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) Grant Program under its Federal Energy Efficiency Fund (FEEF) Program authority.

### Highlights of the FY 2024 Request

FEMP's FY 2024 Budget Request of $82.2 million supports implementation of energy and water efficiency, building and fleet electrification, and decarbonization strategies across the Federal government in support of Executive Order (EO) and statutory energy and water management related goals and objectives.

In FY 2024, FEMP will continue to leverage the FEEF Program/AFFECT grant providing competitive funding to Federal agencies to invest in energy and water infrastructure improvements, including decarbonization, electrification and

[1] Table A-4 and Table A-2 http://ctsedwweb.ee.doe.gov/Annual/Report/Report.aspx.

[2] In terms of primary (source) energy use.

[3] Standard operations include the operation of Federal buildings and fleet vehicles while non-standard operations are primarily military and law enforcement operations.

[4] Table E-2 https://ctsedwweb.ee.doe.gov/Annual/Report/Report.aspx

[5] $7.2 billion identified by agencies in their evaluations of facilities comprising 75 percent of Federal facility square footage; https://ctsedwweb.ee.doe.gov/CTSDataAnalysis/Default.aspx?ReturnUrl=%2fCTSDataAnalysis%2fReports%2fPublicAgencyReport_ComprehensiveEvaluationFindings.aspx

resilience of Federal operations and, at the same time, FEMP will implement its Federal building decarbonization strategy through the development of tools and resources and agency engagements to support implementation of EO and statutory requirements. FEMP will leverage the use of privately financed performance contracting in the form of an Energy Savings Performance Contracts (ESPC), ESPC ENABLE contracts, and Utility Energy Service Contracts (UESC) to implement energy efficiency, clean energy technology integration, and adaptation at mission critical sites. Financing through performance contracting will significantly leverage the FEMP grant investment, help the government lead-by-example on climate and sustainability, and create good-paying jobs with a free and fair choice to join a union. In addition, FEMP will continue to support Workforce Development to develop and maintain an open platform for offering a suite of internationally accredited training and educational content to support a future focused clean energy workforce. FEMP's training is developed with Federal agency input and available for use by all sectors and international users.

($K)

| | FY 2022 Enacted[a] | FY 2023 Enacted[b] | FY 2024 Request | FY 2024 vs. FY 2023 Enacted | |
|---|---|---|---|---|---|
| | | | | $ | % |
| **Energy Efficiency and Renewable Energy** | | | | | |
| **Federal Energy Management Program** | | | | | |
| Federal Energy Management | 27,000 | 29,000 | | -29,000 | -100.0% |
| Federal Energy Efficiency Fund | 13,000 | 14,000 | | -14,000 | -100.0% |
| Program Direction | 13,997 | 14,000 | | -14,000 | -100.0% |
| **Total, Federal Energy Management Program** | **53,997** | **57,000** | **-** | **-57,000** | **-** |
| | | | | | |
| **Federal Energy Management Program** | | | | | |
| Federal Energy Management | - | | 45,000 | +16,000 | +35.6% |
| AFFECT | - | | 20,000 | +6,000 | +30.0% |
| Program Direction | - | | 17,200 | +3,200 | +18.6% |
| **Total, Federal Energy Management Program** | **-** | **-** | **82,200** | **25,200** | **+30.7%** |

[a] FY 2022 funds managed by FEMP were enacted under Energy Efficiency and Renewable Energy's FEMP Office.
[b] FY 2023 funds managed by FEMP were enacted under Energy Efficiency and Renewable Energy's FEMP Office.

**Federal Energy Management Program**
**Explanation of Major Changes ($K)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| **Federal Energy Management Program:** FEMP will expand technical assistance, guidance, and training across all focus areas to facilitate implementation of building decarbonization, fleet electrification, and optimized energy and water management strategies across the Federal government in support of statutory, regulatory, and Executive Order energy and water management related goals. | **+$25,200** |
| **Total, Federal Energy Management Program** | **+$25,200** |

## Federal Energy Management Program

**Description**

As part of the Department of Energy's (DOE) Under Secretary for Infrastructure, the Federal Energy Management Program's (FEMP) priority is to facilitate strategic energy management across the Federal government. FEMP's efforts enable Federal agencies to meet energy-related goals, comply with statutory and Executive Order requirements, and provide energy leadership to the country by addressing climate change, increasing fleet electrification, and reducing greenhouse gas emissions (GHG) from the Federal footprint.

FEMP is authorized per Sec. 1012 of the Energy Act 2020 (EA 2020) to facilitate the implementation by the Federal government of cost-effective energy and water management and energy-related investment practices to coordinate and strengthen Federal energy and water resilience and promote stewardship. FEMP collaborates with stakeholders to provide the tools, resources, and guidance needed by agencies to implement: EO 13990 *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*; EO 14008, *Tackling the Climate Crisis at Home and Abroad;* EO 14057 *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability;* and the *Energy Act of 2020*. FEMP supports the Executive Office of the President–Council on Environmental Quality and the Office of Management and Budget in the development of Federally focused Executive Orders, implementation guidance, establishing agency performance targets, and tracking agency performance.

FEMP activities address Federal agency needs for spurring technology innovation and deployment; leveraging performance contracting for infrastructure improvements; developing a skilled workforce; and fulfilling statutory requirements. FEMP strengthens agencies' ability and agility to strategically manage their energy and water infrastructure, while maintaining critical mission assurance objectives. This is achieved, through technical assistance focused on Federal building decarbonization, climate adaptation for mission assurance, Federal fleet electrification, and workforce development. FEMP seeks feedback from agencies, through the Interagency Energy Management Task Force, to inform prioritized activities. This feedback resulted in identification of major agency barriers for decarbonizing agency operations including lack of technology; lack of a skilled workforce; and lack of funding to address deferred maintenance and infrastructure requirements.

Federal Energy Efficiency Fund (FEEF) Program: AFFECT grants are authorized under Section 152 (f) of the Energy Policy Act of 1992 (EPAct 1992), Public Law 102-486, as codified in 42 USC § 8256 (b). This statute authorized FEEF to provide competitive grants to Federal agencies to help meet requirements of the National Energy Conservation Policy Act (NECPA), 42 USC § 8253(a)-(b). AFFECT grants have been provided most years since 2014.

In FY 2024, FEMP is requesting $20 million in Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) grant funding for Federal agencies to drive decarbonization of the Federal building stock and fleet electrification and optimize energy and water management systems. AFFECT grants will be used to develop energy and water conservation measures and deep energy retrofits across the Federal government, prioritizing high-impact projects that reduce GHG emissions and mitigate climate change, support achievement of the Administration's goals for agencies, exemplify enterprise-wide approaches that can more easily be replicated and sustained in the future with annual funds and/or performance contracting, and advance market transformation. These innovative projects may include technology and equipment purchases for decarbonization and electrification technologies, life-cycle cost buy-downs and/or bundling with performance contracts.

AFFECT recipients must demonstrate why the grant is needed to implement the project or why the grant is needed to include specific energy conservation measures that would not be possible otherwise. Recipients are encouraged to identify small businesses, especially Minority, Woman, Veteran-Owned, or Disadvantaged Business Enterprise for participation and/or to solicit as vendors and sub-contractors in support of building an inclusive clean energy economy.

Technical Assistance**:** In FY 2024 FEMP is requesting $32 million for technical assistance to Federal agencies to support Federal building decarbonization, performance contracting and energy project procurement development, and technical assistance for Electric Vehicle (EV) charging and fleet electrification.

FEMP utilizes DOE's National Laboratory subject matter experts to support the development of tools and resources needed to overcome barriers, and share lessons learned and best practices. These efforts support implementation of energy and water efficiency, fleet electrification, and decarbonization projects and strategies, resulting in viable, replicable, energy and water projects. FEMP shares technical solution sets and resources that enable agencies to meet their statutory, regulatory, and executive order requirements in support of decarbonization strategies, reduce energy and water use, implement cost effective energy and water conservation measures, and energy-related investment practices. In addition, FEMP will provide technical assistance to Federal agencies in support of implementation of their Climate Action Plans.

***Federal Building Decarbonization:*** FEMP will assist Federal agencies in implementing building decarbonization strategies to enhance building energy performance. FEMP will support agencies in executing goals and actions in EO 14057, through guidance and resources for the EO 14057 Implementing Instructions. This will be achieved through the development and implementation of tools and resources needed to support deployment of energy efficiency building management technologies and strategies across the Federal government. Focus areas will include grid interactive facilities in support of the EA 2020 Federal Smart Buildings initiative; Zero Energy Installations and implementation of decarbonization facility management strategies and approaches.

***Performance Contracting and Energy Project Procurement Development:*** FEMP will assist Federal agencies in implementing energy savings performance contracts (ESPCs), utility energy service contracts (UESCs), and other project financing options in pursuit procurement improvements, distributed energy projects, and demand response strategies. FEMP will be prioritizing assisting agencies with statutory compliance with ESPC implementation requirements set by EA2020 and advancing the inclusion of electrification and decarbonization measures within performance contracting.

***Federal Fleet Electrification*****:** FEMP will provide technical assistance to Federal agencies around fleet optimization to identify EV conversion pathways and implement model business case methodologies in support of fleet electrification strategies. FEMP will provide tools and resources needed to support the widespread adoption of the Zero Emission Vehicle Planning and Charging (ZPAC) planning tool and annual ZEV Plans, which identifies EV opportunities and prioritizes EV installations. In addition, FEMP will launch the EVI Locate and ZEV Ready tools as resources for agencies to integrate EV charging infrastructure into building decarbonization strategies. In FY 2024, FEMP will demonstrate EV-to-building and EV to-grid interaction to optimize building decarbonization opportunities as well as identify revenue streams to sites for demand response management and grid system support.

Reporting and Statutory Requirements: In FY 2024 FEMP is requesting $7 million to support statutory and EO reporting requirements. DOE is statutorily required to carry out specific functions related to tracking and implementing effective energy and water management throughout the Federal government. FY 2024 efforts will continue to focus on tracking statutory, regulatory, and implementation of EO requirements.

FEMP develops annual reports and tracking tools on Federal agency performance. These analytical reports and tools track Federal progress towards goals on energy efficiency (42 U.S.C. § 8258(a), renewable energy use (42 U.S.C. § 15852(d)), and vehicles (42 U.S.C. § 6374e(a). In addition, FEMP issues guidance and tracks compliance with the Energy Act of 2020 and the requirements of Section 432 of the Energy Independence and Security Act of 2007 (EISA), Management of Energy and Water Efficiency in Federal Buildings, including the completion of comprehensive evaluations of designated covered facilities and reporting potential and initiated efficiency measures, and annually benchmarking metered buildings.

Workforce Development: In FY 2024, FEMP is requesting $6 million to improve the capabilities and skills of the Federal energy and water management workforce through training aligned with agency core competency needs and Federal Building Personnel Training Act (FBPTA) of 2010 requirements. FEMP will provide internationally accredited training courses for energy and water management professionals through a coordinated training program that includes on-demand and in

person (currently virtual) training sessions, including the annual Energy Exchange training event. In addition, FEMP will assess opportunities to leverage new and existing funding opportunities to develop training content for the Federal energy and water management communities.

Program Direction: In FY 2024, FEMP is requesting $17.2 million in Program Direction. This includes salary and benefits, travel and training, and other operational needs required to support the transition of the Federal government to a clean energy consumer.

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Federal Energy Management $43,000,000** | **$65,000,000** | **+$22,000,000** |
| FEEF – AFFECT $14,000,000 | $20,000,000 | +$6,000,000 |
| • Award $14 million in funding under the Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) grant program to drive decarbonization of the Federal building stock and fleet electrification, optimize energy and water management systems, and fund technology and equipment purchases for established decarbonization and electrification technologies. | • Award $20 million in funding under the Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) grant program to drive decarbonization of the Federal building stock and fleet electrification, optimize energy and water management systems to advance compliance with EA2020 and EO 14057. | • Increase will support an additional 5-10 projects with projected energy savings of $770M. Agencies have reported over $7B in cost-effective energy and water conservation measures that have not yet been implemented. |
| Technical Assistance $22,400,000 | $32,000,000 | +$9,600,000 |
| • Provide technical assistance to Federal agencies to support Federal building decarbonization, performance contracting and energy project procurement development, and technical assistance for Electric Vehicle (EV) charging and fleet electrification. | • Provide technical assistance to Federal agencies to support Federal building decarbonization, performance contracting and energy project procurement development, and technical assistance for Electric Vehicle (EV) charging and fleet electrification. | • Increased implementation and deployment that enables scaling up of efficient, clean energy technologies in buildings, fleets, and energy procurement. Increased Technical Assistance focus on projects that support Federal facilities in and around underserved communities. |
| Reporting and Statutory Requirements $5,000,000 | $7,000,000 | +$2,000,000 |
| • Provide statutorily required reporting and technical guidance. Complete reporting requirements for Agency-level energy intensity, EISA 432 CTS Support, GHG Annual Reporting, FEMP Project Tracking System (PTS), FAST Fleet Reporting, EA 2020 requirements, and Renewable Energy Reporting.<br>• Coordinate with Council on Environmental Quality (CEQ) and Office of Management & Budget (OMB) on Executive Order implementation | • Provide statutorily required reporting and technical guidance. Complete reporting requirements for Agency-level energy intensity, EISA 432 CTS Support, GHG Annual Reporting, FEMP Project Tracking System (PTS), FAST and FleetDASH Fleet Reporting, EA 2020 requirements, and Renewable Energy Reporting.<br>• Coordinate with Council on Environmental Quality (CEQ) and Office of Management & Budget (OMB) on Executive Order implementation. | • Increased agency compliance tracking, data collection and reporting systems, where FEMP provides back-end infrastructure as well as guidance and agency support. |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| Workforce Development $1,600,000 | $6,000,000 | +$4,400,000 |
| • Provide training content through free internationally accredited training program for energy and water management professionals via on-demand and in person (virtual) training sessions, including the annual Energy Exchange training workshop.<br>• Issue Federal Workforce Funding Opportunity, to develop educational modules relevant to clean energy technologies and their integration into Federal sector career training and education pathways. | • Provide training content through free internationally accredited training program for energy and water management professionals via on-demand and in person (virtual) training sessions, including the annual Energy Exchange training workshop.<br>• Issue Federal Workforce Funding Opportunity, to develop educational modules relevant to clean energy technologies and their integration into Federal sector career training and education pathways. | • Increase is to support moving of FEMP training information to in-house FEMP maintained systems and engagement and training related to PCNRC and MUSH market recipients. |

## Program Direction

### Overview

Program Direction provides for the costs associated with the Federal workforce, including salaries, benefits, travel, support services, and other related expenses.

**Salaries and Benefits** support Federal employees who provide executive management, programmatic oversight, and analysis for the effective implementation of FEMP authorities.

**Travel** includes transportation, subsistence, and incidental expenses that allow FEMP to effectively provide technical assistance and outreach to regions, states, and tribes regarding planning needs and issues, policies, siting protocols, and new energy facilities.

**Support Services** includes contractor support directed by the Federal staff to perform administrative tasks and provide analyses to inform management decisions.

**Other Related Expenses** includes corporate IT support (for DOE's Energy Information Technology Services [EITS] desktop services and IT equipment) and working capital fund (WCF) expenses, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes office safety requirements, equipment upgrades and replacements, commercial credit card purchases using simplified acquisition procedures where possible, security clearance expenses, and other needs.

### Highlights of the FY 2024 Budget Request

The FY 2024 Program Direction Request reflects an increase in program staff at HQ for business operations functions and Golden Field Office personnel.

## Program Direction

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request Level | Explanation of Changes<br>FY 2024 Request Level vs. FY 2023 Enacted |
|---|---|---|
| **Program Direction $14,000,000** | **$17,200,000** | +$3,200,000 |
| Salaries and Benefits $8,300,000 | $9,100,000 | +$800,000 |
| • The Request supports 45 FTEs that provide executive management, programmatic oversight, and analysis for the effective implementation of the program. Funding also provides support for S3 operations. | • The Request supports 53 approved FTEs that provide executive management, programmatic oversight, and analysis for the effective implementation of the program. | • The increase in funding is for additional HQ operational personnel, including budget, communications, legislative affairs, and others essential to the daily operation of the office. |
| Travel and Training $168,000 | $300,000 | $132,000 |
| • Travel includes transportation, subsistence, and incidental expenses to effectively facilitate its mission. | • Travel includes transportation, subsistence, and incidental expenses to effectively facilitate its mission. | • The increase in travel funding covers additional travel associated with Technical Assistance provided to agencies. |
| Support Services $2,032,000 | $3,400,000 | +$1,368,000 |
| • Support Services includes contractor support directed by the Federal staff to perform administrative tasks and provide analysis to management. Support Services may include support for post-doctoral fellows. | • Support Services includes contractor support directed by the Federal staff to perform administrative tasks and provide analysis to management. Support Services may include support for post-doctoral fellows. | • The increase in funding is for additional and new contractor support following the implementation of the new office in FY 2023. Support services were previously administered through partnership with EERE. |
| Other Related Expenses $3,500,000 | $4,400,000 | +$900,000 |
| • Other Related Expenses includes EITS desktop services and WCF expense, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes equipment upgrades and replacements, commercial credit card purchases using the simplified acquisition procedures to the maximum extent possible, security clearance expenses and other needs. | $500k is provided for 2 FTEs to support the NZL Initiative in addition to the 45 FTEs and $300k is requested for NEPA compliance activities.<br>• Other Related Expenses includes EITS desktop services and WCF expense, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes equipment upgrades and replacements, commercial credit card | purchases using the simplified acquisition procedures to the maximum extent possible, security clearance expenses and other needs.<br>• The increase is due to the anticipated WCF increases for the new offices being utilized, and associated WCF costs required to support new FTE and contract personnel. |

**Infrastructure Investment and Jobs Act Investments (IIJA)**

Office of Energy Efficiency and Renewable Energy was appropriated funds through the Infrastructure Investment and Jobs Act (IIJA) (P.L. 117-58). Not all IIJA activities will be managed by the organization to which funds were appropriated. The activity that Federal Energy Management Program will manage is itemized below.

**($K)**

| Appropriated Funding Organization | FY 2022 IIJA Appropriation ($K) | FY 2023 IIJA Appropriation ($K) | FY 2024 IIJA Appropriation ($K) | Managing Organization |
|---|---|---|---|---|
| **Energy Efficiency and Renewable Energy** | | | | |
| AFFECT Grants | 250,000 | 0 | 0 | FEMP |
| **Total, Federal Energy Management Program** | **250,000** | **0** | **0** | |

**AFFECT Grants:** The goal of this investment is to provide grants for the development of energy and water efficiency projects and processes at U.S. federal government-owned facilities.

# Manufacturing and Energy Supply Chains

# Manufacturing and Energy Supply Chains

**Office of Manufacturing and Energy Supply Chains**

**Proposed Appropriation Language**

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for manufacturing and energy supply chain 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, $179,490,000 to remain available until expended: Provided, that of such amount, $75,000,000 shall be available for activities under section 303 of the Defense Production Act of 1950 (50 U.S.C. 4533 et seq.): Provided further, That of the amounts provided under this heading, not more than $24,000,000 shall be available until September 30, 2025, for program direction, of which up to $10,000,000 shall be from amounts made available in the previous provision.

P.L. 95-91, "Department of Energy Organization Act" (1977)
P.L. 109-58, "Energy Policy Act of 2005"
P.L. 110-140, "Energy Independence and Security Act of 2007"
P.L. 115-246, "Department of Energy Research and Innovation Act" (2018)
P.L. 116-260, "Consolidated Appropriations Act of 2020" (Section Z: Energy Act of 2020)

## Manufacturing and Energy Supply Chains

**Overview**

The Office of Manufacturing and Energy Supply Chains (MESC), within the Office of the Under Secretary for Infrastructure, is responsible for strengthening and securing manufacturing and energy supply chains needed to modernize the Nation's energy infrastructure and support a clean and equitable energy transition. MESC catalyzes the development of an energy sector industrial base through investments that establish and secure domestic clean energy supply chains and manufacturing, and by engaging with private-sector companies, other Federal agencies, and key stakeholders to collect, analyze, respond to, and share data about energy supply chains to inform future decision making and investment.

The office manages programs that strengthen, and secure energy supply chains needed to modernize the Nation's energy infrastructure and support the clean energy transition. MESC manages a portfolio of programs to catalyze the development of a resilient and sustainable energy sector industrial base (ESIB) through investments that establish and secure domestic clean energy manufacturing supply chains such as: support for scale-up and deployment of new manufacturing infrastructure to fill critical ESIB gaps; support for manufacturing facility upgrades to achieve ESIB decarbonization goals; and the development of world-class national and regional energy sector supply chain modeling, mapping, and analysis tools. In addition, the office manages programs that develop clean domestic manufacturing and workforce capabilities, with an emphasis on opportunities for small and medium enterprises and communities in energy transition. MESC coordinates across all of DOE's programs on manufacturing and supply chain issues, including the Office of Clean Energy Demonstrations, the Advanced Materials and Manufacturing Technologies Office, the Industrial Efficiency and Decarbonization Office, and the Loan Program Office.

MESC provides skilled teams in energy planning; energy security; infrastructure financing; project development; project management; clean energy supply chains; regional economic development; workforce development; state, community, and tribal engagement; and other key areas critical to the success of demonstration and deployment efforts as appropriated through annual appropriations, the Infrastructure Investment and Jobs Act (IIJA), and the Inflation Reduction Act (IRA). The Office engages and works in partnership with a diverse set of stakeholders as it stewards and seeks the greatest benefits from federal funding.

**Highlights of the FY 2024 Budget Request**

MESC's FY 2024 Budget Request of $179,490,000 supports continued focus on the Industrial Assessment Centers (IAC) and Energy Sector Industrial Base's technical assistance program. In addition, MESC activities will support the Defense Production Act (DPA) and the Global Clean Energy Manufacturing Initiative (GCEMI) that enable domestic energy sector manufacturing and production infrastructure investments to establish new commercial-scale production capabilities for critical devices, components, and/or systems that do not currently exist domestically and that will target early commercialization and bridge the gap between pilot and commercial scales.

- **Facility and Workforce Assistance:** Focuses on supporting existing industrial facilities seeking to boost their competitiveness through efficiency improvements, emissions reduction, and workforce development. The Industrial Assessment Centers (IACs) provide various facilities with a no-cost assessment, including in-depth evaluations conducted by engineering faculty with upper class and graduate students from a participating university. This detailed process analysis will generate specific recommendations with estimates of costs, performance, and payback times.
- **Battery and Critical Materials**: Works to secure US supply chains for advanced batteries and the critical minerals and materials needed for them and for other critical energy technologies, as well as strategies to secure supply chains supported by US allies. MESC activities in this area include efforts to stimulate industry, local governments, and communities to work together to overcome siting and permitting barriers for key domestic mineral resources. The Budget Request includes the Global Clean Energy Manufacturing Initiative (GCEMI), which will support collaborations with international partners to promote cooperation on energy supply chains, including mineral and material resources, material processing, and scaleup, as well as other components of the energy supply chain.

- **Energy Sector Industrial Base**: Develops and advances assessments and strategies for U.S. energy sector supply chains and coordinates strategic investments to expand the strength of the U.S. manufacturing sector. Activities include supply chain modeling, mapping, and analysis tools that are instrumental for assessing vulnerabilities, strengths, and opportunities in U.S. supply chains and aligning and prioritizing investments by MESC and other parts of DOE and the Federal government across all advanced energy technologies. Strategic investments of $75 million - $65 million from ESIB and $10 million from Program Direction – will be made using Defense Production Act (DPA) and other authorities.
- **Program Direction**: Enables MESC to maintain and support a world-class Federal workforce that supports analysis of the U.S. industrial sector as well as strategic investments and technical assistance to support private-sector efforts to boost the security of U.S. supply chains. The FY 2024 Program Direction Request provides resources for program and project management, oversight activities, contract administration, workforce management, IT support, and Headquarters (HQ) and field site non-laboratory facilities and infrastructure. In addition, $10 million of Program Direction will be made available for management of the DPA activities.

**Manufacturing and Energy Supply Chains**
**($K)**

| | FY 2022 Enacted[1] | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted |
|---|---|---|---|---|
| **Manufacturing and Energy Supply Chains** | | | | |
| Facility and Workforce Assistance | 15,000 | 16,000 | 15,490 | -510 |
| Battery and Critical Materials | N/A | 0 | 75,000 | 75,000 |
| Energy Sector Industrial Base | N/A | 2,000 | 65,000 | 63,000 |
| Program Direction | 909 | 1,000 | 24,000 | 23,000 |
| **Total, Manufacturing and Energy Supply Chains**[2] | **15,909** | **19,000** | **179,490** | **160,490** |

[1] FY 2022 funds were enacted under the Energy Efficiency and Renewable Energy's Advanced Manufacturing Office. Now known as the Advanced Materials and Manufacturing and the Industrial Efficiency and Decarbonization Offices.

[2] In FY 2024 Request, total DPA funding is $75 million, which includes $65 million for Energy Sector Industrial Base and $10 million for Program Direction.

**Explanation of Changes**

**Facility and Workforce Assistance: (-$510,000**) Focus efforts to continue funding for the Industrial Assessment Centers (IAC) program to develop skilled workforce and support manufacturers, including in disadvantaged communities, energy communities, and areas with high industrial emissions.

**Battery and Critical Materials: (+$75,000,000)** Establish assistance activities for grants for pilot/demonstration scale projects to establish domestic manufacturing in critical ESIB segments of the supply chain and for community and locality critical minerals sourcing. Establish the Manufacturing Accelerator Network to support meaningful collaborations with international partners through the Global Clean Energy Manufacturing Initiative.

**Energy Sector Industrial Base (ESIB): (+$63,000,000)** Continue to build on current technical assistance programs focused regional energy sector supply chain challenges. Add explicit support to develop holistic supply chain modeling and analysis tools for integrated cross-sector energy supply chain diagnostics and insights as well as manufacturing infrastructure investments that provide financial assistance grants to establish new domestic component, device, or system manufacturing in critical ESIB segments of the supply chain. Enable domestic energy sector manufacturing and production infrastructure investments to establish new commercial-scale production capabilities for critical devices, components, and/or systems that do not currently exist domestically that will target early commercialization and bridge the gap between pilot and commercial scales.

**Program Direction: (+$23,000,000)** Meet estimated staffing needs, including DPA and GCEMI activities, of the office to execute expected roles and responsibilities. The increase in budget will support strengthening MESC's overall performance, organization, budget, operations, human capital, and project management as the office continues to grow in support of its mission.

**Manufacturing and Energy Supply Chains**
**Facility and Workforce Assistance**

The Facility and Workforce Assistance subprogram deploys data and expertise from across the Department of Energy, including technologies developed under the guidance of the Advanced Materials and Manufacturing and the Industrial Efficiency and Decarbonization Offices in the Office of Energy Efficiency and Renewable Energy and modeling and analysis conducted by the Energy Sector Industrial Base Subprogram in MESC, to bolster the Nation's manufacturing base and advance industrial decarbonization technologies.

The subprogram targets federal investments to establish, expand, and reequip manufacturing facilities with a focus on resolving supply chain gaps and optimizing energy efficiency and environmental performance through the implementation of smart manufacturing, energy management, sustainable manufacturing, waste management, resiliency planning, and industrial decarbonization technologies. In expanding and re-equipping the energy sector industrial base, expertise is also devoted to development of skilled domestic workforce development and creating pathways of opportunity for American workers, particularly in energy and disadvantaged communities.

DOE's Industrial Assessment Centers (IAC) Program has offered assessments to domestic manufacturers since 1976. The Program trains the next generation of an energy-savvy workforce by providing on-site, practical experience applying engineering, environmental, and technological expertise. IACs conducts no-cost assessments for small- and medium-sized domestic manufacturers to identify opportunities to save energy, improve productivity, and reduce waste and water use. The Program's data management practices provide public visibility into opportunities available for individual manufacturing facilities and the sector more broadly. Publicly available data includes information on facilities assessed (size, industry, energy usage, etc.) and details of resulting recommendations (type, energy, and dollar savings etc.).

**Manufacturing and Energy Supply Chains**
**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| Facility and Workforce Assistance $16,000,000 | $15,490,000 | -$510,000 |
| • Provide assessments to manufacturers on energy and water efficiency, waste reduction, and energy management processes.<br>• Fund competitively selected partnerships between universities, and the private sector that emphasize student-led projects to develop new tools and processes that address energy management and manufacturing challenges.<br>• Train the clean energy innovators and manufacturing energy management workforce of the future. | • Continue the IAC program's work with four-year universities to develop skilled workforce and support manufacturers, including disadvantaged communities, energy communities, and areas with high industrial emissions.<br>• Continue technical assistance for the implementation of smart manufacturing, resiliency planning, energy management, sustainable manufacturing, waste management, and other efficiency projects and practices recommended through the IAC program.<br>• Continue diversity efforts targeting non-traditional engineering students for workforce training opportunities.<br>• Deploy expanded assessment approach that focuses on decarbonization recommendations for manufacturers. | • Focus efforts to enable continued adaptation and expansion of workforce development activities and assessments at existing IACs at four-year universities. |

**Manufacturing and Energy Supply Chains**
**Batteries and Critical Materials**

**Description**

Within MESC, the Office of Batteries and Critical Materials (BCM) is responsible for strategically strengthening and securing the manufacturing and energy supply chains needed to modernize the Nation's manufacturing capabilities and establish supply chain resilience. BCM builds important and strategic manufacturing capabilities through targeted activities including demonstrations, pilots, and full-scale commercial projects. Supply chain resilience targets weaknesses and gaps in the overall supply chain, including minerals, materials, processing, and capabilities needed for batteries and critical materials. National laboratories, universities, industry, and other Federal agencies will apply their expertise and leverage their partnerships through this work in coordination with DOE offices and programs.

To accelerate qualification and industry acceptance of energy materials from diverse sources, BCM will organize a portfolio of activities targeted at the resource base for materials for batteries and the Energy Sector Industrial Base (ESIB). This approach will apply advanced tools to accelerate the qualification process for new or substitute sources of minerals and materials, expanding resource availability; qualify and scale-up feedstocks through advanced materials separation and refinement techniques; and validate prototype functionality through testing and lifetime predictions in end-use applications. BCM will also contribute to the Global Clean Energy Manufacturing Initiative (GCEMI) that will enable domestic energy sector manufacturing and production infrastructure investments to establish new commercial-scale production capabilities for critical devices, components, and/or systems that do not currently exist domestically, strategically targeting early commercialization opportunities and potentially bridging the gap between pilot and commercial scales.

A critical minerals manufacturing scale-up and demonstration investments program will focus on establishing robust domestic energy materials processing and manufacturing through financial assistance grants within critical ESIB areas. The program will target early commercialization and bridge the gap between pilot and commercial scales through projects that demonstrate the processing and/or manufacturing of critical energy materials or energy supply chain components. Related critical minerals/materials of interest for ESIB applications include, but are not limited to, rare earth elements, platinum-group metals, and battery critical materials. The program will also emphasize critical materials from domestic and free-trade sources, including virgin and recycled sources, within the context of a changing supply chain landscape for battery critical materials.

The international and domestic sourcing of critical minerals continues to be a challenge with significant barriers, including the siting, permitting, and operation of sourcing operations and facilities. International partners and allies could benefit from technical assistance, such as early-stage feasibility studies or mineral qualification, in overcoming barriers to supplying minerals in critical ESIB areas. Domestic communities and localities motivated to accommodate these operations could play a pivotal role in structuring meaningful relationships and leveraging commercial needs. The critical minerals sourcing activity aims to align the interests of mineral sourcing with the inherent challenges therein.

The Manufacturing Accelerator Network will support meaningful collaborations with international partners through the GCEMI. This cooperation will focus on creating environmentally sustainable governance and building clean energy capacity, including mineral and material resources, material processing, and scaleup, and other components for the clean energy supply chain as well as mineral resource tracing and tracking. To sustain these supply chains, the development of international cooperation and collaboration regarding end-of-life recovery and re-use of critical materials will be emphasized along with efforts to train the clean energy innovators and manufacturing energy management workforce of the future.

**Batteries and Critical Materials**
**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request Level | Explanation of Changes<br>FY 2024 Request Level vs. FY 2023 Enacted |
|---|---|---|
| Batteries and Critical Materials $0 | $75,000,000 | +$75,000,000 |
| • No program | • Stand up the Global Clean Energy Manufacturing Initiative (GCEMI) that will enable domestic energy sector manufacturing and production infrastructure investments to establish new commercial-scale production capabilities.<br>• Accelerate the qualification for new or substitute sources of minerals and materials through advanced materials separation and refinement techniques.<br>• Employ financial assistance grants for larger scale demonstrations and pilot projects to establish new domestic critical materials production capacity.<br>• Overcome international engagement and mineral qualification barriers, addressing domestic community and locality critical minerals sourcing challenges.<br>• Establish the Manufacturing Accelerator Network for international collaboration on environmentally sustainable governance and clean energy supply capacity. | • New program in FY 2024. |

## Manufacturing and Energy Supply Chains
## Energy Sector Industrial Base

**Description**

The Energy Sector Industrial Base (ESIB) holistically represents the energy sector and associated supply chains that include all industries, companies and stakeholders directly and indirectly involved in the energy sector. This complex network of industries and stakeholders spans from extractive industries, manufacturing industries, energy conversion and delivery industries, end of life and waste management industries, to service industries which include providers of digital goods and services. All energy sources depend on supply chains, and the global shift to clean energy is introducing new sets of supply chain risks, vulnerabilities, and opportunities.

Informed by ESIB modeling, mapping, and analysis activities, manufacturing infrastructure investments will provide financial assistance grants to establish new domestic processing and/or manufacturing in critical ESIB segments of the supply chain. These investments will support the Defense Production Act (DPA) and other authorities to enable domestic energy sector manufacturing and production infrastructure investments to establish new commercial-scale production capabilities for critical devices, components, and/or systems that do not currently exist domestically, or where critical manufacturing gaps exists, and will target strategic ESIB areas.

Defense Production Act (DPA) activities will also include support for development of Supply Chain Modeling, Mapping, and Analysis tools. This is instrumental for aligning and prioritizing MESC investments across various sectors of the supply chain across all advanced energy technologies and identifying capabilities in securing a reliable and sustainable domestic energy sector industrial base. Previous DOE investment in modeling and analysis has intentionally focused on individual technologies and research and development (R&D) programs. ESIB will leverage and incorporate these efforts in developing a first holistic framework, capable of capturing cross-technology feedbacks and higher-level industry diagnostics and metrics and that extends modeling emphasis beyond R&D to manufacturing supply chain and strategic investments.

ESIB will also continue technical assistance on regional energy sector supply chain and manufacturing gaps, issues, and potential strategies. Through an annual program to provide national laboratory support to outside entities, ESIB will connect laboratory expertise and capabilities with specific technical needs associated with minerals, materials, components, systems analysis and modeling, and the overall Energy Sector Industrial Base, with an emphasis on U.S. manufacturing and quality jobs. Specific attention will also foster DOE participation in the development and scaling up of domestic supply chains. Funding will also be utilized for technical assistance to the Department of Treasury in implementing tax provisions associated with the energy manufacturing industry.

**Energy Sector Industrial Base**
**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request Level | Explanation of Changes<br>FY 2024 Request Level vs. FY 2023 Enacted |
|---|---|---|
| **Energy Sector Industrial Base $2,000,000** | **$65,000,000** | **+$63,000,000** |
| • Provide a center of excellence on regional energy sector supply chain gaps and issues.<br>• Support technical assistance to the Department of Treasury in implementing tax provisions with industry. | • Target investment to enable domestic energy sector manufacturing and production infrastructure and establish new domestic component, device, or system manufacturing in critical ESIB segments of the supply chain and to support the Defense Production Act (DPA).<br>• Support development of Supply Chain Modeling, Mapping, and Analysis tools to provide a comprehensive and upgradeable framework for integrated cross-sector energy supply chain diagnostics and insights.<br>• Leverage national laboratory capabilities to support technical assistance, expertise, facilities, and coordination to address regional energy sector supply chain and manufacturing gaps, issues, and strategies. | • New investment to strengthen domestic energy sector manufacturing and production infrastructure and support DPA.<br>• Launch holistic supply chain modeling, mapping, and analysis capable of capturing cross-technology feedbacks and higher-level industry diagnostics and metrics and that extends modeling emphasis beyond R&D to manufacturing supply chain and strategic investments.<br>• Continue and build Energy Sector Industrial Base technical assistance efforts launched in FY 2023. |

## Manufacturing and Energy Supply Chains
## Program Direction

### Overview

Program Direction provides for the costs associated with the Federal workforce, including salaries, benefits, travel, training, building occupancy, IT services, security clearance, and other related expenses. It also provides for the costs associated with contractor services that, under the direction of the Federal workforce, support the MESC mission.

Salaries and Benefits support Federal employees who provide executive management, programmatic oversight, and analysis for the effective implementation of the MESC program.

Travel & Training includes transportation, subsistence, and incidental expenses that allow MESC to effectively provide the Department's electricity-related outreach to regions, states, and tribes regarding planning needs and issues, policies, siting protocols, and new energy facilities.

Support Services includes contractor support directed by the Federal staff to perform administrative tasks and provide analyses to management. These efforts include issue-oriented support on science, engineering, environment, and economics that benefit strategic planning; technology and market analysis to improve strategic and annual goals; development of management tools and analyses to improve overall office efficiency; assistance with communications and outreach to enhance MESC's external communication and responsiveness to public needs; development of program-specific information tools that consolidate corporate knowledge, performance tracking and inventory data, improve accessibility to this information, and facilitate its use by the entire staff.

Other Related Expenses includes corporate IT support (for DOE's Energy Information Technology Services [EITS] desktop services and IT equipment) and working capital fund (WCF) expenses, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes office safety requirements, equipment upgrades and replacements, commercial credit card purchases using simplified acquisition procedures where possible, security clearance expenses, and other needs.

### Highlights of the FY 2024 Budget Request

The FY 2024 MESC Program Direction Budget Request will:

- Provide additional FTEs to support mission critical work, of which a portion will be reserved for executive management, programmatic oversight, and analysis for the effective implementation of DPA and GCEMI activities.
- Support strengthening MESC's overall performance, organization, budget, operations, human capital, and project management as the office continues to grow in support of its mission.

**Program Direction**
**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request Level | Explanation of Changes<br>FY 2024 Request Level vs. FY 2023 Enacted |
|---|---|---|
| **Program Direction $1,000,000** | **$24,000,000** | **+$23,000,000** |
| **Salaries and Benefits $600,000** | $15,420,000 | +$14,820,000 |
| • Salaries and Benefits support FTEs that provide executive management, programmatic oversight, and analysis for the effective implementation of the program. Funding also provides support for Under Secretary for Infrastructure operations. | • Salaries and Benefits supports 50 proposed FTEs that provide executive management, programmatic oversight, and analysis for the effective implementation of the programs. | • New funding will meet estimated staffing needs, including DPA and GCEMI activities, of the office to execute expected roles and responsibilities. |
| **Travel & Training $24,000** | $57,000 | +33,000 |
| • Travel includes transportation, subsistence, and incidental expenses to effectively facilitate its mission. | • Travel includes transportation, subsistence, and incidental expenses to effectively facilitate its mission. | • New funding for staff needs to travel as part of MESC duties. |
| **Support Services $150,000** | $4,490,000 | +$4,340,000 |
| • Support Services includes contractor support directed by the Federal staff to perform administrative tasks and provide analysis to management. Support Services may include support for post-doctoral fellows. | • Support Services includes contractor support directed by the Federal staff to perform administrative tasks and provide analysis to management. Support Services may include support for post-doctoral fellows. | • New funding for technical/administrative support services needs in launching and managing multiple years of project solicitation cycles and active project management. |
| **Other Related Expenses $226,000** | $4,033,000 | +$3,807,000 |
| • Other Related Expenses includes EITS desktop services and WCF expense, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes equipment upgrades and replacements, commercial credit card purchases using the simplified acquisition procedures to the maximum extent possible, security clearance expenses and other needs. | • Other Related Expenses includes EITS desktop services and WCF expense, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes equipment upgrades and replacements, commercial credit card purchases using the simplified acquisition procedures to the maximum extent possible, security clearance expenses and other needs. | • New funding reflects costs associated with up to increase in FTEs. |

**Manufacturing and Energy Supply Chains**

**Infrastructure Investment and Jobs Act (IIJA)**

The Office of Energy Efficiency and Renewable Energy was appropriated funds through the Infrastructure Investment and Jobs Act (IIJA) (P.L. 117-58); however, the Office of Manufacturing and Energy Supply Chains will manage the activities listed below. In FY 2022, approximately $1.6 billion of activities related to vehicles, buildings, advanced manufacturing, and energy efficiency moved to be managed by the new MESC office. In FY 2024, funding will continue for activities related to vehicles (battery manufacturing and recycling grants and battery material processing grants), buildings (implementation grants for industrial research and assessment centers and industrial research and assessment centers), and advanced manufacturing (advanced energy manufacturing and recycling grant program).

| Appropriated Funding Organization | FY 2022 IIJA Appropriation ($K) | FY 2023 IIJA Appropriation ($K) | FY 2024 IIJA Appropriation ($K) | Managing Organization |
|---|---|---|---|---|
| **Energy Efficiency and Renewable Energy** | | | | |
| Battery Manufacturing and Recycling Grants – Sec. 40207c | $600,000 | $600,000 | $600,000 | MESC |
| Battery Material Processing Grants – Sec. 40207b | $600,000 | $600,000 | $600,000 | MESC |
| Implementation Grants for Industrial Research & Assessment Centers – Sec. 40521.b1 | $80,000 | $80,000 | $80,000 | MESC |
| Industrial Research and Assessment Centers – Sec. 40521.b2/b3 | $30,000 | $30,000 | $30,000 | MESC |
| Battery and Critical Mineral Recycling - State and Local Programs – Sec. 40207.f3 | $50,000 | $0 | $0 | MESC |
| Battery and Critical Mineral Recycling - Retailers as Collection Points – Sec. 40207.f4 | $15,000 | $0 | $0 | MESC |
| Advanced Energy Manufacturing and Recycling Grant Program – Sec. 40209 | $150,000 | $150,000 | $150,000 | MESC |
| State Manufacturing Leadership – Sec. 40534 | $50,000 | $0 | $0 | MESC |
| Energy Efficient Transformer Rebates – Sec. 40555 | $10,000 | $0 | $0 | MESC |
| Extended Product System Rebates – Sec. 40555 | $10,000 | $0 | $0 | MESC |
| **Total, Energy Efficiency and Renewable Energy** | **$1,595,000** | **$1,460,000** | **$1,460,000** | |

- **Battery Manufacturing and Recycling Grants**: The goal of this investment is to provide grants to ensure that the United States has a viable domestic manufacturing and recycling capability to support a North American battery supply chain. Focus on demonstration projects, construction of commercial-scale facilities, and retrofit or retooling of existing facilities for battery component manufacturing, advanced battery manufacturing, and recycling.
- **Battery Material Processing Grants**: The goal of this investment is to provide grants for battery materials processing to ensure that the United States has a viable battery materials processing industry. Funds can also be used to expand our domestic capabilities in battery manufacturing and enhance processing capacity.
- **Implementation Grants for Industrial Research & Assessment Centers**: The goal of this investment is to fund upgrades for small- and medium-sized manufacturers that have been recommended in an assessment from an Industrial Assessment Center or Combined Heat and Power Technical Assistance Partnership.
- **Industrial Research and Assessment Centers**: The goal of this investment is to provide funding for institutions of higher education, community colleges, trade schools, and union training programs to identify opportunities for optimizing energy efficiency and environmental performance at manufacturing and other industrial facilities.

- **Battery and Critical Mineral Recycling - State and Local Programs**: The goal of this investment is to award grants to states and units of local government to assist in the establishment or enhancement of state battery collection, recycling, and reprocessing programs.
- **Battery and Critical Mineral Recycling - Retailers as Collection Points**: The goal of this investment is to award grants to retailers that sell covered batteries or covered battery-containing products to establish and implement a system for acceptance and collection of covered batteries and covered battery-containing products for reuse, recycling, or proper disposal.
- **Advanced Energy Manufacturing and Recycling Grant Program**: The goal of this investment is to support manufacturing projects in communities that have experienced coal mine or coal-fired power plant closures. The Program will provide grants to small- and medium-sized manufacturers to build, expand, or re-equip facilities to produce or recycle property needed to support secure, resilient domestic clean energy supply chains. It also supports grants for manufacturers to install equipment that will substantially reduce greenhouse gas emissions manufacturing and industrial facilities.
- **State Manufacturing Leadership**: The goal of this investment is to provide funding to states to invest in smart manufacturing technologies.
- **Energy Efficient Transformer Rebates**: The goal of this investment is to provide rebates to industrial or manufacturing facility owners, commercial building owners, multifamily building owners, utilities, or energy service companies for the replacement of a qualified energy inefficient transformer with a qualified energy efficient transformer.
- **Extended Product System Rebates**: The goal of this investment is to provide rebates for qualified extended product systems (i.e., electric motor, electronic control, and driven load).

**Inflation Reduction Act (IRA) Investments**

The Office of Energy Efficiency and Renewable Energy was appropriated funds through the Inflation Reduction Act of 2022 (IRA); however, not all IRA activities will be managed by the organization to which funds were appropriated. The Office of Manufacturing and Energy Supply Chains will manage the activities listed below.

| Appropriated Funding Organization | FY 2022 IRA Funding ($K) | Managing Organization |
|---|---|---|
| **Energy Efficiency and Renewable Energy** | | |
| Enhanced Use of Defense Production Act (DPA) of 1950 – Sec. 30001 | $250,000 | MESC |
| Domestic Manufacturing Conversion Grants – Sec. 50143 | $2,000,000 | MESC |
| **Total, MESC IRA Coordination (EERE)** | **$2,250,000** | |

- **Defense Production Act:** The Defense Production Act provides DOE with a vital tool to make targeted investments in key technology areas that are essential to ensuring power grid reliability and achieving our clean energy future. DOE's DPA program is focused on heat pumps and will invest in manufacturers with domestic operations to retool existing factories or build new factories for heat pumps and their components. These investments will bolster U.S. competitiveness and security while reducing reliance among U.S. consumers and businesses on volatile natural gas and home heating oil costs and supply.
- **Domestic Manufacturing Conversion Grants:** The goal of this investment is to provide grants for domestic production of efficient hybrid, plug-in electric hybrid, plug-in electric drive, and hydrogen fuel cell electric vehicles, in accordance with section 712 of the Energy Policy Act of 2005 (42 U.S.C. 16062).

**DEPARTMENT OF ENERGY**

**Funding by Site**

Office of Manufacturing & Energy Supply Chains - FY 2024

(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Golden Field Office** | | | |
| Facility and Workforce Assistance (MESC) | 0 | 0 | 15,490 |
| **Total Golden Field Office** | **0** | **0** | **15,490** |
| **Undesignated Lab/Plant/Installation** | | | |
| Battery and Critical Materials (MESC) | 0 | 0 | 75,000 |
| Energy Sector Industrial Base (MESC) | 0 | 0 | 65,000 |
| **Total Undesignated Lab/Plant/Installation** | **0** | **0** | **140,000** |
| **Washington Headquarters** | | | |
| Program Direction - MESC | 0 | 0 | 24,000 |
| **Total Washington Headquarters** | **0** | **0** | **24,000** |
| **Total Funding by Site for Office of Manufacturing & Energy Supply Chains** | **0** | **0** | **179,490** |

# State and Community Energy Programs

# State and Community Energy Programs

## State and Community Energy Programs

### Proposed Appropriation Language

For Department of Energy expenses including the purchase, construction, and acquisition of plant and capital equipment, and other expenses necessary for state and community 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, $705,000,000, to remain available until expended: Provided, that of such amount, $33,220,000 shall be available until September 30, 2025, for program direction.

P.L. 95-91, "Department of Energy Organization Act" (1977)
(42 U.S.C. §6321 et seq.): Energy Policy and Conservation Act of 1975, P.L. 94-163, Title III, Part D, § 365, later amended by:
P.L. 94-385, Energy Conservation and Production Act of 1976, Title IV, Part A, § 422, Title IV, Part B, § 432(d);
P.L. 95-619, National Energy Conservation Policy Act of 1978, Title II, Part 2, § 254, Title IV, Part 3, § 441(a), Title VI, Part 2, § 621, Part 6, § 691(b)(2)
P.L. 96-294, Energy Security Act of 1980, Title V, Subtitle E, § 576
P.L. 101-440, State Energy Conservation Programs Improvement Act of 1989, §§ 5, 8(a)
P.L. 102-486, Energy Policy Act of 1992, Title I, Subtitle E, § 141(a)(2), Title I, Subtitle E, § 142
P.L. 104-66, Federal Reports Elimination and Sunset Act of 1995, Title I, Subtitle E, § 1052(f)
P.L. 105-388, Energy Conservation, Reauthorization Act of 1998, § 2(a)
P.L. 109-58, Energy Policy Act of t 2005, Title I, Subtitle B, § 123(c), Title I, Subtitle B, § 206(c),

P.L. 110-140, Energy Independence and Security Act of 2007, Title IV, Subtitle A, § 411(a), , Title V, Subtitle D, § 531 (42 U.S.C. § 6325(f))
P.L. 115-246, "Department of Energy Research and Innovation Act" (2018)
P.L. 116-260, "Consolidated Appropriations Act of 2020" (Section Z: Energy Act of 2020)

**Overview**

The Office of State and Community Energy Programs (SCEP), within the Office of the Under Secretary for Infrastructure, supports the transition to an equitable clean energy economy by working with community-level implementation partners and State Energy Offices. SCEP manages the Weatherization Assistance Program (WAP), State Energy Program (SEP), Community Energy Programs (which includes the Local Government Energy Program), and Energy Future Grants. SCEP was previously funded within the Office of Energy Efficiency and Renewable Energy (EERE).

As part of the Department of Energy's (DOE) Office of the Under Secretary for Infrastructure, the mission of the SCEP is to partner with state and local organizations to significantly accelerate the deployment of clean energy technologies and practices through place-based strategies involving a wide range of government, community, and business stakeholders. These activities help decrease energy costs and contribute to decarbonization efforts, provide good-paying jobs with a fair and free choice to join a union and collectively bargain, and secure clean energy economy benefits for all Americans, especially marginalized and low-income communities that have long borne the brunt of pollution.

State governments wield considerable influence in the built environment through upgraded building codes and incentives; in the utility sector through energy efficiency and renewable energy targets and customer programs; and in the industrial sector with policies that encourage efficiency and/or emission reductions (such as energy audits). States advance clean energy policy solutions through strategic energy planning, executive orders, legislation, management of energy efficiency retrofit programs, and land use plans. SCEP extends the reach of State-based programs and policies through fostering regional networks. Local governments are an important bridge between state action and community investment. They have a unique understanding of municipal ecosystems and community needs, and a significant role in revitalization, both of which are critical to integrating innovative energy thinking into infrastructure and the built environment.

Aligning with the Administration's clean energy goals, SCEP addresses the demand and supply sides of energy by facilitating investments in both energy efficiency (demand), and clean energy generation (supply), as well as alternative transportation fuels and vehicles. In FY 2024, SCEP will support the Office of Undersecretary of Infrastructure to accelerate the deployment of technologies and solutions to equitably transition America to net-zero greenhouse gas emissions economy-wide by no later than 2050, and ensure the clean energy economy benefits all Americans, creating good paying jobs for the American people—especially workers and communities impacted by the energy transition and those historically underserved by the energy system and overburdened by pollution.

DOE strives to amplify the transformational impacts of its state-led deployment work in WAP and SEP by expanding the scope of these programs with competitive funding, increased technical assistance to the state and local networks putting advance technologies to work in communities, and conducting impact analyses to ensure benefits are achieved broadly across the United States. DOE also seeks to support the Community Energy Programs, working with local governments and providing competitive awards, on-site capacity, peer exchanges, and technical assistance to support the development and deployment of transformative clean energy programs, with a focus on disadvantaged communities and/or small-to-medium-sized jurisdictions. This program will operate in coordination across DOE and other Federal agencies as appropriate.

SCEP and its national networks provide strategic leadership, resource leveraging, and market expertise to accelerate deployment of energy efficiency and clean energy products and technologies that, where implemented, improve America's energy security and economic prosperity. For decades, states and local governments have demonstrated leadership through their unique authorities to develop and implement these policies and programs. SCEP employs an integrated approach comprising the following strategic mechanisms:

- Formula grants to support the core capabilities of state energy offices and a weatherization provider network that assists low-income families through provision of home energy retrofits;
- Competitive awards to support innovative state and local high-impact and self-sustaining clean energy projects;
- Technical assistance to facilitate energy efficiency and clean energy technology delivery through "best practice" tools, "lead-by-example" methods, peer-to-peer forums, and strategic partnerships; and
- Active management of awardees through on-site reviews and integrated web-based systems for reporting, monitoring, and communication.

Working collaboratively with state and local governments, SCEP will deliver on the President's goal of economy-wide decarbonization by:

- Using state energy and weatherization networks and competitive awards to state and local governments to spur widespread adoption of cost-effective energy efficiency and renewable energy technologies delivered by a highly skilled workforce employed in durable, good-paying jobs; and
- Overcoming market, planning, implementation, and financing barriers to enable accelerated deployment of effective clean energy policies and cost-effective clean energy technologies across all communities in our economy, with a focus on improving the economic well-being of impoverished and disenfranchised communities, and/or communities that have been marginalized or overburdened.

**Highlights of the FY 2024 Request**

The FY 2024 Request reflects the realignment within DOE. Weatherization and Intergovernmental Programs (WIP) from the EERE appropriation account functionally transfers to the new SCEP appropriation account organizationally within the Office of the Under Secretary for Infrastructure.

WAP helps eligible low-income households reduce the comparatively large percentage of available income that they spend on energy. Highlights include:

- Completion of approximately 46,000 low-income residential energy retrofits.
- Emphasize reduced weatherization assistance deferrals, enhanced workforce development, heightened consideration on equity and justice, expanding appliance electrification, and providing relief from high energy burden for low-income families in disadvantaged communities across the country.
- Expand the Weatherization Readiness Fund ($51.8M) to enable the program to avoid deferrals by addressing needed structural or health and safety repairs to low-income homes prior to weatherization. WAP readiness funds will ensure the energy efficiency benefits can be realized by those with the greatest need.
- Development of methodologies to estimate non-energy impact savings, and inclusion of non-energy impact estimates in the cost-effectiveness test for WAP retrofits, as provided in section 1011(c) of the Energy Act of 2020.
- WAP Innovation and Enhancement funds of up to 6 percent (approximately $22.5M based on the WAP formula request for $375M) to competitively select and manage projects on improvements in indoor air quality, advanced technologies, workforce development, and approaches to improve the affordability of manufactured housing.
- Sustainable Energy Resources for Consumers (SERC) awards of up to 2 percent of WAP funding (approximately $7.5 million) for installation of renewable technologies in low-income dwellings.
- Continued improvements in workforce training, quality standards, and worker certification to improve the quality of the work performed.
- Continued development of tools and technical assistance resources to ensure that 100 percent of the benefits from weatherization investments flow to disadvantaged communities.
- Development of targeted resources to further quality installation of energy conservation measures, develop workforce, and coordination with other funding streams through existing interagency working group.
- Provide and expand technical assistance and training through the existing Weatherization Training Center network and the activities described above to build capacity to ensure effective execution of the American Jobs Plan funding.

The State Energy Program (SEP) will continue to support the core capacity and advance innovation in state energy offices and dissemination of best practices. Highlights include:

- Enabling a portfolio of diverse state energy efficiency and clean energy programs and policies through an active network of state energy offices with the capacity to develop, improve, and implement these initiatives through the provision of funding through formula grants.
- Providing targeted technical assistance to states to advance transformative deployment solutions for reducing energy use in government facilities; accelerating investment in public sector use of energy service performance contracts; and supporting high-impact projects focused on development and implementation of state policy barriers limiting investment in energy efficiency and clean energy, including self-sustaining financing models.
- Building capacity through technical assistance to state energy office staff on grant management requirements and clean energy deployment strategies to ensure efficient and effective execution of the Infrastructure Investment and Jobs Act (IIJA) funding.

The Community Energy Program includes the continuing Local Government Energy Program, the new Energy Burden Reduction Pilot, and Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization (Energy Communities IWG)[1]. These programs will support communities to create increased capacity and advancement of clean energy technologies by:

- Empowering American cities, counties, and communities with high impact, place-based, low-carbon solutions tailored to their needs, and developing and using a local workforce, with a focus on local clean energy programs that target environmental justice and workforce development outcomes.
- Providing targeted competitive awards, on-site capacity, peer exchanges, and technical assistance to support the development and deployment of transformative clean energy deployment programs of qualifying local governments, with a focus on disadvantaged communities and small (under 100,000 residents)-to-medium (under 250,000 residents)-sized jurisdictions.
- Exploring approaches to reduce the energy burden of over 3,000 low-income households through energy efficiency, electrification, and distributed energy retrofits that cut energy costs and reduce emissions.
- Coordinating efforts across the Federal government to deliver resources to and build community capacity in coal and power plant communities through the Energy Communities IWG.
- Coordinating across DOE and other Federal agencies as appropriate.

SCEP will continue to implement the Energy Future Grants initiative to support early action on, and incubate novel approaches to, clean energy technology deployment, prioritizing investments that meet energy needs at the local level, and are inclusive in elevating impoverished and disenfranchised communities, and/or communities that have been marginalized or overburdened.

- Provide continuing support for local government-led teams inclusive of cities, states and/or tribes in partnership with community organizations, utilities, and academia that advance community priorities for equitable clean energy policy innovation in the power, building, and/or transportation sectors.
- Continue the development and delivery of technical assistance offerings to address technical and capacity needs to scale policies beyond competitive awardees into new jurisdictions and geographies.
- Provide $40 million in funding through a competitive process to further scale equitable clean energy policy innovation utilizing best practice models and lessons learned to create lasting public-private partnerships.

[1] Previously funded through the Fossil Energy and Carbon Management account.

**State and Community Energy Programs**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted |
|---|---|---|---|---|
| **State and Community Energy Programs** | | | | |
| Weatherization Assistance Program | 334,000 | 366,000 | 436,780 | +70,780 |
| State Energy Program | 63,000 | 66,000 | 75,000 | +9,000 |
| Community Energy Programs | 10,000 | 12,000 | 120,000 | +108,000 |
| Energy Future Grants | 20,000 | 27,000 | 40,000 | +13,000 |
| Program Direction | 0 | 22,000 | 33,220 | +11,220 |
| **Total, State and Community Energy Programs** | **427,000** | **493,000** | **705,000** | **212,000** |

**State and Community Energy Programs**
**Explanation of Major Changes ($K)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| **Weatherization Assistance Program:** Weatherization Assistance funding will support approximately 46,000 home energy retrofits. Training and Technical Assistance will support workforce development and increase the quality of energy measures installations. The increase of $21.8 million requested for the "Weatherization Readiness Fund" will increase the program's capacity to address structural or health and safety repairs and address the growing list of identified deferrals resulting from implementation of Infrastructure Investment and Jobs Act WAP funding. | **+70,780** |
| **State Energy Program:** The increase of $9.0 million will support a broad set of transformational state programs and initiatives to advance energy efficiency and clean energy technologies across the country. | **+9,000** |
| **Community Energy Programs:** The increase of $108.0 million will expand program capacity through competitive awards and technical assistance to support a variety of local clean energy solutions and innovations. This increase includes $50.0 million for the new Energy Burden Reduction Pilot. | **+108,000** |
| **Energy Future Grants:** The increase of $13.0 million in funding reflects the priority to support earlier stage assistance to communities working in partnership with community organizations, utilities, and academia to create lasting energy solutions that benefit disadvantaged communities. | **+13,000** |
| **Program Direction:** The increase of $11.2 million will support 14 additional FTEs and strengthen SCEP's overall performance, organization, budget, laboratory management, operations, human capital, and project management. | **+11,220** |
| **Total, State and Community Energy Programs** | **212,000** |

**State and Community Energy Programs**
**Weatherization Assistance Program**

**Description**

The Weatherization Assistance Program (WAP) is a foundational building block of DOE's vision for an equitable clean energy future for all, delivering on its national objective to increase the energy efficiency of dwellings owned or occupied by low-income persons, reduce their total residential energy expenditures, and improve their health and safety. WAP activities reduce the cost of residential household energy bills, which are a disproportionately higher share of household income relative to higher income households. Up to 40 million low-income households in the U. S. are eligible for low-income housing energy assistance.[1] Since 1976, WAP has performed over 7 million upgrades to low-income households, including 1 million retrofits supported through American Recovery and Reinvestment Act (ARRA) of 2009[2] funding. In FY 2021, WAP supported the weatherization of 31,082 homes, resulting in an estimated savings of approximately $230 million over the 20-year life of the measures installed. A total of $437 million is requested for DOE's WAP in FY 2024, including $51.8 million for the Weatherization Readiness Fund.

Weatherization Assistance ($375,000,000): The primary focus of funding in the FY 2024 Budget Request is to provide formula grants to 50 states, the District of Columbia, 5 U. S. Territories and 1 Native American Tribe to support nationwide delivery of services - resulting in approximately 46,000 homes receiving weatherization services and allowing eligible low-income families to use retrofit enabled energy cost savings to purchase other basic needs (like food, medicine, and other essentials). The formula grant allocations provided to states include funds for state-managed training and technical assistance (State T&TA) activities, at approximately 17 percent of total WAP funding. Per 42 U. S. C. 6866, the total of DOE T&TA and State T&TA cannot exceed 20 percent of total WAP funding.

The WAP formula grants support the largest and one of the most technically, advanced networks of residential energy retrofit providers in the country, providing a foundation for related services funded by other Federal and non-Federal sources. Funds are allocated on a statutory formula basis and awarded to a single agency (referred to collectively as Grantees) within each recipient's jurisdiction that manages the deployment of services to increase the energy efficiency of homes occupied by families with household incomes of 200 percent or less of the Office of Management and Budget's (OMB) Annual Federal Poverty Guidelines.[3] These agencies, in turn, contract with approximately 700 local service provider organizations, including Community Action Agencies and local governmental and nonprofit agencies, supporting approximately 8,500 jobs, and delivering weatherization services to low-income families in every geographic area of the country.

Weatherization service providers choose a comprehensive package of efficiency and energy improvement measures for each home based on a completed energy audit. Typical energy conservation measures include installing insulation, sealing ducts, repairing or replacing heating and cooling systems, reducing air infiltration, improving hot water production and use, and reducing electric base load consumption. The consistent delivery of quality services is addressed through active Federal, state, and regional, training and technical assistance programs. The program leverages both Federal and non-Federal funding sources[4] to expand the array of services available for each home or to increase the number of homes weatherized. In FY 2024 the program will emphasize reduced weatherization assistance deferrals, enhanced workforce

[1] U.S. Department of Energy, Weatherization Assistance Program Briefing Book (Draft Copy), December 2019.
[2] http://www.gpo.gov/fdsys/pkg/PLAW-111publ5/pdf/PLAW-111publ5.pdf .
[3]

| 200% of HHS Poverty Guidelines for the 48 contiguous states and the District of Columbia | | | |
|---|---|---|---|
| Calendar Year | First Person | Each Additional Person | Four-Person Family |
| 2023 | $29,160 | $10,280 | $60,000 |
| 2022 | $27,180 | $9,440 | $55,500 |
| 2021 | $25,760 | $9,080 | $53,000 |

[4] National Association of State Community Services Programs, Weatherization Assistance Program Annual Funding Report, 2019.

development, heightened consideration on equity and justice, expanding appliance electrification, and providing relief from high energy burden for low-income families in the disadvantaged communities across the country.

The State T&TA enables grantees to develop, train, and continually improve the skills of the local workforce performing weatherization retrofits. State T&TA may be used for technical and non-technical training for grantee staff and their subgrantees, including training contractors that work within their DOE-funded weatherization program. Activities must be designed to maximize energy savings, minimize production costs, improve program management and crew/contractor "quality of work," including minimizing the potential for waste, fraud, and abuse. Per program guidance, grantees' training plans include a provision to provide comprehensive training aligned to the job-task analysis of their profession (Quality Control Inspector, Energy Auditor, Crew Leader and Retrofit Installer) on a regular basis for all field workers.

DOE will also implement a fourth year of Enhancement and Innovation (E&I) competitive awards, as provided for in the recent reauthorization of WAP (P. L. 116-260). In the FY 2024 Request, DOE will allocate up to a maximum of $22.5 million of WAP funds to make competitive awards to proposals that create model strategies and approaches targeted at deep energy efficiency retrofits by leveraging multiple funding sources and developing broad community partnerships. DOE will continue to focus these E&I funds on the statutory purposes to achieve comprehensive services and installation of energy conservation measures. In FY 2024, the WAP E&I solicitation will include a focus on improving the affordability of energy efficient manufactured housing within its topic areas.

In FY 2024 DOE intends to use up to 2 percent of WAP funding (approximately $7.5 million) for Sustainable Energy Resources for Consumers (SERC) awards, as allowed per Title IV of the Energy Independence and Security Act of 2007.[1] As listed in EISA, Section 411(b), the purposes of the SERC Grants are to: (1) expand WAP for residential buildings to include materials, benefits, and renewable and domestic energy technologies not covered by the Program; and (2) work with existing partners to expand and enhance the Program. SERC grants focus on energy technologies that provide real opportunities to avail low-income communities greater access to renewable energy resources.

Training and Technical Assistance ($10,000,000): WAP's Headquarters (HQ) T&TA will continue a nationally focused portfolio of research, modeling, work performance guidelines and education, and hands-on support services that sustains the entire WAP network and its workforce. These activities are designed and developed annually to improve program effectiveness, service delivery, resource accountability, and operational efficiency. Specifically, these funds support the development and implementation of a variety of tools needed to implement work quality, training accreditation, and workforce development across the 57 recipient agencies DOE partners with to deploy low-income weatherization services. Some examples of the activities to be undertaken in FY 2024 include:

- Maintenance and upgrades to the Standard Work Specifications (SWS) online tool (https://sws.nrel.gov/). This tool houses the SWS for home energy upgrades, which serves as the backbone of the WAP's work quality initiatives. The enhanced functionality of the tool assists Grantees to develop work quality standards as well as illustrated field guides, work orders and checklists. The SWS requires regular review and updating to ensure it is current with national codes, technology, and best practice for residential upgrades. The SWS online tool requires ongoing maintenance to respond to user's needs and ensure consistent functionality.
- Maintenance of the Energy Auditor (EA) and Quality Control Inspector (QCI) home energy professional (HEP) certifications and their underlying resources, such as the job task analyses and certification schemes. The HEP QCI certification is required of all Grantees and Subgrantees whom perform program monitoring and inspection duties and must be maintained to retain their American National Standards Institute (ANSI) accreditation.
- Development of training resources to respond to continually evolving needs in the field, including an enhanced curriculum, managing multiple funding streams, and updating of the ASHRAE 62.2 curriculum, and updating several modules related to weatherizing multi-family buildings.
- Enhancements to the Weatherization Assistant's suite of energy auditing tools for single family buildings, manufactured homes, and multi-family buildings including user requested changes and modeling of non-energy benefits. For example, a non-energy benefit, such as sewer and water costs savings, can be readily attributed to the installation of showerheads and aerators, which are measures WAP may install.

[1] Energy Independence and Security Act of 2007, Section 411(b). Pub. L. 110–140, title IV, §411(b), Dec. 19, 2007, 121 Stat. 1600. https://www.govinfo.gov/content/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf

- Evaluation of service delivery models to ensure equitable distribution of benefits. By design, the Weatherization Assistance Program serves households disproportionately impacted by energy costs and inefficient homes. Based on a June 2020 report by Oak Ridge National Laboratory (ORNL), the energy burden for the WAP-eligible population was estimated at 13. 9 percent compared to 3. 0 percent for higher-income U. S. households.[1] This report will be updated in FY 2024 as new data is available and will also assist DOE in identifying regions where high energy burden correlates with other factors such as household demographics or environmental justice communities. Service delivery will be studied with the goal of identifying and sharing best practices and strategies among the weatherization provider network. Service providers and stakeholders will be engaged throughout this work, and the scope includes:
  - Implementation strategies and technical assistance tools for Grantees based upon study results regarding opportunities for more equitable distribution of resources, which include allocation formulas.
  - Following guidance from the OMB and in alignment with the Justice40 initiative, DOE will continue reviewing data from all service area types (urban, rural, etc.) to ensure at least 40 percent of benefits flow to disadvantaged communities. Input from the weatherization network and other stakeholders will be critical in identifying existing barriers to service, and the T&TA resources DOE may develop to assist in overcoming identified barriers.
  - Approximately $1 million in FY 2024 funding will be used to explore and develop methodologies to estimate non-energy impact savings and evaluate the feasibility of accounting for them in determining inclusion of energy conservation measures in WAP retrofits. On average weatherization reduces annual household energy costs by $372, and results in an average first-year savings of 29.3 Metric Million British Thermal Units (MMBtu) per site-built home.[2] It is generally acknowledged that the WAP also positively impacts household (e. g., available income, improved comfort) and societal issues (e. g., water savings, avoided emissions, economic development), but that these non-energy impacts are more difficult to quantify. Developing savings estimates is critical in calculating and maximizing the investments and benefits in disadvantaged communities.[3] DOE will continue its work to develop savings estimates for non-energy impacts to provide a more holistic measure of the community benefits realized by the program and integrate non-energy impacts in the cost-effectiveness test for weatherization services.
- Continuity of DOE coordination with partner Federal agencies to ensure client eligibility is streamlined with Health and Human Services Low Income Home Energy Assistance Program and the Housing and Urban Development Lead Hazard Control and Healthy Homes Program and the U.S, Department of Agriculture, home repair programs. The scope of work will be expanded to develop tools and technical assistance resources for WAP Grantees, including a framework for braiding multiple funding sources in low-income households and advancing environmental justice and energy equity in local communities throughout the country.

Weatherization Readiness Fund ($51,780,000): The President's Budget request will expand a home repair fund to address structural and health and safety issues and reduce the frequency of deferred homes that are not weatherization-ready when WAP work crews enter the home to perform retrofit services. Deferral of service occurs when the condition of the home prohibits and/or limits the ability of the service provider to deliver weatherization services. WAP service providers are often the first or only home services professionals to enter these homes and observe these issues. Deferrals reduce implementation efficiency but also mean work must be postponed indefinitely until the structural deficiency or health and safety hazard can be resolved, and many low-income households are unable to afford the necessary repairs, particularly in homes of underserved and disadvantaged communities. These funds would be distributed using the existing State T&TA allocation process for each WAP Grantee. This would address the goals of environmental justice and equity and expand the number of homes that can be weatherized. According to a 2020 American Public Health Association report, racial inequality in housing causes Native American, Latino and Black households to have higher rates of repair needs and higher cost burdens.[4]

The Weatherization Readiness Fund provides a path to address in real-time, onsite remedy for these structural repair issues. The establishment of these funds separately from the formula funds and State T&TA includes exclusion from WAP's

[1] ORNL, Background Data and Statistics on Low-Income Energy Use and Burden for the WAP. For the purposes of this analysis, WAP-eligible households are identified as those living at or below 200% of US federal poverty guidelines based on household income and size. The term energy burden is defined herein as the percentage of household income spent on home energy expenditures (e.g., heating and cooling, appliances, lighting).

[2] ORNL/TM-2014/338, Weatherization Works: Summary of Findings from the Retrospective Evaluation of the U.S. Department of Energy's Weatherization Assistance Program, September 2014, energy savings number expressed as 2021 dollars.

[3] OMB M-21-28. https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf

[4] American Public Health Association, Creating the Healthiest Nation: Health and Housing Equity. May 2020.

Savings-to-Investment Ratio (SIR) of 1.0 or greater. Specifying this amount of funding as excluded from SIR will allow WAP to repair homes that otherwise would be deferred. Continued support for these activities remains the most practical means to dramatically increase the impact of Federal funds utilized in the weatherization of low-income households.

**Weatherization Assistance Program**
**Activities and Explanation of Changes**

| FY 2023 Enacted<br>**Weatherization $366,000,000** | FY 2024 Request<br>**$436,780,000** | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted<br>**+$70,780,000** |
|---|---|---|
| Weatherization Assistance $326,000,000 | $375,000,000 | +$49,000,000 |
| Financial Assistance:<br>• Award and actively manage 57 weatherization formula grantees, which will support approximately 40,000 or more low-income residential energy retrofits.<br>• Manage SERC awards process for installation of renewable technologies in low-income dwellings. Competitively select and manage WAP Innovation and Enhancement projects for deep energy efficiency retrofits by leveraging multiple funding sources and developing broad community partnerships. | Financial Assistance:<br>• Award and actively manage 57 weatherization formula grantees, which will support approximately 46,000 or more low-income residential energy retrofits.<br>• Manage SERC awards process for installation of renewable technologies in low-income dwellings. Competitively select and manage WAP Innovation and Enhancement projects for deep energy efficiency retrofits by leveraging multiple funding sources and developing broad community partnerships. | • Supports 6,000 additional low-income residential energy retrofits.<br>• Increase to support a greater number of innovative projects to increase utilization of renewable technologies and improve indoor air quality, advanced technologies, and workforce development. |
| Training and Technical Assistance $10,000,000 | $10,000,000 | +$0 |
| • Continued improvements in workforce training, quality standards, and worker certification to improve the quality of the work performed.<br>• Equitable statewide distribution review of DOE WAP funds to understand the energy burden on a by-county basis and development of best practices and tools for Grantee use to assist state-level staff in making allocation decisions.<br>• Develop targeted resources for WAP Grantees to further quality installation of energy conservation measures, develop workforce, and coordination with other funding streams through existing interagency working group. | • Continued improvements in workforce training, quality standards, and worker certification to improve the quality of the work performed.<br>• Additional evaluations to ensure 40% of the benefits accrue to disadvantaged communities, workforce models and recruitment efforts on behalf of WAP.<br>• DOL pre-apprenticeship model development.<br>• Equitable statewide distribution review of DOE WAP funds to understand the energy burden on a by-county basis and development of best practices and tools for Grantee use to assist state-level staff in making allocation decisions.<br>• Develop targeted resources for WAP Grantees to further quality installation of energy conservation measures, develop workforce, and coordination with other funding streams through existing interagency working group. | • No change in funding. |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| • Exploration and development of methodologies to estimate non-energy impact savings and evaluate the feasibility of including them in determining inclusion of energy conservation measures in WAP retrofits. | • Exploration and development of methodologies to estimate non-energy impact savings and evaluate the feasibility of including them in determining inclusion of energy conservation measures in WAP retrofits. | |
| Weatherization Readiness Fund $30,000,000 | $51,780,000 | +$21,780,000 |
| • The second year of the funding for the Weatherization Readiness Fund continues to address structural, or health and safety repairs needed to low-income homes that are not provided for under current WAP funding allocations. | • The Weatherization Readiness Fund addresses structural, or health and safety repairs needed to low-income homes that are not provided for under current WAP funding allocations. | • Expands a proactive approach to address Congressional concerns on weatherization "deferrals" issue. Doubles the number of homes that would have otherwise been deferred, enabling them to receive weatherization services. |

**Description**

The State Energy Program (SEP) strategically engages the leadership of states in deploying clean energy technologies across the United States. SEP funding transforms the energy economy state by state, establishing and implementing clean energy policies, plans, and programs to reduce energy costs, enhance economic competitiveness, improve emergency planning, and improve the environment. States have purview over many of the policy and program levers that can catalyze greater investment in clean energy and help the country realize the suite of economic and environmental benefits associated with clean energy. SEP provides states with capacity building resources, technical assistance, and fosters networks for sharing best practices to facilitate the adoption of plans, policies, and programs appropriate to state and regional circumstances.

A portion of the FY 2024 funding will provide foundational formula-based grants to 50 states, Washington, D. C., and 5 U.S. territories to advance their energy priorities through the design and implementation of energy efficiency and renewable energy programs. These grants support state energy offices in their development and implementation of energy programs that deploy portfolios of clean energy technologies addressing their specific goals and needs. A broad range of activities encompass the state energy offices' formula work, including: energy planning; building energy code adoption, implementation and compliance in continued coordination with EERE's Building Technologies Office; financing mechanisms for institutional retrofit programs; loan programs; energy savings performance contracting to retrofit government buildings and facilities; comprehensive residential energy programs for homeowners; transportation programs that accelerate the use of alternative fuels, including electric vehicles and infrastructure; and programs that remove barriers and support supply side and distributed renewable energy.

In FY 2024, SEP will continue its collaboration with states in a key initiative that leverages states' formula-based work. Technology Action Groups (TAGs), launched in the summer 2021, facilitate collaboration among states, leveraging SEP formula funding on topics of mutual interest to DOE and states. There are TAGs in two topic areas: (1) onsite energy systems at critical facilities, and (2) main street revitalization. Participation in the TAGs is voluntary and allows states to coordinate their efforts and receive topic-specific technical assistance from DOE. SEP is working with states to develop actionable plans for progress in the TAG topic areas. The collaboration will also design tools, document case studies, and create model strategies that can be used by all states interested in replicating the successful outcomes of these collaborations. The TAGs will wrap up in summer 2023 and if the TAGs are successful and there is state interest, DOE will consider launching a second round in FY 2024.

In FY 2024, SEP TAGs will include topics selected in collaboration with states, such as workforce development and electric vehicles and electrification, including transmission and distribution.

A portion of SEP funds will also provide technical assistance to state energy offices and related stakeholders, in support of SCEP activities. SEP technical assistance tools, resources, and voluntary initiatives support state clean energy leadership, including developing plans and programs, establishing financing, implementing data management, and empowering organizations. Technical assistance is an interdependent component to the financial assistance activities—making technology deployment more efficient and effective, and enhancing the likelihood of program success. Technical support resources are integral to:

- Developing tools and solutions that address pervasive barriers;
- Creating national energy initiatives and strategic partnerships focused on deployment and sharing best practices;
- Convening peer exchanges to showcase replicable models;
- Providing technical data and information from leading experts;
- Improving web-based reporting and monitoring systems; and
- Adopting metrics that support quantitative and qualitative evaluation of state planning activities.

SEP is supporting states' workforce development efforts by conducting research, providing information, and facilitating peer exchange. SEP has worked with DOE's National Renewable Energy Laboratory (NREL) to compile state-by-state

forecasts for clean energy jobs in the next five to ten years and is now expanding that analysis to U.S. territories. NREL is also developing a State Clean Energy Workforce Development Program Evaluation Framework that states will be able to use for their programs. SEP's efforts are intended to help states fill existing critical clean energy jobs that will support emissions reductions and environmental justice, as well as create new jobs.

In addition to the work outlined above, SEP funding has supported technical assistance initiatives that have made significant progress toward clean energy leadership goals. These activities produced significant results in FY 2023 and will continue in FY 2024. Examples include:

- The Sustainable Wastewater Infrastructure of the Future (SWIFt) Initiative will continue under the expanded scope launched in Phase II in 2021. The overarching goal of SWIFt is to engage over 300 facilities by 2024 in a voluntary partnership to achieve 5 percent short-term and 25 percent long-term facility-wide energy savings. SWIFt recruitment currently emphasizes filling gaps in facility representation by "small" facilities (1-5 MGD capacity), facilities in the western region of the U. S., and rural facilities (with service territories of <2,500 population). SWIFt Phase II activities include implementing next-generation technologies (e. g., renewable energy, resource recovery, and advanced data management), piloting 50001 Ready, and delivering "Virtual In-Plant Training" workshops. These activities leverage tools and resources in the Wastewater Energy Management Toolkit developed during SWIFt Phase I, which more than 70 WRRFs used to cumulatively achieve 131 million kWh in energy savings.
- The Sustainable Corrections Infrastructure Partnership (SCIP) Accelerator is a voluntary partnership of state and local public correctional facilities working with DOE over three years to achieve portfolio-wide energy savings of 20 percent to catalyze energy management and resilience in the corrections sector. SCIP partners represent almost 30 percent of state correctional facilities in the U. S.
- Public sector partnerships in EERE's Better Buildings Challenge working with more than 75 public sector entities who have committed to reduce energy and/or water intensity by 20 percent or more. As of 2021 data, public-sector partners have saved $1.3 billion, 133 trillion Btus, and 3.3 billion gallons of water.
- The Energy Savings Performance Contracting (ESPC) Municipalities and States, Universities and Colleges, Schools, and Hospitals (MUSH) Market Working Group will support expanded ESPC best practices for the MUSH market and state and local ESPC programs.
- The State and Local Planning for Energy (SLOPE) Platform is a SCEP-led collaboration with eight EERE technology offices and NREL to integrate and deliver data on energy efficiency, renewable energy, and sustainable transportation into an easy-to-access online platform to enable data-driven state and local energy planning.

SEP partners with the National Association of State Energy Officials (NASEO) to enhance collaboration with states. NASEO provides direct technical assistance to all 56 State and Territory Energy Offices (SEOs) in support of state energy efficiency and renewable energy programs. NASEO is the only non-profit organization for all 56 governor-designated SEOs in the states, territories, and District of Columbia. SCEP funds NASEO through a multi-year cooperative agreement that includes in-person workshops, peer exchanges, written deliverables, and state-focused outreach to support the delivery of energy efficiency and renewable energy programs in states and ensure coordination between DOE and the SEOs.

**State Energy Program**
**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **State Energy Program $66,000,000** | **$75,000,000** | **+$9,000,000** |
| • Advance deployment of effective energy efficiency and renewable energy policies and technologies by state governments. | • Continue to advance deployment of effective energy efficiency and clean energy policies and technologies by state governments. | • No significant change. |
| • Award and actively manage 56 formula grants supporting ($60,000,000) in state energy projects | • Award and actively manage 56 formula grants supporting ($69,000,000) in state energy projects. | • Increased funding will provide additional investment in state energy projects. |
| • Continue with Phase II of the Sustainable Wastewater Infrastructure of the Future (SWIFt) initiative and Sustainable Correctional. Infrastructure Partnership (SCIP). | • Continue with Phase II of the Sustainable Wastewater Infrastructure of the Future (SWIFt) initiative and Sustainable Correctional. Infrastructure Partnership (SCIP). | • No significant change. |
| • Develop and deliver a portfolio of strategic technical assistance offerings to state energy offices and in sectors that focus on areas of joint state and local interest and collaboration. | • Develop and deliver a portfolio of strategic technical assistance offerings to state energy offices and in sectors that focus on areas of joint state and local interest and collaboration. | • No significant change. |

**Description**

In FY 2023, DOE established the Community Energy Programs (CEP). The Budget Request funds the continuing Local Government Energy Program, the new Energy Burden Reduction Pilot initiative, and the Energy Communities IWG (previously funded through the Fossil Energy and Carbon Management account). CEP provides federal support and resources to local and tribal governments, public schools, nonprofit organizations, workforce development groups, and other community-serving entities. The various programs assist communities collaboratively to select and strategically implement emissions-reducing initiatives that fulfill local and state goals. Activities range from conducting energy efficiency projects to developing decentralized local energy resources. Emphasis is on prioritizing low- and moderate-income and overburdened communities by removing barriers to participation and providing more financial and technical support to those communities that are most in need of these grants.

SCEP manages specific community-oriented energy programs funded under the Infrastructure Investment and Jobs Act (IIJA) (P.L. 117-58). These subprograms and funding amounts are identified on the last page of the SCEP budget section.

Local Government Energy Program ($65,000,000): SCEP's Local Government Energy Program is a place-based initiative that will empower American cities, counties, and communities with high impact, clean energy solutions tailored to their needs. SCEP will administer the Local Government Energy Program to enhance on-site capacity, and technical assistance to support the deployment of transformative clean energy programs. Emphasis will be placed on disadvantaged communities or small-to-medium-sized jurisdictions that are committed to, but in the earlier phases of progress toward clean energy goals. Assistance will include local efforts that address energy equity, diversity, and inclusion. The program will be coordinated with other DOE program offices, including EERE, National Laboratories, and other Federal agencies as appropriate.

SCEP will also use a portion of the funds for technical assistance targeted to scaling best practices across local governments.

This program will support transformative clean energy programs in local jurisdictions with a focus on one or multiple pillars:

- Advancing clean energy infrastructure: Targeted toward communities willing to take measurable steps and/or make commitments to progress in one or more major sectors of the local energy economy while not yet ready to set economy-wide clean energy targets or goals.
- Advancing climate and economic justice: Preference for disadvantaged communities with a high energy burden.
- Leading workforce transitions toward clean energy futures: Intended to support workforce development and training for local careers in a clean energy economy.

Energy Burden Reduction Pilot ($50,000,000): The national average energy burden (% of gross household income spent on energy costs) for low-income households is 8.6%, which is three times higher than the average for non-low-income households. In some areas, depending on location and income, energy burden can be as high as 30%, meaning these households spend 30% of their income on energy costs.[1]

The Pilot initiative will award competitive grants innovative projects led by community action agencies, non-profits, local governments, and utility partners that invest in home energy efficiency and emissions reduction retrofits to save households money. This effort will be designed to retrofit at least 3,000 low-income households with the goal of reducing their energy bills to less than 5 percent of gross annual household income. Second year funding will support additional technical assistance to grantees and program and project evaluation activities.

[1] Tool data comes primarily from the U.S. Census Bureau's American Community Survey 2016 Public Use Microdata Samples (5-Year Average, 2012-2016) and are calibrated to the U.S. Energy Information Administration's electric utility (Survey Form-861) and natural gas utility (Survey Form-176) data.

The Pilot is a competitive grants program that will be developed with input from local and community stakeholders. Among other criteria in the design of the program, competitive awards will target projects that serve the most energy-burdened households and may also include factors such as property age and condition, number and age of occupants, and ability to leverage non-federal funds, while also maximizing the use of federally funded programs and rebates. The program will also stimulate enhanced collaboration and data sharing between local and community stakeholders. Proposals will be evaluated for innovative approaches to delivering deep energy retrofits that strategically combine a full complement of energy efficiency measures, electrification (as appropriate, including heat pumps), and renewable energy to maximize the reduction of both household energy bills and emission reductions. As part of the design, DOE and our partners will examine options that provide for the tiering of funds to encourage ambitious and high-impact projects.

Energy Communities IWG ($5,000,000): Energy Communities IWG is the identifier for the Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization which is led by DOE, coordinated by NETL, and implemented through a partnership of 11 federal agencies and EOP offices. The funding will support technical assistance and capacity building efforts to deliver Federal investments that can create good-paying jobs, spur economic development, remediate environmental damage, and support energy workers in coal, oil, gas, and power plant communities impacted by the energy transition. Funding will support energy communities by:

- Maintaining a readily accessible clearinghouse of energy community-relevant funding opportunities from the Energy Communities IWG's agency partners.
- Providing stakeholders with a call-center like navigator resource that can help communities quickly identify the right funding opportunity for their needs and connect them with an agency point of contact to assist them.
- Gathering data and conducting analyses that guide effective Federal policy design, program implementation, and stakeholder outreach.
- Conducting stakeholder events with prioritized energy communities to discuss their needs resulting from the energy transition and connect them with Federal resources.
- Creating additional Rapid Response Teams to provide on-the-ground technical assistance and coordination of Federal funding opportunities to energy communities lacking capacity and impacted by significant transition of fossil energy assets.

**Community Energy Programs**
**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Community Energy Programs $12,000,000** | **$120,000,000** | **+$108,000,000** |
| Local Government Energy Program $12,000,000 | $65,000,000 | +$53,000,000 |
| • Award and actively manage $12 million in competitive awards focused on clean energy solutions to 12 to 20 local governments.<br>• Launch the Local Government Energy Program initiative. Deliver replicable, place-based competitive awards and technical assistance to support localized decarbonization initiatives that create good paying clean energy jobs in energy communities and disadvantaged communities and small-to-medium-sized jurisdictions. | • Award and actively manage additional competitive awards focused on clean energy solutions to local governments.<br>• Deliver replicable, place-based competitive awards and technical assistance to support localized decarbonization initiatives that create good paying clean energy jobs in energy communities and disadvantaged communities and small-to-medium-sized jurisdictions. | • Increase to support local clean energy solutions and innovations to additional local governments through competitive awards and technical assistance. |
| • Ingrain environmental justice and clean energy workforce development outcomes in local energy program planning. | • Emphasis on environmental justice and clean energy workforce development in local energy program planning. | • Expand environmental justice and workforce development outcomes in local energy planning |
| Energy Burden Reduction Pilot $0 | $50,000,000 | +$50,000,000 |
| • | • Establish Energy Burden Reduction Pilot to identify innovative approaches for community action agencies, non-profits, local governments, and utility partners to reduce low-income households' energy costs through energy efficiency and clean energy improvements. | • The increase will launch the new Energy Burden Reduction Pilot |
| Energy Communities IWG $0 | $5,000,000 | +$5,000,000 |
| • Actively managed by Fossil Energy and Carbon Management | • Continue technical assistance to support identification of, and application for, financial assistance from agencies across the Federal government to support economic revitalization of coal and power plant communities. | • The Energy Communities IWG was previously funded through the Fossil Energy and Carbon Management account. The Request is a $2 million increase over comparable FY 2023 enacted levels. |

**Description**

The Energy Future Grants initiative will incentivize state, local, territory and tribal governments in partnership with community organizations, utilities, and academia to incubate novel approaches to clean energy technology deployment, prioritizing investments that meet energy needs at the local level and are inclusive in improving the economic well-being of impoverished and disenfranchised communities, and/or communities that have been marginalized or overburdened. Clean energy technology deployment is essential to decarbonizing the U.S. economy. To be successful, it is critical to design deployment strategies that meet the needs of the communities these clean energy technologies will serve and to foster the workforce with the skills necessary to develop, demonstrate and deliver them. DOE will award state, local, territorial, and tribal awards allocated on a competitive basis that are designed to encourage state and local-level early action, leadership, and partnership with the U.S. Government in a nationwide push to meet the President's clean energy goals.

The Program complements the Local Government Energy Program by focusing on communities that are in the later phases of progress toward transformative energy technology and/or meeting a clean energy or decarbonization target or set of goals. Rather than focus on capacity building, the program will enable those communities to adopt the policies and transformative energy technologies needed to achieve their clean energy goals.

The core concept of the program is to support and encourage innovation in state and local government establishment of clean energy deployment policies, inclusive of the power, buildings, and transportation sectors. Clean energy policy prioritizing benefits for disadvantaged communities will receive preference in the selection of awards.

Enacting clean energy deployment policies and encouraging innovation by competitively awarding funds based on projected impact is critical to ensuring a level playing field and equitable distribution of funds. For example, a state that already has advanced codes might propose to develop and implement net-zero emission codes while a state that has not updated its code in several model code cycles might propose to catch its codes up. The states would get equitable treatment based on similar relative impact.

DOE will gather input from state energy offices, local governments, community stakeholders, and others on how to improve the program and identify the highest priority needs and issues that could be best addressed through the competitive grants program. DOE plans to include topics such as energy efficient manufactured housing, consumer education programs, and financing products. The competitive grants enable collaboration on sector, regional, and/or nationally focused initiatives aimed at finding solutions to overcome barriers in meeting their clean energy economy goals. Competitive projects provide opportunities for these entities to submit innovative proposals addressing issues specific to their situations and to leverage other funding to create sustainable, high-impact solutions in energy efficiency and renewable energy development.

**Energy Future Grants**
**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Energy Future Grants $27,000,000** | **$40,000,000** | **+$13,000,000** |
| • Provide $27M in competitive support for local government-led teams inclusive of cities, states and/or tribes that advance community priorities for equitable clean energy policy innovation in the power, building, and/or transportation sectors.<br>• Develop and deliver technical assistance offerings to address technical and capacity needs to scale policies beyond competitive awardees into new jurisdictions and geographies. | • Provide $40M in funding through a competitive process to further scale equitable clean energy policy innovation based on best practice models and lessons learned from prior awards.<br>• Continue to administer competitive grants issued from FY 2023 FOA. | • The increase in funding will reflect a shift in favor of supporting earlier stage assistance to communities with a focus on implementing lasting energy solutions in partnership with community organizations, utilities, and academia. |

## Program Direction

### Overview

Program Direction provides for the costs associated with the Federal workforce, including salaries, benefits, travel, training, building occupancy, IT services, security clearance, and other related expenses. It also provides for the costs associated with contractor services that, under the direction of the Federal workforce, support the office.

**Salaries and Benefits** support Federal employees who provide executive management, programmatic oversight, and analysis for the effective implementation of the program.

**Travel & Training** includes transportation, subsistence, and incidental expenses that allow SCEP to effectively provide the Department's electricity-related outreach to regions, states, and tribes regarding planning needs and issues, policies, siting protocols, and new energy facilities.

**Support Services** includes contractor support directed by the Federal staff to perform administrative tasks and provide analyses to management. These efforts include issue-oriented support on science, engineering, environment, and economics that benefit strategic planning; technology and market analysis to improve strategic and annual goals; development of management tools and analyses to improve overall office efficiency; assistance with communications and outreach to enhance SCEP's external communication and responsiveness to public needs; development of program-specific information tools that consolidate corporate knowledge, performance tracking and inventory data, improve accessibility to this information, and facilitate its use by the entire staff.

**Other Related Expenses** includes corporate IT support (for DOE's Energy Information Technology Services [EITS] desktop services and IT equipment) and working capital fund (WCF) expenses, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes office safety requirements, equipment upgrades and replacements, commercial credit card purchases using simplified acquisition procedures where possible, security clearance expenses, and other needs. The FY 2024 request also includes funding for NEPA related activities.

### Highlights of the FY 2024Budget Request

The Program Direction Request reflects a new proposed Control Point within SCEP for increased staffing to support the new and expanded program activities requested in FY 2024.

**Program Direction**
**Activities and Explanation of Changes**
**($K)**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Program Direction $22,000** | **$33,220** | **+$11,220** |
| Salaries and Benefits $14,500 | $18,900 | +$4,400 |
| • The Request supports 75 FTEs that provide executive management, programmatic oversight, and analysis for the effective implementation of the program. Funding also provides support for S3 operations. | • The Request will support approximately 89 FTEs that provide executive management, programmatic oversight, and analysis for the effective implementation of the program. | • The increase covers 14 additional FTEs and a planned 5.2% pay raise and associated costs for the planned FTE level. |
| Travel and Training $525 | $1,320 | +$795 |
| • Travel includes transportation, subsistence, and incidental expenses to effectively facilitate its mission. | • Travel includes transportation, subsistence, and incidental expenses to effectively facilitate its mission. | • The increase in travel funding reflects SCEP's anticipated travel requirements at the FY 2024 staffing and programmatic activities. |
| Support Services $2,300 | $5,000 | +$2,700 |
| • Support Services includes contractor support directed by the Federal staff to perform administrative tasks and provide analysis to management. Support Services may include support for post-doctoral fellows. | • Support Services includes contractor support directed by the Federal staff to perform administrative tasks and provide analysis to management. Support Services may include support for post-doctoral fellows. Also includes operation and maintenance costs associated with SCEP's IT modernization project. | • The increase provides funding for contract support to execute SCEP priorities. This includes funding for information technology systems development to ensure SCEP can collect and analyze data on its investments to make sure every dollar is contributing to its mission. Also included is the anticipated increase in labor rates for support service contracts. |
| Other Related Expenses $4,675 | $8,000 | +$3,325 |
| • Other Related Expenses includes EITS desktop services and WCF expense, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes equipment upgrades and replacements, commercial credit card purchases using the simplified acquisition procedures to the maximum extent possible, security clearance expenses and other needs | • Other Related Expenses includes EITS desktop services and WCF expense, such as rent, supplies, copying, graphics, mail, printing, and telephones. It also includes equipment upgrades and replacements, commercial credit card purchases using the simplified acquisition procedures to the maximum extent possible, security clearance expenses, and other needs. | • Increase reflects expenses associated with SCEPs FTE projection of 89. The increase also includes additional funding to ensure that all SCEP staff have the necessary information technology tools to work effectively whether at a DOE facility or remote location. |

**Infrastructure Investment and Jobs Act**

EERE was appropriated funds through the Infrastructure Investment and Jobs Act (IIJA) (P.L. 117-58), which includes activities realigned to the new Office of State and Community Energy Programs (SCEP). In FY 2022, approximately $5 billion of activities related to weatherization assistance, buildings, advanced manufacturing (pilot program grants), energy efficiency (conservation block grants), and state energy program are being managed by the new SCEP office. In FY 2023 and FY 2024, advanced appropriations will continue to fund activities related to buildings (energy efficiency and renewable energy improvements at public school facilities).

**($K)**

| | FY 2022 IIJA Appropriation | FY 2023 IIJA Appropriation | FY 2024 IIJA Appropriation | Managing Organization |
|---|---|---|---|---|
| **State and Community Energy Programs** | | | | |
| **Weatherization Assistance Program** | 3,500,000 | 0 | 0 | SCEP |
| **Buildings** | | | | |
| Building, Training, and Assessment Centers | 10,000 | 0 | 0 | SCEP |
| Career Skills Training | 10,000 | 0 | 0 | SCEP |
| Energy Efficiency Revolving Loan Fund Capitalization Grants | 250,000 | 0 | 0 | SCEP |
| Energy Auditor Training Program | 40,000 | 0 | 0 | SCEP |
| Energy Efficiency & Renewable Energy Improvements at Public School Facilities | 100,000 | 100,000 | 100,000 | SCEP |
| **Advanced Manufacturing** | | | | |
| Energy Efficiency Materials Pilot Program Grants | 50,000 | 0 | 0 | SCEP |
| **Energy Efficiency** | | | | |
| Energy Efficiency and Conservation Block Grant Program | 550,000 | 0 | 0 | SCEP |
| **State Energy Program** | 500,000 | 0 | 0 | SCEP |
| **Total, State and Community Energy Programs** | **5,010,000** | **100,000** | **100,000** | |

**Inflation Reduction Act (IRA) Investments**

Office of Energy Efficiency and Renewable Energy was appropriated funds through the Inflation Reduction Act of 2022 (IRA). Not all IRA activities will be managed by the organization to which funds were appropriated. The activities that State and Community Energy Programs will manage are itemized below.

| Appropriated Funding Organization | FY 2022 IRA Funding | Managing Organization |
|---|---|---|
| **Energy Efficiency and Renewable Energy** | | |
| Home Energy Performance-Based, Whole-House Rebates – Sec. 50121 | 4,300,000 | SCEP |
| High-Efficiency Electric Home Rebate Program, State Energy Office Grants – Sec 50122(a)(1)(A) | 4,275,000 | SCEP |
| High-Efficiency Electric Home Rebate Program, Indian Tribes Grants – Sec. 50122 (a)(1)(B) | 225,000 | SCEP |
| State-Based Home Efficiency Contractor Training Grants – Sec. 50123 | 200,000 | SCEP |
| Assistance for Latest Building Energy Code Adoption – Sec. 50131(a)(1) | 330,000 | SCEP |
| Assistance for Zero Energy Code Adoption – Sec. 50131(a)(2) | 670,000 | SCEP |
| **Total, SCEP IRA Coordination** | **10,000,000** | |

- **Home Energy Performance-Based, Whole House Rebates:** Grants will assist State energy offices in the implementation of a rebate program that encourages whole-house energy saving home energy retrofits by homeowners and other eligible entities.
- **High-Efficiency Electric Home Rebate Program, State Energy Office Grants:** Grants will be made to State energy offices to establish a high-efficiency electric home rebate program under which rebates shall be provided to eligible entities for qualified electrification projects.
- **High-Efficiency Electric Home Rebate Program, Indian Tribes Grants:** Grants will be made to Indian Tribes to establish a high-efficiency electric home rebate program under which rebates shall be provided to eligible entities for qualified electrification projects.
- **State-Based Home Efficiency Contractor Training Grants:** Provides financial assistance to States to develop and implement training and education to contractors involved in the installation of home energy efficiency and electrification improvements.
- **Assistance for Latest Building Energy Code Adoption:** Assists States and units of local government to upgrade their residential and commercial building energy codes.
- **Assistance for Zero Energy Code Adoption:** Assists States and units of local government to adopt “zero” building energy codes for residential and commercial buildings.

# DEPARTMENT OF ENERGY
## Funding by Site
Office of State and Community Programs - FY 2024
(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Golden Field Office** | | | |
| Training and Technical Assistance (SCEP) | 0 | 0 | 3,800 |
| WAP Readiness (SCEP) | 0 | 0 | 51,783 |
| Local Government Energy Program (SCEP) | 0 | 0 | 65,000 |
| Energy Future Grants (SCEP) | 0 | 0 | 40,000 |
| State Energy Program Grants (SCEP) | 0 | 0 | 12,100 |
| Energy Burden Reduction Pilot (SCEP) | 0 | 0 | 50,000 |
| IWG (SCEP) | 0 | 0 | 5,000 |
| **Total Golden Field Office** | **0** | **0** | **227,683** |
| **Lawrence Berkeley National Laboratory** | | | |
| Training and Technical Assistance (SCEP) | 0 | 0 | 300 |
| State Energy Program Grants (SCEP) | 0 | 0 | 1,000 |
| **Total Lawrence Berkeley National Laboratory** | **0** | **0** | **1,300** |
| **National Renewable Energy Laboratory** | | | |
| Training and Technical Assistance (SCEP) | 0 | 0 | 1,700 |
| State Energy Program Grants (SCEP) | 0 | 0 | 800 |
| **Total National Renewable Energy Laboratory** | **0** | **0** | **2,500** |
| **Oak Ridge Institute for Science & Education** | | | |
| Training and Technical Assistance (SCEP) | 0 | 0 | 500 |
| State Energy Program Grants (SCEP) | 0 | 0 | 1,000 |
| **Total Oak Ridge Institute for Science & Education** | **0** | **0** | **1,500** |
| **Oak Ridge National Laboratory** | | | |
| Training and Technical Assistance (SCEP) | 0 | 0 | 1,800 |
| State Energy Program Grants (SCEP) | 0 | 0 | 300 |
| **Total Oak Ridge National Laboratory** | **0** | **0** | **2,100** |
| **Pacific Northwest National Laboratory** | | | |
| State Energy Program Grants (SCEP) | 0 | 0 | 400 |
| **Total Pacific Northwest National Laboratory** | **0** | **0** | **400** |
| **Washington Headquarters** | | | |
| Training and Technical Assistance (SCEP) | 0 | 0 | 1,900 |
| State Energy Program Grants (SCEP) | 0 | 0 | 2,900 |
| Program Direction - SCEP | 0 | 0 | 33,220 |
| **Total Washington Headquarters** | **0** | **0** | **38,020** |
| **Grants** | | | |
| Weatherization Assistance Program (SCEP) | 0 | 0 | 375,000 |
| State Energy Program Grants (SCEP) | 0 | 0 | 56,500 |
| **Total Grants** | **0** | **0** | **431,500** |
| **Total Funding by Site for Office of State and Community Programs** | **0** | **0** | **705,003** |

# Clean Energy Demonstrations

# Clean Energy Demonstrations

**Office of Clean Energy Demonstrations**
**Proposed Appropriation Language**

For Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other expenses necessary for clean energy demonstrations 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, $215,300,000, to remain available until expended: Provided, That of such amount, $45,300,000 shall be available until September 30, 2025, for program direction.

**Public Law Authorizations**
Public Law 95–91, "Department of Energy Organization Act", 1977
Public Law 106-554, "Consolidated Appropriations Act, 2001"
Public Law 107-50, "Small Business Technology Transfer Program Reauthorization Act of 2001"
Public Law 109-58, "Energy Policy Act of 2005"
Public Law 110-140,"Energy Independence and Security Act of 2007"
Public Law 112-81, "National Defense Authorization Act for Fiscal Year 2012"
Public Law 116-260, "Energy Act of 2020"
Public Law 117-58, "Infrastructure Investment and Jobs Act of 2021"
Public Law 117-169, "Inflation Reduction Act," 2022

## Office of Clean Energy Demonstrations

**($K)**

| FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|
| 20,000 | 89,000 | 215,300 |

**Introduction:**
The mission of the Office of Clean Energy Demonstrations (OCED) is to deliver commercial-scale energy demonstration projects in partnership with the private sector to accelerate market adoption, deployment, and the equitable transition to a modernized and competitive clean energy economy. OCED does this by funding financially viable first of a kind demonstrations that produce goods for sale on commercial markets and achieve sustained operations. OCED targets its investments to help spur clean energy investments this decade to set the Nation on a course to a modernized and upgraded energy system that leads the world in an advanced clean energy infrastructure.

Through resources appropriated by the Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA), OCED currently funds demonstration projects in clean hydrogen, carbon management, advanced nuclear reactors, long-duration energy storage, industrial decarbonization, and renewables, including in rural areas, and on current and former mine lands. OCED programs demonstrate clean energy solutions at or near full- and commercial-scale, in real-world operational environments, and in partnership with the private sector and local communities.

OCED programs and funding are focused predominantly on these demonstration-to-deployment objectives, as differentiated from research and development. The majority of OCED's demonstrations are intended to transition into sustained, long-term operations following the project period of performance, building confidence among investors, financiers, industry, customers, and communities in the value, viability, and overall performance of the solution.

Funding decisions are made to support scalable outcomes that lead to commercialization and deployment, while focusing on greenhouse gas emission reductions, job creation, energy and environmental justice, and energy transition communities. The following principles guide OCED's efforts:

- **Carbon-Free and Equitable Energy.** Help enable carbon-free electricity and a net-zero carbon emission economy for the entire Nation.
- **Follow-on Investments.** Unlock clean energy follow-on investment from a diversity of private sector sources of capital.
- **De-Risk Technology and other Project Risks.** Maintain a risk-based, balanced, and defensible portfolio of investments.
- **Center of Excellence.** Serve as the primary DOE office to deliver full-scale clean energy demonstration projects and project management oversight excellence.
- **Engagement & Outreach.** Leverage private sector and broader energy ecosystem to inform OCED and DOE technology commercialization efforts.

**Key Accomplishments and Plans:**
Since December 2021 when OCED was established as part of the IIJA, OCED has hired staff, stood up an organization, and achieved the following select accomplishments:

- **Advanced Programmatic Goals**: In FY 2022 and early FY 2023, OCED assumed oversight of two Advanced Reactor Demonstration Projects (ARDP) in the execution phase, developed Funding Opportunity Announcements for Carbon Capture, Hydrogen Hubs, Long-Duration Energy Storage, and Regional Direct Air Capture Hubs demonstrations, and developed an initial gated, go/no-go approach to project management. During the rest of FY 2023 and in early FY 2024, OCED will launch additional funding opportunities and make awards. FY 2024 funding would allow OCED to continue its mission to help unlock private investment and set the Nation on a course to a modernized and upgraded energy system that leads the world in an advanced clean energy infrastructure.

- **Developed Organizational Principals**: OCED defined its policies, processes, and procedures to enable its mission as a project management oversight center of excellence. This work will be finalized in FY 2023 and enable OCED to deliver on its mission in a transparent and consistent manner.

- **Active Engagement with Interested Groups:** OCED developed a communications plan, stakeholder engagement framework, and foundational documents needed to communicate OCED's mission, vision, and goals. OCED also met with key industry leaders to better understand private sector risks. In FY 2023, OCED will re-launch its public-facing website, and adopt a customer relationship management software solution to enable coordination and communication on OCED's portfolio to a diverse group of stakeholders.

**Highlights of the FY 2024 Request**

The FY 2024 Budget requests $215,300,000 in annual appropriations to invest in solutions to achieve decarbonization goals through unlocking private capital. In developing this Request, OCED took into consideration that in FY 2024, OCED will be in its third year of operation, with FY 2022 focused on standing-up the organization; FY 2023 issuing initial awards; and FY 2024 focused on initial execution and continuing to issue awards.

**Clean Energy Demonstrations** ($170,000,000): This activity represents funding to demonstrate clean energy solutions at or near full- and commercial-scale, in realistic operational environments, and in partnership with the private sector and local communities.

- **Energy Demonstrations** ($160,000,000): OCED will fund up to 5 demonstration projects to reduce carbon and other emissions in the industrial sector while maximizing benefits to underserved and overburdened host communities. This effort will prioritize projects that enable significant decarbonization of industrial facilities or processes and/or enable the production of low-carbon products and products such as steel, cement, glass, and fuels. This effort will complement demonstrations funded under Section 41008 of the IIJA and Section 50161 of the IRA. The industrial sector is complex and presents unique challenges for decarbonization due to many diverse subsectors, low rates of infrastructure turnover, and energy-intensive processes. This effort builds on existing industrial decarbonization programs in coordination with the DOE Industrial Decarbonization Joint Strategy Team to make additional progress.

- **Demonstration Planning and Analysis** ($10,000,000): Funding will support oversight of OCED demonstration projects, such as an independent engineering contract that will assist OCED oversight of project engineering, construction, and operations; as well as project management data systems and analysis tools necessary to track cost, schedule, and other performance information.

- **Advanced Reactor Demonstrations Program** ($0): No funding is requested in FY 2024 for the ARDP demonstration projects managed by OCED, as funding is not required at this time. There remains a gap of approximately $400 million in the ARDP program, which will be updated as part of a rebaseline exercise in FY 2023. This information is provided per the FY 2023 Consolidated Appropriations Act.

**Program Direction** ($45,300,000): Program direction funds federal salaries, training, travel, Working Capital Fund expenses, associated support services contracts, and other administrative expenses.

**Office of Clean Energy Demonstrations**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Clean Energy Demonstrations** | | | | | |
| Clean Energy Demonstrations | 12,000 | 64,000 | 170,000 | +106,000 | +166% |
| Program Direction | 8,000 | 25,000 | 45,300 | +20,300 | +81% |
| **Total, Office of Clean Energy Demonstrations** | **20,000** | **89,000** | **215,300** | **+126,300** | **+142%** |

**SBIR/STTR:**
FY 2022 Enacted: SBIR $0; STTR $0
FY 2023 Enacted: SBIR $0; STTR $0
FY 2024 Request: SBIR $0; STTR $0

**Office of Clean Energy Demonstrations**
**Funding ($K)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| **Clean Energy Demonstrations**<br>Additional funding for up to five demonstration projects to reduce carbon and other emissions in the industrial sector while maximizing benefits to underserved and overburdened host communities. | **+$106,000** |
| **Program Direction**<br>Additional funding for costs associated with an additional 65 FTE over the FY 2023 Enacted and transitioning additional federal expenses into the annual appropriations. | **+$20,300** |
| **Total, Office of Clean Energy Demonstrations** | **+$126,300** |

**Description**

The Clean Energy Demonstrations program represents OCED's support for demonstrations. Each year, OCED will issue at least one commercial-scale demonstration competition funded from this program, focused on a crosscutting clean energy or industrial decarbonization investment opportunity. OCED employs a staged approach to fund demonstrations by dividing project scope into independently useful segments or phases, each with defined milestones, schedule, and costs that connect directly to the goals, cost estimate, and schedule for the overall project. Clean Energy Demonstrations also provides the necessary resources for OCED to evaluate the environmental and related social and economic effects of demonstrations currently under development, including those funded through the IIJA and IRA.

Energy Demonstrations

This activity supports OCED's annual competition for demonstrations. Each year OCED will launch at least one new competition associated with a cross-cutting clean energy or industrial decarbonization investment opportunity. OCED chooses topics that have the greatest potential for both market adoption and impact. Award decisions are made with an aim to accelerate and prove the design, construction, and operation of high-impact demonstration projects, at commercial-scale.

*FY 2024 Competition: Industrial Emissions Reduction Demonstrations:*

OCED will fund up to 5 demonstration projects to reduce carbon and other emissions in the industrial sector while maximizing benefits to underserved and overburdened host communities. This effort will prioritize projects that enable significant decarbonization of industrial facilities or processes and/or production of low-carbon products and products such as steel, cement, glass, and fuels.

To achieve the greatest emissions reduction possible, OCED may fund projects that integrate multiple solutions for emissions reduction and decarbonization. Potential areas of interest include projects that demonstrate smart manufacturing principles, energy efficiency, carbon management, alternative low-carbon feedstocks or fuels, circular economies through reuse of waste streams in other industries, and electrification of industrial processes.

Demonstration Planning and Analysis

Funding will support oversight of OCED demonstration projects, such as an independent engineering contract that will assist OCED oversight of project engineering, construction, and operations; as well as project management data systems and analysis tools necessary to track cost, schedule, and other performance information. Funding will also be used to support other DOE offices, particularly the Technology Commercialization Fund.

**Departmental Crosscutting Activities:**

OCED's Clean Energy Demonstrations program supports the following DOE-wide cross-cutting investments:

- **Industrial Decarbonization** ($160,000,000): All funding for the FY 2024 Industrial Emissions Demonstrations Competition described above supports the Industrial Decarbonization crosscut.

**Activities and Explanation of Changes**

(dollars in thousands)

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Clean Energy Demonstrations** **$64,000,000** | **$170,000,000** | **+$106,000,000** |
| Energy Demonstrations $50,000,000 | $160,000,000 | +$110,000,000 |
| • Initiate a new competition to support demonstrations that integrate renewable and distributed energy systems. The goal of this investment will be to de-risk solutions needed to manage variable generation; control flexible loads; and integrate energy storage electric vehicle charging, and other facilities into the U.S. transmission and distribution grids. | • Support a new competition to award up to five projects to demonstrate solutions that reduce carbon and other emissions in the industrial sector while maximizing benefits to underserved and overburdened host communities. | • Increased in funding to allow OCED to support the proposed scope of the FY 2024 industrial decarbonization demonstration competition. |
| Demonstration Planning and Analysis $14,000,000 | $10,000,000 | -$4,000,000 |
| • Invest in filling knowledge gaps with the private sector to understand their perspective on achieving market "lift off" for clean energy demonstration technologies.<br>• Fund oversight of OCED demonstration projects, such as an independent engineering contract that will assist OCED oversight of project engineering, construction, and operations.<br>• Initiate support for project management data systems and analysis tools necessary to track cost, schedule, and other performance information. | • Continue investment in in independent engineering and project management data systems and analysis tools needed to support project management oversight. | • Decreased funding will not negatively impact support for FY 2024 Demonstration Planning and Analysis activities. |

## Clean Energy Demonstrations
## Program Direction

**Overview**

Program Direction enables OCED to maintain and support a world-class Federal workforce that supports its mission. The FY 2024 Request provides resources for program and project management, oversight activities, contract administration, workforce management, IT support, and Headquarters facilities and infrastructure.

**Highlights of the FY 2024 Budget Request**

The FY 2024 OCED Program Direction Budget Request will:

- Support 140 FTE to continue to implement development, execution, and oversight of cross-cutting OCED activities and investments not directly tied to IIJA and IRA provisions.
- Support strengthening OCED's overall performance, organization, budget, operations, human capital, and project management as the office continues to grow.
- Support the development and issuance of competitive solicitations for demonstration(s) of commercial-scale clean energy and/or industrial decarbonization solutions.
- Support project management activities and coordination with other DOE offices on the execution and management of demonstration projects.

**Salaries and Benefits**: The Request assumes a 5.2 percent federal staff pay increase and annualization of the 4.6 percent increase from 2023 to support an estimated 140 FTE.

**Travel:** The Request provides for travel for project oversight, outreach, and information exchanges with stakeholders including industry and energy communities.

**Support Services**: The Request includes funds for support service contractors to help OCED complete its mission, including providing administrative support.

**Other Related Expenses**: The Request includes funding for OCED's contribution to the DOE Working Capital Fund, information technology services, staff training, and other investments for business operations.

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Program Direction** **$25,000,000** | **$45,300,000** | **+$20,300,000** |
| Salaries and Benefits $15,259,000 | $32,000,000 | +$16,741,000 |
| • Funding supports salaries and benefits for 75 FTEs to provide project management support, competitive solicitation development support, and financial control.<br>• The Request also will support costs associated with Federal employee benefits, including health insurance costs and retirement allocations in FERS. | • Funding supports salaries and benefits for 140 FTEs to provide project management support, competitive solicitation development support, and financial control. | • Increased funding to meet the anticipated staffing needs as OCED transitions program direction costs from IIJA/IRA into annual appropriations.<br>• Increase also accounts for a 5.2 percent increase in federal salaries and the annualization of the CY 2023 4.6 percent pay increase. |
| Travel $1,000,000 | $2,300,000 | +$1,300,000 |
| • Funding will support staff travel for onsite solicitation process requirements and project management support as well as outreach to stakeholders including those in traditionally disadvantaged including energy communities and industry. This includes conducting information exchanges and administration during competitive cycle and travel related to the implementation and award of projects from the FY 2023 solicitation and ongoing awards. | • Funding will support staff travel for onsite solicitation process requirements and project management support as well as outreach to stakeholders including those in traditionally disadvantaged energy communities and industry. This includes conducting information exchanges and administration during competitive cycle and travel related to the implementation and award of projects from the FY 2024 solicitation and ongoing awards. | • Additional funding reflects anticipated need as part of OCED duties, an increase in OCED staffing, and transitioning additional staff previously paid from IIJA/IRA into annual appropriations. |
| Support Services $6,000,000 | $7,000,000 | +$1,000,000 |
| • Funding for support services to provide technical and administrative support during project solicitation cycle, and during office management of project implementation.<br>• Contract support for data gathering and analysis, developing communications and marketing tools and content, and conducting other required data | • Funding for support services to provide technical and administrative support during project solicitation cycle, and during office management of project implementation.<br>• Contract support for data gathering and analysis, developing communications and marketing tools and content, and conducting | • Additional funding reflects need for support services in launching and managing multiple years of project solicitation cycles and active project management. |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| collection, verification, validation, and reporting requirements. | other required data collection, verification, validation, and reporting requirements. | |
| Other Related Services $2,741,000 | $4,000,000 | +$1,259,000 |
| • Funding for Energy IT Services, Working Capital Fund, training, and other services. | • Funding for Energy IT Services, Working Capital Fund, training, and other services. | • Additional funding reflects costs associated with up to 140 FTE. |

**Program Direction**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted |
|---|---|---|---|---|
| **Program Direction** | | | | |
| **Total Program Direction** | | | | |
| Salaries and Benefits | 4,710 | 15,259 | 32,000 | +16,741 |
| Travel | - | 1,000 | 2,300 | +1,300 |
| Support Services | 1,005 | 6,000 | 7,000 | +1,000 |
| Other Related Expenses | 2,285 | 2,741 | 4,000 | +1,259 |
| **Total, Program Direction** | **8,000** | **25,000** | **45,300** | **+20,300** |

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted |
|---|---|---|---|---|
| **Federal FTEs** | **29** | **75** | **140** | **+65** |
| | | | | |
| **Support Services** | | | | |
| Technical Support | 283 | 3,000 | 3,000 | - |
| Management Support | 722 | 3,000 | 4,000 | +1,000 |
| **Total, Support Services** | **1,005** | **6,000** | **7,000** | **+1,000** |
| | | | | |
| **Other Related Expenses** | | | | |
| Other Services | 1,985 | 1,741 | 2,000 | +259 |
| Working Capital Fund | 300 | 1,000 | 2,000 | +1,000 |
| **Total, Other Related Expenses** | **2,285** | **2,741** | **4,000** | **+1,259** |

**Office of Clean Energy Demonstrations**
**Research and Development**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted |
|---|---|---|---|---|
| Basic | 0 | 0 | 0 | 0 |
| Applied | 0 | 0 | 0 | 0 |
| Development | 0 | 0 | 0 | 0 |
| Subtotal, R&D | 0 | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 | 0 |
| Construction | 0 | 0 | 0 | 0 |
| **Total, R&D** | **0** | **0** | **0** | **0** |

**Infrastructure Investment and Jobs Act (IIJA) Investments**

OCED was appropriated funds through the Infrastructure Investment and Jobs Act (IIJA) (P.L. 117-58). Not all IIJA activities will be managed by the organization to which funds were appropriated. Activities that OCED will manage, including those appropriated to other organizations, are itemized below.

| Appropriated Funding Organization | FY 2022 IIJA Funding | FY 2023 IIJA Funding | FY 2024 IIJA Funding | Managing Organization |
|---|---|---|---|---|
| **Clean Energy Demonstrations (OCED)** | | | | |
| Advanced Reactor Demonstration Program | 677,000 | 600,000 | 600,000 | OCED |
| Carbon Capture Demonstration Projects Program | 937,000 | 500,000 | 500,000 | OCED |
| Carbon Capture Large-Scale Pilot Projects | 387,000 | 200,000 | 200,000 | OCED |
| Current and Former Mine Land Clean Energy Demonstrations | 100,000 | 100,000 | 100,000 | OCED |
| Electric Grid Upgrade Program<br>- Ensuring Reliability & Resiliency | 1,000,000 | 1,000,000 | 1,000,000 | GDO |
| Energy Improvement in Rural and Remote Areas | 200,000 | 200,000 | 200,000 | OCED |
| Energy Storage Demonstration Pilot Grant Program | 88,750 | 88,750 | 88,750 | OCED |
| Industrial Emissions Demonstration Projects | 100,000 | 100,000 | 100,000 | OCED |
| Long Duration Energy Storage Demonstration & Joint Initiative | 37,500 | 37,500 | 37,500 | OCED |
| Regional Clean Hydrogen Hubs | 1,600,000 | 1,600,000 | 1,600,000 | OCED |
| **Total, OCED** | **5,127,250** | **4,426,250** | **4,476,250** | |
| | | | | |
| **Fossil Energy and Carbon Management (FECM)** | | | | |
| Regional Direct Air Capture (DAC) Hubs | 700,000 | 700,000 | 700,000 | OCED |
| **Total, FECM** | **700,000** | **700,000** | **700,000** | |
| | | | | |
| **Total, OCED IIJA Coordination** | **5,827,250** | **5,126,250** | **5,176,250** | |

- **Advanced Reactor Demonstration Program:** The goal of this investment is to support two major demonstrations of advanced nuclear reactors for commercial power generation. FY 2024 advanced appropriations and unobligated carryover of IIJA balances is for continued development and eventual construction of two first-of-a-kind advanced reactors to be licensed for operation in the 2028 timeframe. FY 2024 activities will focus on final design completion, engineering and testing of reactor components and systems, Construction Permit Application reviews with the Nuclear Regulatory Commission, developing Operating License Application content, finalizing major component and system procurements, and performing construction reviews and conducting pre-construction activities at the demonstration sites.

- **Carbon Capture Demonstration Projects Program:** The goal of this investment is to establish a carbon capture technology program for the development of six facilities to demonstrate transformational technologies that will significantly improve the efficiency, effectiveness, costs, emissions reductions, and environmental performance of coal and natural gas use, including in manufacturing and industrial facilities. FY 2024 advanced appropriations and unobligated carryover of IIJA balances will support initial award selections from a previously released funding announcement.

- **Carbon Capture Large-Scale Pilot Projects:** The goal of this investment is to support the development of transformational technologies that will significantly improve the efficiency, effectiveness, costs, emissions reductions, and environmental performance of coal and natural gas use, including in manufacturing and industrial facilities. FY 2024 advanced appropriations and unobligated carryover of IIJA balances will support

pilot projects, selected through a funding opportunity announcement, to de-risk carbon capture on actual exhaust from industrial and power sectors.

- **Current and Former Mine Land Clean Energy Demos**: The goal of this investment is to demonstrate the technical and economic viability of conducting clean energy projects on current and former mine lands. OCED will support up to five clean energy projects in geographically diverse regions, at least two of which shall be solar projects. OCED will provide initial funding for these demonstrations in FY 2024 from amounts appropriated in FY 2022 and advanced appropriations in FY 2023 and FY 2024.

- **Electric Grid Upgrade Program - Ensuring Reliability & Resiliency**: The goal of this investment is to provide federal financial assistance to demonstrate innovative approaches to transmission, storage, and distribution infrastructure to harden and enhance resilience and reliability; and to demonstrate novel approaches to enhance regional grid resilience. FY 2024 advanced appropriations and unobligated carryover of IIJA balances will support competitive grants, implemented through States by public and rural electric cooperative entities on a cost-shared basis. OCED and the DOE Grid Deployment Office (GDO) have agreed GDO will perform much of the work and OCED will provide administrative and project management responsibilities.

- **Energy Improvement in Rural and Remote Areas**: The goal of this investment is to provide financial assistance to improve, in rural or remote areas of the U.S., the resilience, safety, reliability, and availability of energy; and environmental protection from adverse impacts of energy generation. OCED will provide initial funding for these demonstrations in FY 2024 from amounts appropriated in FY 2022 and advanced appropriations in FY 2023 and FY 2024.

- **Energy Storage Demonstration Pilot Grant Program:** The goal of this investment is to support first-of-a-kind energy storage system demonstration projects. FY 2024 advanced appropriations and unobligated carryover of IIJA balances will be used to support awards selected from competitive funding opportunity announcements.

- **Industrial Emissions Demonstration Projects:** The goal of this investment is to support demonstration projects that test and validate technologies that reduce industrial emissions. FY 2024 advanced appropriations and unobligated carryover of IIJA balances will support short-duration technical engineering and design studies to inform subsequent upgrade and retrofit demonstration projects as well as first-of-a-kind industrial demonstrations in response to future funding opportunity announcements.

- **Long Duration Demonstration Joint Initiative:** The goal of this investment is to support the demonstration of various long-duration energy storage technologies with regional diversity. FY 2024 advanced appropriations and unobligated carryover of IIJA balances will be used to support awards selected from competitive funding opportunities.

- **Regional Clean Hydrogen Hubs:** The goal of this investment is to support the development of 6-10 regional clean hydrogen hubs that demonstrably aid the achievement of the clean hydrogen production standards; demonstrate the production, processing, delivery, storage, and end use of clean hydrogen; and can be developed into a national clean hydrogen network to facilitate a clean hydrogen economy. FY 2024 advanced appropriations and unobligated carryover of IIJA balances will support initial awards made in this program as the result of a competitive funding opportunity announcement in their phase 1 activities (detailed project planning).

- **Regional DAC Hubs:** The goal of this investment is to provide federal financial assistance to develop four domestic regional direct air capture hubs, each of which will demonstrate a direct air capture technology or suite of technologies at commercial scale with the potential for capturing at least 1 million metric tons of $CO_2$ annually from the atmosphere and storing that $CO_2$ permanently in a geologic formation or through its conversion into products. FY 2024 activities will focus on supporting awards selected from previous

competitive funding opportunity announcements. OCED will manage the program and appropriated funds for DAC Hubs in partnership with the Office of Fossil Energy and Carbon Management.

**Inflation Reduction Act (IRA) Investments**

OCED was appropriated funds through the Inflation Reduction Act of 2022 (IRA).

**($K)**

| | FY 2022 |
|---|---|
| **Total, OCED** | **5,812,000** |
| Advanced Industrial Facilities Deployment Program | 5,512,000 |
| Administrative Expenses | 300,000 |

- **Advanced Industrial Facilities Deployment Program:** The goal of this program is to catalyze high-impact, large-scale, transformational advanced industrial facilities to reduce greenhouse gas (GHG) emissions in energy-intensive industrial subsectors. OCED will support large-scale overhauls for existing facilities, common technologies across multiple facilities, or full facility builds that tie to or replace existing energy-intensive industrial facilities as well as upgrades and retrofits that target decarbonization within a unit operation or process line at an existing industrial facility. In FY 2024, OCED will make initial awards for this program.

- **Administrative Expenses:** The IRA provided $300 million in funding for administrative expenses associated with the execution of the Advanced Industrial Facilities Deployment Program. OCED will use these funds to support project management oversight activities associated within the scope of its IRA funds.

**DEPARTMENT OF ENERGY**

**Funding by Site**

TAS_2297 - Office of Clean Energy Demonstrations (OCED) - FY 2024

(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Washington Headquarters** | | | |
| Clean Energy Demonstrations | 12,000 | 14,000 | 10,000 |
| Program Direction - OCED | 8,000 | 25,000 | 45,300 |
| **Total Washington Headquarters** | **20,000** | **39,000** | **55,300** |
| **Undesignated LPI** | | | |
| Clean Energy Demonstrations | 0 | 50,000 | 160,000 |
| **Total Undesignated LPI** | **0** | **50,000** | **160,000** |
| **Total Funding by Site for TAS_2297 - Office of Clean Energy Demonstrations (OCED)** | **20,000** | **89,000** | **215,300** |

# Indian Energy Policy and Programs

# Indian Energy Policy and Programs

## Office of Indian Energy
## ($K)

| FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|
| $58,000 | $75,000 | $110,050 |

### Overview

The Office of Indian Energy Policy and Program's (Office of Indian Energy, or IE) financial and technical assistance are beneficial to: promoting tribal energy development, efficiency, and use; reducing or stabilize energy costs; enhancing and strengthening tribal energy and economic infrastructure; and bringing electrical power and service to Indian land and homes -- with the ancillary benefit of creating jobs in American Indian and Alaska Native communities. IE achieves its mission through financial assistance, technical assistance, and education and outreach. This assistance is intended to overcome barriers to energy development, increase energy reliability and resiliency, and electrify Indian lands and homes.

Financial Assistance provides funding for IE to support two multi-year initiatives started in FY 2022: 1) transition all of the nation's Tribal Colleges and Universities to renewable energy; and 2) electrify the roughly 30,000 tribal homes that currently lack electricity. Both efforts include supporting a substantial interagency coordinated tribal energy job training component. DOE will continue to work together with US Department of Agriculture (USDA), the Department of the Interior (DOI), states, Indian tribes, and local utilities to ensure that resources are properly aligned, the right mix of loans, grants, and technical assistance is deployed, and the objectives are achieved as cost-effectively as possible, while fully respecting tribal sovereignty and self-determination. The FY 2024 Budget also provides funding to expand its current efforts for the transition of Indian Country to clean energy, including building capacity within tribes and tribal organizations.

Since 2010, DOE's Office of Indian Energy has invested over $120 million in more than 210 tribal energy projects, leverage by over $93 million in recipient cost share. Seventy-six percent (over $93 million) has been invested in hardware installation projects in more than 100 Native communities, projects having tangible impacts in these often underrepresented and disadvantaged communities, investments that will install nearly 46-megawatts (MW) of new generation and provide electricity to over 8,800 tribal buildings across the Nation, collectively save those communities more than $315 million over the life of the energy systems installed and save $3.38 for every DOE dollar invested.

In FY 2022, the Office of Indian Energy announced $9 million in funding to 13 American Indian and Alaska Native communities. These projects, selected for negotiation of award March 2022, are estimated to result in 3.3 MW of new clean energy generation and provide a combined $48.5 million in savings over the life of the systems to these communities. Building on these investments, in November 2022, the Office of Indian Energy issued two funding opportunities announcing the availability of $35 million, specifically geared toward deploying affordable, sustainable, and reliable energy for American Indian and Alaska Native communities. In February 2023, the Office of Indian Energy announced the availability of an additional $50 million for tribal clean energy projects.

Technical Assistance leverages DOE laboratories and partner organizations to facilitate expeditious energy deployment. By building internal technical capability, local support is being provided, and tribal capacity increased. Technical assistance is provided at no cost to address a specific technical or financial barrier or to assist with energy planning. Since 2010, over 420 technical assistance requests have been completed, providing technical, financial and energy planning expertise to bear on overcoming barriers to Indian energy development.

**Office of Indian Energy**
**Appropriation Level and Program Level Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Assistance Programs**[1] | | | | | |
| Financial Assistance | **48,171** | **56,000** | **82,868** | **26,868** | **48%** |
| Technical Assistance | **4,306** | **5,000** | **6,829** | **1,829** | **37%** |
| Total, Assistance Programs | **52,477** | **61,000** | **89,697** | **28,697** | **47%** |
| **Program Direction** | | | | | |
| Salaries and Benefits | **2,443** | **4,856** | **4,906** | **50** | **1%** |
| Travel | **134** | **265** | **265** | **0** | **0%** |
| Support Services | **2,534** | **5,576** | **11,879** | **6,303** | **113%** |
| Other Related Expenses | **412** | **3,303** | **3,303** | **0** | **0%** |
| **Total, Program Direction** | **5,523** | **14,000** | **20,353** | **6,353** | **45%** |
| **Total, Office of Indian Energy** | **58,000** | **75,000** | **110,050** | **35,050** | **46.7%** |
| **Federal FTEs** | **12** | **29** | **29** | **0** | **0%** |

[1] Formerly named Tribal Energy Program which was an EERE Program

**Outyear Funding**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| **Office of Indian Energy Policy and Program** | **110,050** | **113,000** | **115,000** | **118,000** | **120,000** |

## Major Outyear Priorities and Assumptions

In the FY 2012 Consolidated Appropriations Act (P.L. 112-74), Congress directed the Department to include a future-years energy program (FYEP) in subsequent requests that reflects the proposed appropriations for five years. This FYEP shows outyear funding for each account for FY 2025 - FY 2028. The outyear funding levels use the growth rates from and match the outyear account totals published in the FY 2024 President's Budget for both the 050 and non-050 accounts. Actual future budget request levels will be determined as part of the annual budget process.

FY 2024 Appropriation priorities include the following:

- Deployment grants to aid clean energy transition (tribal building energy efficiency measures, new clean generation, net-zero tribal college campuses);
- Capacity building and workforce development (student clean energy education, worker training, workforce transition, tribal leader capacity-building); and
- Policy analysis and support (state/tribal utility policy analysis, examination of the policy implications of new technologies, improving access to capital)

**Office of Indian Energy**
**Assistance Programs**

**Overview**

The Office of Indian Energy Policy and Programs serves all federally recognized Indian tribes, including Alaska Native Regional Corporations and Village Corporations, as well as 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, many Indian tribes spend a disproportionate amount of their income on energy (28.3% higher on average than the U.S. National median energy burden of 3% with some paying well over 4 times the national average) and a significant number, especially in Alaska, experience a severe energy burden (i.e., paying more than 10% of income on energy)[2], one in three American Indians and Alaska Natives (32%) live in poverty, which is nearly double the United States average (18%)[3], are nearly five times as likely to live in inadequate housing[4], and eight times more likely to live in overcrowded housing (16% versus 2% for the United States).[5]

In consultation with Tribal Leaders, Alaska Native Regional Corporations and other constituents, IE achieves its mission by: (1) promoting Indian energy development, efficiency, and use; (2) helping to reduce or stabilize the cost of electricity; (3) enhancing and strengthening tribal energy and economic infrastructure; and (4) electrifying Indian lands and homes. IE achieves its mission through financial assistance, technical assistance, and education and outreach.

Financial assistance, primarily through competitive grants to Indian tribes and other eligible tribal entities, supports the deployment of clean energy technology, infrastructure, efficiency, and electrification projects, reducing energy costs, increasing reliability and resiliency, and building human capacity within and among tribes.

In the area of technical assistance, IE is expanding its support through the use of local Subject Matter Experts (SME's) to assist American Indian and Alaska Native communities in developing energy projects and providing support for energy planning. In Alaska, this was implemented through an interagency agreement with the Denali Commission for local SME's.

Policy initiatives include coordination and collaboration with various sectors of government that are critical to investment, job creation, project development, and sustainability of energy systems throughout Indian Country, including the Indian Country Energy and Infrastructure Working Group (ICEIWG) and the White House Council on Native American Affairs (WHCNAA). ICEIWG advises the Office of Indian Energy Director and the Secretary of Energy on behalf of Indian tribes on their policy priorities. Policy analysts survey energy needs and energy resources on Indian lands, including available infrastructure support, and develop strategies for electrification and energy development and deployment. The Office participates in the WHCNAA and represents DOE on the Economic Development, Energy, and Infrastructure Committee to serve Tribes and Tribal communities by strengthening and developing federal programs and policies that support prosperous and resilient Tribal communities. As a government-wide effort, the WHCNAA and participating agencies are committed to supporting Tribal economic revitalization and energy transition. In support of this effort, in December 2022 the DOE and DOI entered into an MOU with the Navajo Nation[6] to partner on their transition away from coal. DOE, in coordination with the WHCNAA and with involvement from DOD and the General Services Administration (GSA), is launching a new initiative to increase federal agencies' use of Tribal energy through purchasing authority established by

[2] Megan Day, Ricardo Oliveira, Jon Weers, and Aaron Vimont. (2019) Low-Income Energy Affordability Data (LEAD) Tool Methodology. https://lead.openei.org/assets/docs/LEAD-Tool-Methodology.pdf.

[3] U.S. Census Bureau 2006-2010 American Community Survey. https://catalog.data.gov/dataset/2006-2010-american-community-survey-5-year-selected-population-tables.

[4] U.S. Housing and Urban Development (HUD) report (2017), Assessment of American Indian, Alaska Native, and Native Hawaiian Housing Needs. https://www.huduser.gov/portal/native_american_assessment/home.html.

[5] . U.S. Census Bureau 2013 American Housing Survey Data. https://www.census.gov/programs-surveys/ahs/data/2013/ahs-2013-summary-tables/national-summary-report-and-tables---ahs-2013.html

[6] https://www.facebook.com/watch/?v=867025754721364

statute.[7] Policy initiatives also include coordination and collaboration through a Memorandum of Understanding with the Department of the Interior on issues including electrification and energy development in Indian Country. The Office of Indian Energy is working across DOE through the Tribal Energy Steering Committee and in consultation with Tribes to implement the policies and directives of Executive Order 13175 and includes broader actions to improve the Department's DOE Tribal Consultation Process and DOE Order 144.1, "Department of Energy American Indian Tribal Government Interactions and Policy."

**Highlights and Major Changes in the FY 2024 Budget Request**

IE's FY 2024 budget priorities are continuing and expanding efforts towards (1) universal energy access for Indian country, (2) 100% renewable tribal colleges and universities; (3) transitioning Indian Country to clean energy; and (4) building capacity in Indian Country.

**Universal Energy Access for Indian Country**
Tens of thousands of U.S. citizens living on tribal land currently live in homes without electricity. Without electricity, these families lack access to what many consider basic necessities like wired lights, computers, and refrigeration. The Department of Energy, working through the Office of Indian Energy, seeks to remedy this inequitable situation and bring clean energy to every tribal home that wants it. IE will work in partnership with the USDA, DOI, states, Indian tribes, and local utilities to ensure that incentives are properly aligned, the right mix of loans, grants, and technical assistance is deployed, and that universal electrification is achieved as cost-effectively as possible, while fully respecting tribal sovereignty and self-determination.

**100% Renewable Tribal Colleges and Universities**
Tens of thousands of tribal students' study at the nation's 37 tribal colleges and universities each year[8] – seeking an education that will lead to meaningful work that will help their homelands and provide good paying jobs for their families. This initiative will combine the ingenuity of tribal students with the vast energy potential of tribal lands to bring renewable energy projects to every tribal college and university in the nation, with the ultimate goal of those schools being powered by 100% renewable energy and becoming net-zero. Students will be engaged in hands-on learning, with opportunities to help plan, design, and install renewable projects at their schools – helping to equip them to go on to good paying jobs in the renewable energy sector.

**Transitioning Indian Country to Clean Energy**
Building on past successes, IE will expand efforts to transition American Indian and Alaska Native communities to clean energy while building local economies, stabilizing or reducing energy costs, and building local capacity. Native communities pay some of the highest energy costs in the Country. By transitioning to clean energy Native Nations can tap into their vast energy resources, build local economies and internal capacity, and increase resiliency for future generations.

**Capacity Building**
Indian country has only just barely tapped into its vast energy resources. IE will work through technical assistance, education, and outreach to build skills and knowledge in Indian country to take advantage of these energy resources, provide good paying jobs, and power Indian country with renewable energy. IE will partner with tribal climate and energy education programs to train and build capacity of community members, college students, and professionals in Indian Country – and – expand IE's local network of technical assistance providers to improve effectiveness and efficiency and to target the needs of tribes using local experts.

[7] FACT SHEET: Biden-Harris Administration Announces New Actions to Support Indian Country and Native Communities Ahead of the Administration's Second Tribal Nations Summit | The White House

[8] American Council on Education Issue Brief (C. Nelson and J. Frye). *Tribal College and University Funding: Tribal Sovereignty at the Intersection of Federal, State, and Local Funding* (2016). https://www.acenet.edu/Documents/Tribal-College-and-University-Funding.pdf#:~:text=Tribal%20colleges%20and%20universities%20%28TCUs%29%20continue%20to%20provide,enroll%20nearly%2028%2C000%20full-%20and%20part-time%20students%20annually. Accessed March 25, 2022.

**Indian Energy**
**Assistance Programs**
**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Assistance Programs $61,000,000** | **$89,697,000** | **$28,697,000** |
| Financial Assistance $56,000,000 | $82,868,000 | $26,868,000 |
| Competitive grant program supporting energy development and electrification in Indian Country, and associated support contracts. | Competitive grant program supporting energy development and energy access in Indian Country, and associated support contracts. Financial Assistance: Maximize available funding for financial assistance awards and expand opportunities for historically underserved populations, including those who have not previously received funding from IE. | The increase in funding will maximize the amount of funding for awards, reduce cost share, and increase the number of awards to those not previously funded. |
| Technical Assistance $5,000,000 | $6,829,000 | $1,829,000 |
| Technical Assistance disseminates information to Indian Country through in-person and on-line training, internships, regional/national workshops, webinars, and printed guides and materials.<br><br>On-request technical assistance efforts provides high-level support for electrification and energy development in Indian Country.<br><br>Efforts will also focus on building partnerships and leveraging resources to maximize education, training, and technical assistance. | Technical Assistance: Enhancing technical assistance by expanding the network of local service providers to improve effectiveness and efficiency and to target local needs of tribes.<br><br>Education and Outreach: Expand STEM[9] education and internship programs, vocational/technical opportunities for non-traditional students, and increase outreach efforts to engage American Indian and Alaska Native communities and better educate the public on tribal energy potential, development challenges, and viable deployment solutions. | The increase in funding will enable the expansion of technical assistance to more tribes and increased local providers. |

[9] Science, technology, engineering, and mathematics (STEM) is a broad term used to group together these academic disciplines.

## Office of Indian Energy
## 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 outreach and capacity building efforts. Program direction also provides managerial support for the reporting, compliance, and other statutory responsibilities.

The FY 2024 Budget anticipates 29 federal staff: 10 FTEs in Washington, D.C., 5 FTEs in Anchorage, Alaska, and 14 FTEs in Golden, Colorado. The Washington, D.C. staff includes executive leadership, operations, and policy analysis. The Anchorage, Alaska staff provides education and technical assistance for the nearly 230 Alaska Native villages, over 200 Alaska Native Village Corporations, and 13 Alaska Regional Corporations. The Golden, Colorado staff provides management and oversight for approximately 80 existing financial assistance awards throughout the nation, while delivering technical assistance within the contiguous U.S. for nearly 340 Indian tribes and dozens of tribal and intertribal organizations.

**Highlights and Major Changes in the FY 2024 Budget Request**

- Energy access: Expand efforts towards achieving 100% universal energy access for Indian country and address the inequities to provide basic necessities like wired lights, computes, and refrigeration.
- Education and Outreach: Expand STEM education and internship programs to include vocational/technical opportunities for non-traditional students, as well as increasing stakeholder outreach efforts to better educate the public on tribal energy development challenges. Develop partnership with tribal climate and energy education programs to train and build capacity of community members, college students, and professionals in Indian Country;
- Increase outreach efforts to engage American Indian and Alaska Native communities and better educate the public on tribal energy potential, development challenges, and viable deployment solutions;
- Support project management and procurement across IE's portfolio of projects, including closing out completed financial assistance awards; and
- Maximize the efficient and effective use of additional resources to accomplish IE's new initiatives and core mission while reducing overall expenses and improving the delivery of IE's services in Indian Country.

**Program Direction Funding**
**($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Program Direction Summary** | | | | | |
| **Indian Energy Federal Salaries and Expenses** | | | | | |
| Salaries and Benefits | 2,443 | 4,856 | 4,906 | 50 | 1% |
| Travel | 134 | 265 | 265 | 0 | 0% |
| Support Services | 2,534 | 5,576 | 11,879 | 6,303 | 113% |
| Other Related Expenses | 412 | 3,303 | 3,303 | 0 | 0% |
| Total, Washington Headquarters | 5,523 | 14,000 | 20,353 | 6,353 | 45% |
| Federal FTEs | 15 | 29 | 29 | 0 | 0% |

**Office of Indian Energy**
**Program Direction**
**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| Program Direction $14,000,000 | $20,353,000 | $6,353,000 |
| Salaries and Benefits $4,856,000 | $4,906,000 | $50,000 |
| 29 Federal Salaries and benefits to implement new initiatives program activities, monitor 80 active projects, and increase technical assistance efforts related to education/outreach environmental justice, energy access, and energy poverty. | 29 Federal Salaries and benefits to implement new initiatives program activities, monitor 80 active projects, and increase technical assistance efforts related to education/outreach environmental justice, energy access, and energy poverty. | A minor increase related to pay raises. |
| Travel $265,000 | $265,000 | $0 |
| Travel required for Federal staff delivery of program management and Office of Indian Energy deployment activities, including outreach and education, technical assistance, and project management to support the 574 federally recognized Indian tribes throughout the nation, many of which are located in remote and rural areas. | Travel required for Federal staff delivery of program management and Office of Indian Energy deployment activities, including outreach and education, technical assistance, and project management to support the 574 federally recognized Indian tribes throughout the nation, many of which are in remote and rural areas. | No change |
| Support Services $5,576,000 | $11,879,000 | $6,303,000 |
| Management, administrative, and operations support. | Management, administrative, and operations support. | The additional funding will support the ability to monitor an increased number of grants, support execution of technical assistance, and outreach. |
| Other Related Expenses $3,303,000 | $3,303,000 | $0 |
| Computer hardware and software provided through the Office of Chief Information Officer (OCIO), Working Capital Fund, additional office space, registration fees, supplies, and small purchases through the micro-purchase credit card. | Computer hardware and software provided through the OCIO, Working Capital Fund, additional office space, registration fees, supplies, and small purchases through the micro-purchase credit card. | No change in support. |

**DEPARTMENT OF ENERGY**

**Funding by Site**

TAS_0342 - Office of Indian Energy Policy and Programs - FY 2024

(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Washington Headquarters** | | | |
| Indian Energy Policy & Programs | 52,477 | 61,000 | 89,697 |
| Program Direction - Indian Energy Program | 5,523 | 14,000 | 20,353 |
| **Total Washington Headquarters** | **58,000** | **75,000** | **110,050** |
| **Total Funding by Site for TAS_0342 - Office of Indian Energy Policy and Programs** | **58,000** | **75,000** | **110,050** |

# Loan Programs Office

# Loan Programs Office

**Loan Programs Office**
**Overview**

**Appropriation Summary by Program**
**$K**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Advanced Technology Vehicles Manufacturing Loan Program** | **5,000** | **9,800** | **13,000** | **+3,200** | **32.7%** |
| **Title 17 Innovative Technology Loan Guarantee Program** | | | | | |
| Administrative Expenses | 32,000 | 66,206 | 70,000 | +3,794 | 5.7% |
| Title XVII Credit Subsidy | 0 | -150,000 | 0 | +150,000 | NM |
| Offsetting Collections | -6,288 | -52,224 | -196,524 | -144,300 | 276.3% |
| **Total, Title 17 Innovative Technology Loan Guarantee Program** | **25,712** | **-136,018** | **-126,524** | **+9,494** | -7.0% |
| **Tribal Energy Loan Guarantee Program** | **2,000** | **4,000** | **6,300** | **+2,300** | **57.5%** |
| **Total, Loans Programs Office** | **32,712** | **-122,218** | **-107,224** | **+14,994** | **-12.3%** |

The Loan Programs Office (LPO) FY 2024 Request is -$107,224,000, an increase of $14,994,000 above the FY 2023 Enacted Level, to catalyze innovation and investments across all industries in the U.S. energy sector, to promote technological advances, and increase energy affordability, performance, and efficiency. LPO's FY 2024 Budget Request helps meet the Administration's objectives of a carbon-pollution free electric sector by 2035 and net-zero emissions, economy-wide, by 2050, while helping to achieve the Administration's objectives for placed-based initiatives and Justice40 investments.

**Overview**
LPO's mission is to catalyze innovation and investments across all industries in the U.S. energy sector, to promote technological advances, and increase energy affordability, performance, and efficiency. LPO is helping the US to build the next generation of energy infrastructure by investing in new technologies to reduce carbon emissions and air pollution and meet the Administration's goals of net-zero emissions, economy-wide, by 2050.

The programs administered by LPO have already accelerated the growth of utility wind and solar and revived nuclear construction in the U.S. and now are being applied to catalyze other new energy technologies that can transform existing energy infrastructure and expand domestic manufacturing of electric vehicles and components, improving the lives of all Americans and creating high quality jobs. LPO can provide access to debt not typically available in the commercial sector. Projects financed by LPO will build and upgrade American energy infrastructure and develop a clean energy economy that will spur well-paying, union jobs and equitable economic growth, accelerate clean technology innovation, commercialization, manufacturing, and deployment, bolster domestic supply chains, and promote globally competitive American clean energy exports.

**Title 17 Innovative Technology Loan Guarantee (Title 17) Program** – Authorized by Title XVII of the Energy Policy Act of 2005, the program supports the Title 17 Innovative Clean Energy Loan Guarantee Program (Title 17 ICE or Section 1703), and supports, but does not request new appropriations for, the Energy Infrastructure Reinvestment Program (Title 17 EIR or Section 1706).

Title 17 ICE provides loan guarantees for innovative energy projects that include energy efficient and renewable energy systems, advanced nuclear facilities, advanced fossil and carbon capture, sequestration, utilization and storage systems, energy storage, virtual power plants, and various other types of projects. Through Title 17 ICE, LPO provides access to debt capital for high-impact and large-scale energy infrastructure projects and first-time commercial deployments in the United States.

In FY 2024, LPO will support a range of eligible projects through the Title 17 ICE available loan guarantee authority of $76.9 billion as of February 2023. The Department expects to obligate approximately $6.2 billion of Title 17 ICE loan authority in FY 2023 and approximately $20.5 billion in FY 2024. The FY 2024 Budget Request includes $70 million, wholly offset by an estimated $196.5 million in collected fees, for administrative expenses to continue originating loans for the Title 17 Loan Guarantee Program, as well as to effectively monitor the existing portfolio. In FY 2023, LPO will use approximately $10 million in available balances carried forward from prior-year appropriations to cover anticipated loan origination and loan portfolio monitoring activity. An increase of 17 Federal FTEs is included in the request. Finally, the FY 2024 Request supports ongoing implementation of investments authorized under the IIJA and IRA, including projects to finance domestic critical minerals supply chain and state energy financing institution-backed projects through Title 17 ICE, as well as the Energy Infrastructure Reinvestment Program.

**Advanced Technology Vehicles Manufacturing Program (ATVM)** – Authorized by Section 136 of Energy Independence and Security Act of 2007, P.L. 110-140 as amended, the direct loan program supports reequipping, expanding, or establishing manufacturing facilities in the U.S. for fuel-efficient advanced technology vehicles or qualifying components, or for engineering integration performed in the U.S. for advanced technology vehicles or qualifying components.

The Infrastructure Investment and Jobs Act (IIJA) expanded the definition of advanced technology vehicle to include advanced medium- and heavy-duty vehicles, locomotives, maritime vessels, aircraft, and hyperloop technology. Prior to the passage of the IIJA, ATVM authorities were limited to supporting manufacturing of light-duty vehicles and components. The Inflation Reduction Act (IRA) provided appropriations of $3 billion in credit subsidy to support new ATVM loans and unlocked the IIJA-expanded advanced technology vehicle modes. The Consolidated Appropriations Act, 2023, removed the prohibition on the use of existing authority and appropriated credit subsidy for the expanded eligibilities. LPO believes the expanded authorities provided through IIJA, which LPO provided initial implementing guidance for in FY 2022, can be leveraged by the ATVM program to reduce transportation emissions and create good paying jobs. In addition to providing appropriations, the IRA also removed the $25 billion loan authority cap established under Section 136(d)(1) of the Energy Independence and Security Act of 2007.

To date, projects that have been financed in part by ATVM loans have produced vehicles that are estimated to have saved over 19 billion gallons of gasoline, equivalent to a cumulative 26 million metric tons of carbon dioxide emissions, and created more than 43,000 direct jobs across eight states, LPO's ATVM loan program has played a key role in helping the American auto industry propel the resurgence of manufacturing in the United States.

**Tribal Energy Loan Guarantee Program (TELGP) –** The LPO Tribal Energy Loan Guarantee Program (TELGP) is authorized by Section 2602 of the Energy Policy Act of 1992, as amended by the Energy Policy Act of 2005. The FY 2024 Budget requests $6.3 million to continue origination and anticipated monitoring related activities for TELGP to provide economic development opportunities and access to lower-cost energy in tribal communities through the development of energy projects.

In the Consolidated Appropriations Act, 2022, Congress enacted a change for that Fiscal Year, which was subsequently made permanent by the Inflation Reduction Act of 2022 (IRA), to broaden TELGP authority to allow applicants to apply for direct loans financed by the United States (U.S.) Treasury Federal Financing Bank and guaranteed by the Department, in addition to partial loan guarantees of other eligible lenders. The IRA also increased the aggregate amount of loans available at any time under TELGP from $2 billion to $20 billion and provided $75 million in appropriations to carry out the program. This change – in addition to other changes in FY 2022 to the TELGP solicitation to clarify ownership requirements, lending obligations, and fees – has increased interest in and accessibility to TELGP loans.

TELGP can provide loans to federally recognized Indian tribes and Alaska Native Corporations for a broad range of conventional and clean energy projects. The program is fully aligned with the Biden Administration’s goal that at least 40% of the overall benefits of federal climate investments flow to disadvantaged communities.

**CIFIA**

Section 40304 of the Infrastructure Investment and Jobs Act of 2021 established the Carbon Dioxide Transportation Infrastructure Finance and Innovation Account (CIFIA) program, consisting of direct loans, loan guarantees, and/or grants to establish a regional network of large scale, common carrier carbon dioxide transportation infrastructure in the U.S. In FY 2022, the Loan Programs Office (LPO), in coordination with the Office of Fossil Energy and Carbon Management (FECM),

designed the implementation strategy for CIFIA, which is authorized to begin disbursing loans and grants beginning in FY 2023.

In FY 2022, FECM, in conjunction with LPO, released Guidance to applicants for how to apply for CIFIA loans, began accepting Letters of Interest for loans, and invited potential applicants to request a pre-application consultation. In the Spring of 2022, LPO and FECM participated in a series of Regional Carbon Management Applicant Education Workshops to engage stakeholders on design and implementation of the program. The insights gathered have been carefully considered and incorporated in detailed program Guidance.

**Organization**

The Loan Programs Office (LPO) currently utilizes seven divisions to originate new loans and proactively monitor the portfolio: Outreach and Business Development Division, Origination Division, Portfolio Management Division, Risk Management Division, Technical and Project Management Division, Legal Division, and Management Operations Division.

The Outreach and Business Development Division is charged with identifying and establishing relationships with potential applicants and other external stakeholders deemed necessary to help meet LPO's strategic objectives.

The Origination Division is responsible for coordinating the assessments of applications and leads the credit underwriting of truncations and the negotiating, closing and first disbursements of loans or loan guarantees.

The Portfolio Management Division (PMD) leads LPO's monitoring functions by approving disbursements, repayments, operating budgets, and long-term forecasts. In the event of non-payment and/or default, PMD leads activities to maximize recoveries either through bankruptcy, note sale, or compromise of the claim.

The Risk Management Division conducts continuous risk assessments of potential new loans as well as the assets in the portfolio to comply with regulatory requirements such as OMB Circular No. A-129 of the Federal Credit Reform Action of 1990.

The Technical and Project Management Division (TPMD) evaluates the technical performance of assets and project management throughout the entire lifecycle of the loan to ensure that the technical requirements of the loan agreement are met. TPMD conducts site visits, provides expertise on project construction status and budget, and identifies potential technical risks that inhibit the borrower's ability to meet requirements and repay the loan. TPMD's Environmental Compliance (EC) team ensures that applicants' projects meet federal environmental regulatory standards by helping applicants navigate through required reviews and consultations prior to loan closing.

The Legal Division supports origination and underwriting of new transactions as well as all on-going monitoring activities, negotiations and documentations of waivers, consents, routine loan amendments, approvals and denials of transfer withdrawals, and legal aspects of any project developments. The division participates in business development and outreach activities and provides support to LPO on regulatory and administrative matters.

The Management and Operation Division is responsible for LPO employee resources, administrating and monitoring LPO administrative and working capital funds, providing enterprise architecture and information technology support, and providing contract administration to obtain services.

## INFLATION REDUCTION ACT (IRA/P.L. 117-169)
## Activities

Loan Programs Office was appropriated funds through the Inflation Reduction Act of 2022 (IRA). Activities that Loan Programs Office will manage, including those appropriated to other organizations, are itemized below.

| | FY 2022 IRA Funding | Managing Organization |
|---|---|---|
| **Title 17 Innovative Technology Loan Guarantee Program – Sec. 50141** | | |
| Credit Subsidy | 3,492,000,000 | LPO |
| Administrative Expenses | 108,000,000 | LPO |
| **Total, Title 17 Innovative Technology Loan Guarantee Program – Sec. 5014** | 3,600,000,000 | |
| | | |
| **Energy Infrastructure Reinvestment Loan Guarantee Program – Sec. 50144** | | |
| Credit Subsidy | 4,750,000,000 | LPO |
| Administrative Expenses | 250,000,000 | LPO |
| **Total, Energy Infrastructure Reinvestment Loan Guarantee Program – Sec. 50144** | 5,000,000,000 | |
| | | |
| **Advanced Technology Vehicles Manufacturing Loan Program – Sec. 50142** | | |
| Credit Subsidy | 2,975,000,000 | LPO |
| Administrative Expenses | 25,000,000 | LPO |
| **Total, Advanced Technology Vehicles Manufacturing Loan Program – Sec. 50142** | 3,000,000,000 | |
| | | |
| **Tribal Energy Loan Guarantee Program – Sec. 50145** | | |
| Credit Subsidy | 71,250,000 | LPO |
| Administrative Expenses | 3,750,000 | LPO |
| **Total, Tribal Energy Loan Guarantee Program – Sec. 50145** | 75,000,000 | |

### Summary of Investment Goals and Planned FY 2024 Activities

● Title 17 Innovative Technology Loan Guarantee Program – Section 1703 Credit Subsidy: The goal of this investment is to support issuance of new loan guarantees to projects that either were eligible under section 1703 of the Energy Policy Act of 2005 or become eligible due to the Infrastructure Investment and Jobs Act (IIJA) that expanded eligible activities to support projects involving critical minerals processing, manufacturing, and recycling. The IRA provided an additional $40 billion in loan guarantee authority and $3.5 billion to cover the cost of loans. In FY 2023, LPO estimates $322 million of the credit subsidy funding will be obligated in support of $4.6 billion of loan guarantees. In FY 2024, LPO expects to issue seven loan guarantees totaling $9.5 billion under this program, with an estimated combined credit subsidy cost of $934 million.

● Title 17 Innovative Technology Loan Guarantee Program – Administrative Expenses: The goal of this investment is to fund personnel and mission support costs to originate, administer, and monitor loan guarantees under this program. In FY 2024, LPO plans to use $27 million to support 20 federal FTEs and support costs including necessary outside consultants, contractors, information technology, and overhead expenses to continue to implement the Title 17 Innovative Technology Loan Guarantee Program.

● Title 17 Innovative Technology Loan Guarantee Program – Section 1706 Credit Subsidy: The goal of this investment is to support issuance of new loan guarantees under the Energy Infrastructure Reinvestment Program (section 1706) created by the IRA to help retool, repower, repurpose, or replace energy infrastructure that has ceased operations or to improve the efficiency of infrastructure that is currently operating. The IRA provided $5 billion to carry out the new program and up to $250 billion in loan guarantee authority. In FY 2024, LPO expects to issue two loan guarantees totaling $5 billion under this program, with an estimated combined credit subsidy cost of $405 million.

● Title 17 Innovative Technology Loan Guarantee Program – Section 1706 Administrative Expenses: The goal of this investment is to fund personnel and mission support costs to originate, administer, and monitor loan guarantees under this program. In FY 2024, LPO planes to use $32 million to support 20 federal FTEs and support costs including necessary outside consultants, information technology, and overhead expenses to continue to implement investments authorized under the IRA.

● Advanced Technology Vehicles Manufacturing Loan Program Credit Subsidy: The goal of this investment is for the Secretary to issue loans for a range of advanced technology vehicles and their components, including newly authorized uses from the IIJA, which to date had not been funded. Expanded uses include medium- and heavy-duty vehicles, locomotives, maritime vessels including offshore wind vessels, aviation, and hyperloop. The IRA removed the statutory limitation on direct loan authority and provided $3 billion of additional appropriations, including $2.975 billion in credit subsidy. In FY 2023, LPO estimates use $961 million of the credit subsidy funding will be obligated in support of nine loans totaling $14.9 billion. In FY 2024, LPO expects to issue approximately 11 direct loans totaling approximately $16 billion.

● Advanced Technology Vehicles Manufacturing Loan Program Administrative Expenses: The goal of this investment is to fund personnel and mission support costs to originate, administer, and monitor loans under this program. In FY 2024, LPO plans to use $12 million to support 20 federal FTEs and support costs including necessary outside consultants, information technology, and overhead expenses to continue to implement investments authorized under the IRA and in previous legislation.

● Tribal Energy Loan Guarantee Program Credit Subsidy: The goal of this investment is to provide direct loans or partial loan guarantees to federally recognized tribes, including Alaska Native village or regional or village corporations; or a Tribal Energy Development Organization that is wholly or substantially owned by a federally recognized Indian tribe or Alaska Native Corporation. In addition to the access to existing partial loan guarantees, the IRA provided permanent access to eligible borrowers to direct loans through the U.S. Treasury's Federal Financing Bank (FFB). In FY 2024, LPO expects to issue four loan guarantees totaling $1.8 billion in direct loans with an estimated combined credit subsidy cost of $2 million.

● Tribal Energy Loan Guarantee Program Administrative Expenses: The goal of this investment is to fund personnel and mission support costs to originate, administer, and monitor loans and loan guarantees under this program. In FY 2024, LPO plans to use $750,000 to support 2 federal FTEs and support costs including necessary outside consultants, information technology, and overhead expenses to continue to implement investments authorized under the IRA and in previous legislation.

**Carbon Dioxide Transportation Infrastructure Finance and Innovation**
**Infrastructure Investment and Jobs Act Investments**

Office of Fossil Energy Carbon Management (FECM) was appropriated funds through the Infrastructure Investment and Jobs Act (IIJA) (P.L. 117-58). Not all IIJA activities will be managed by the organization to which funds were appropriated. The activity that Loan Programs Office will manage is itemized below.

**($k)**

| Appropriated Funding Organization | FY 2022 IIJA Funding | FY 2023 IIJA Funding | FY 2024 IIJA Funding | Managing Organization |
|---|---|---|---|---|
| **Fossil Energy Carbon Management** | | | | |
| CIFIA – Sec. 40304 | 3,000 | 2,097,000 | 0 | LPO |
| **Total, LPO IIJA Coordination** | **3,000** | **2,097,000** | **0** | |

**Summary of Investment Goals and Planned FY 2024 Activities**

- Section 40304 of the IIJA established the Carbon Dioxide Transportation Infrastructure Finance and Innovation (CIFIA) program, consisting of direct loans, loan guarantees, and/or grants to establish a regional network of large scale, common carrier carbon dioxide transportation infrastructure in the U.S. In FY 2022, FECM, in conjunction with LPO, released guidance to applicants for how to apply for CIFIA loans, began accepting Letters of Interest for loans, and

invited potential applicants to request a pre-application consultation. The FY 2024 Budget does not request new appropriations for the CIFIA program.

- The CIFIA program can provide large scale, common carrier carbon dioxide transportation projects, including pipelines, rail, shipping, and trucking, with access to equity and debt capital that the private sector cannot or will not provide. The LPO, which has developed a credible expertise resulting from more than a decade of experience administering several financing programs to support the deployment of large-scale energy infrastructure projects, is a committed partner in the early stages of development and throughout the lifetime of the project while monitoring the funds provided. Carbon dioxide transportation projects supported by CIFIA will contribute to the reduction of carbon emissions by enhancing access to high-purity carbon dioxide for utilization or permanent sequestration and create new job opportunities with a free and fair choice to join a union.

- The CIFIA program is authorized to provide long-term, low-interest rate debt capital to companies for development of large scale, common carrier carbon dioxide transportation infrastructure, as well as Future Growth Grants to cover a portion of the cost differential between the base case and an expansion case associated with predicted future increase in demand for carbon dioxide transportation by a pipeline. Utilizing a combination of both loans or loan guarantees and grants will allow the Administration to future-proof pipeline capacity and drastically reduce land-use requirements, costs, and the environmental and societal impact of the buildout of carbon dioxide transportation infrastructure.

**Title 17 Innovative Technology Loan Guarantee Program**
**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, [$66,206,000*]$70,000,000* is appropriated, to remain available until September 30, [2024]*2025* Provided further, That up to [$66,206,000*]$70,000,000* of fees collected in fiscal year [2023]*2024* 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, [2024]*2025*: Provided further, That to the extent that fees collected in fiscal year [2023]*2024* exceed [$66,206,000,]*$70,000,000*, 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 [2023]*2024* (estimated at [$35,000,000]*$196,524,000*) 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 [2023]*2024* 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 [609.10]*609.8* of title 10, Code of Federal Regulations.

[Of 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, $150,000,000 are hereby permanently rescinded: Provided, That, subject to section 502 of the Congressional Budget Act of 1974, commitments to guarantee loans for eligible projects under title XVII of the Energy Policy Act of 2005, shall not exceed a total principal amount of $15,000,000,000, to remain available until committed: Provided further, That the amounts provided under this paragraph 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: Provided further, That none of such loan guarantee authority made available under this paragraph shall be available for commitments to guarantee loans for any projects where funds, personnel, or property (tangible or intangible) of any Federal agency, instrumentality, personnel, or affiliated entity are expected be used (directly or indirectly) through acquisitions, contracts, demonstrations, exchanges, grants, incentives, leases, procurements, sales, other transaction authority, or other arrangements, to support the project or to obtain goods or services from the project: Provided further, That the preceding proviso shall not be interpreted as precluding the use of the loan guarantee authority provided under this paragraph for commitments to guarantee loans for: (1) projects as a result of such projects benefitting from otherwise allowable Federal income tax benefits; (2) projects as a result of such projects benefitting from being located on Federal land pursuant to a lease or right-of-way agreement for which all consideration for all uses is: (A) paid exclusively in cash; (B) deposited in the Treasury as offsetting receipts; and (C) equal to the fair market value as determined by the head of the relevant Federal agency; (3) projects as a result of such projects benefitting from Federal insurance programs, including under section 170 of the Atomic Energy Act of 1954 (42 U.S.C. 2210; commonly known as the "Price-Anderson Act"); or (4) electric generation projects using transmission facilities owned or operated by a Federal Power Marketing Administration or the Tennessee Valley Authority that have been authorized, approved, and financed independent of the project receiving the guarantee: Provided further, That none of the loan guarantee authority made available under this paragraph shall be available for any project unless the Director of the Office of Management and Budget has certified in advance in writing that the loan guarantee and the project comply with the provisions under this paragraph.]

Energy and Water Development and Related Agencies Appropriations Act, 2023.)

**Explanation of Changes**

The FY 2024 Budget Request includes $70 million, wholly offset by an estimated $196.5 million in collected fees, for administrative expenses to continue originating loans for the Title 17 Innovative Technology Loan Guarantee Program, as

well as to effectively monitor the existing portfolio. A correction to the Code of Federal Regulations reference is also included.

**Public Law Authorizations**

- P.L. 109-58, Energy Policy Act of 2005, as amended
- P.L. 110-5, Revised Continuing Appropriations Resolution, 2007
- P.L. 111-5, American Recovery and Reinvestment Act of 2009
- P.L. 111-8, Omnibus Appropriations Act, 2009
- P.L. 112-10, Department of Defense and Full-Year Continuing Appropriations Act, 2011
- 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

**Title 17 Innovative Technology Loan Guarantee Program**
**($K)**

| FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|
| 25,712 | -136,018 | -126,524 |

**Overview**

The Budget Request for the Loan Programs Office (LPO) Title 17 Innovative Technology Loan Guarantee Program (Title 17) supports the Title 17 Innovative Clean Energy Loan Guarantee Program (Title 17 ICE), and supports, but does not request new appropriations for, the Energy Infrastructure Reinvestment Program (Title 17 EIR) created by the Inflation Reduction Act (IRA). Title 17 ICE supports efforts to address the climate crisis and achieve a net-zero carbon emission economy by no later than 2050 by accelerating the deployment of innovative projects to help launch new clean energy markets, reduce greenhouse gas emissions, and drive American economic growth by providing flexible, custom financing and access to debt capital that helps to meet specific project needs. Title 17 ICE provides loan guarantees for innovative energy projects that include energy efficient and renewable energy systems, advanced nuclear facilities, advanced fossil and carbon capture, sequestration, utilization and storage systems, energy storage, virtual power plants, and various other types of projects. Through Title 17 ICE, LPO provides access to debt capital for high-impact and large-scale energy infrastructure projects and first-time commercial deployments in the United States. These projects must avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; employ new or significantly improved technologies compared to commercial technologies in service in the United States at the time the guarantee is issued; and offer a reasonable prospect of repayment of the principal and interest on the guaranteed obligation. In addition, Title 17 ICE provides loan guarantees to eligible supply chain projects, and to non-innovative projects provided financial support or credit enhancements by eligible State Energy Financing Institutions (SEFIs). Through Title 17 EIR, LPO can support up to $250 billion in loan guarantees for energy infrastructure-related projects that will reinvest in energy infrastructure that has ceased operations, or for projects proposing to make operating energy infrastructure more efficient.

In the Consolidated Appropriations Act, 2023, Congress converted $150 million in existing Title 17 ICE credit subsidy appropriations to $15 billion in additional Title 17 ICE loan guarantee authority, open to a range of eligible technologies. As of the end of January 2023, the Department had over $91 billion in requested applications under Title 17 ICE across eligible technologies, with another approximately $24 billion in loan applications expected to enter the application pipeline by the third quarter of FY 2023. Inclusive of loan authority provided for Title 17 ICE by the IRA, LPO has a total of approximately $77 billion in Title 17 ICE loan authority available. The Department expects to obligate approximately $6.2 billion of Title 17 ICE loan authority in FY 2023 and approximately $20.5 billion of this authority in FY 2024. The Department will continue to ensure that Congress is informed of the amount and timing of the anticipated application pipeline as LPO works to obligate available resources.

The Budget requests $70 million, wholly offset by an estimated $196.5 million in collected fees, for administrative expenses to allow LPO to continue originating loans for the Title 17 Loan Guarantee Program, as well as to effectively monitor the existing portfolio, assist applicants in achieving project milestones and overcoming issues that may arise, and provide guidance and risk mitigation for the long-term success of projects.

In addition, the FY 2024 Request for Title 17 supports the ongoing implementation of the expanded authority under the Infrastructure Investment and Jobs Act (IIJA). This includes supporting eligible projects that bolster the domestic critical minerals supply chain, in line with addressing critical supply chain vulnerabilities as identified in Executive Order 14017, America's Supply Chains, and the subsequent 100-Day Reviews. The Request also supports IIJA's expansion of Title 17 to eligible projects supported by SEFIs, including State, Tribal, and Alaska Native corporation-backed energy projects. This new authority, which LPO provided initial implementing guidance for in FY 2022, would allow for smaller, distributed energy resource (DER) projects to access LPO financing more readily through aggregation, such as through state Green Bank or equivalent programs, including projects that employ already commercially available technologies that meet air pollutant and emissions requirements, as well as other Title 17 criteria.

While the FY 2024 Budget does not request new appropriations for the Energy Infrastructure Reinvestment program created by the IRA, LPO will continue implementing EIR through the Request period. This builds on early implementation of

EIR, including initial implementing guidance released publicly in FY 2022, and over a dozen listening sessions held on the program to date. An implementing rulemaking planned for FY 2023 for Title 17, including EIR and expanded ICE authorities under the IIJA, will provide further direction on newly authorized or amended programs under Title 17.

The FY 2024 Request continues to ensure that Federal funding no longer directly subsidizes fossil fuels, as required in Section 209 of Executive Order 14008, Tackling the Climate Crisis at Home and Abroad. The Loan Programs Office will ensure that the Title 17 program is only encouraging projects that help achieve a carbon-pollution free electric sector by 2035 and net-zero emissions, economy-wide, by 2050.

**History**

Section 1703 of the Energy Policy Act of 2005 authorized DOE to provide loan guarantees for innovative energy projects in categories including advanced nuclear facilities, coal gasification, carbon sequestration, energy efficiency, renewable energy systems, and various other types of projects. Projects supported by DOE loan guarantees must avoid, reduce, or sequester pollutants or anthropogenic emissions of greenhouse gases; employ new or significantly improved technologies compared to commercial technologies in service in the United States at the time the guarantee is issued; and offer a reasonable prospect of repayment of the principal and interest on the guaranteed obligation. Section 406 of the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5 amended Title 17 of the Energy Policy Act of 2005 by establishing Section 1705 as a temporary program for the rapid deployment of renewable energy and electric power transmission projects, as well as leading edge biofuels projects. The authority to enter into new loan guarantees under Section 1705 expired on September 30, 2011, but the program continues to administer and monitor the portfolio of loan guarantees obligated prior to the expiration date.

The passage of the IIJA in 2021 expanded Title 17 ICE authorities. For example, IIJA expanded the ability of LPO to support critical minerals processing, manufacturing, and recycling projects. In addition, IIJA allowed for projects that are receiving financial support by a state energy financing institution – state energy authorities, green banks, and others – to be exempt from Title 17 section 1703 innovation requirements, allowing projects that incorporate already commercial technologies, such as virtual power plants (VPPs) and aggregation of smaller projects, to be eligible for LPO loan guarantees.

The Inflation Reduction Act appropriated an additional $40 billion of loan authority for projects eligible for loan guarantees under section 1703 of the Energy Policy Act of 2005, to remain available through September 30, 2026. IRA also appropriated $3.6 billion in additional credit subsidy to support the cost of those loans and sets aside a percentage of these amounts for administrative expenses to help carry out the program, including monitoring and originating new loans. IRA also added a new loan program, the Energy Infrastructure Reinvestment (EIR) Program, to guarantee loans to projects that retool, repower, repurpose, or replace energy infrastructure that has ceased operations, or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases. IRA appropriated $5 billion through September 30, 2026, to carry out EIR, with a total cap on loans of up to $250 billion.

Over the past decade, LPO has issued 38 Title 17 loan guarantees totaling more than $27.8 billion at initial closing, with $24.8 billion disbursed. To date, borrowers have repaid nearly $7 billion in principal and over $3 billion in interest. Meanwhile, the program has recorded less than $1 billion in losses due to default, or 3.5% of funds disbursed. Of the 38 Title 17 loan guarantees, 32 were issued between 2009 and 2011 under Section 1705. By providing access to debt capital and flexible financing that private lenders cannot or will not provide, the Title 17 ICE program has allowed the U.S. to keep pace with other nations' clean energy sector growth.

Among its recent achievements, the Title 17 ICE program, in FY 2022, closed on a $504.4 million loan guarantee to the Advanced Clean Energy Storage project in Utah, marking the first loan guarantee for a new clean energy technology project since 2014. The loan guarantee will help finance construction of the largest clean hydrogen storage facility in the world, capable of providing long-term low-cost, seasonal energy storage, and furthering grid stability. The project is expected to create up to 400 construction and 25 operations jobs, as well as advance President Biden's climate and clean energy deployment goal of net-zero emissions, economy-wide, by 2050. This builds on the FY 2021 conditional commitment to guarantee a loan of up to $1.04 billion to Monolith Nebraska, LLC to expand the borrower's existing production facility in Hallam, Nebraska, to build the United States' the first-ever commercial-scale facility to deploy methane pyrolysis technology, which converts natural gas into carbon black and hydrogen.

Together, Title 17 ICE projects have supported tens of thousands of good-paying jobs across 11 states, collectively avoided almost 40 million tonnes of carbon emissions to-date, and will bolster clean power generation and industrial processes for decades to come. These are figures that steadily increase annually and with each new loan guarantee that is finalized.

| *Portfolio Project Data* | *Title 17 Innovative Clean Energy Loan Guarantee Program (ICE) – 1/31/2023* |
|---|---|
| *Total Number of Active Projects* | 15[1] |
| *Number of Projects in Construction* | 2 |
| *Number of Projects in Operation* | 13 |
| *Generation Capacity (MW)* | 3,963 |
| *Electricity Generated (GWh, Cum.)* | >90,000 |
| *$CO_2$ Avoided (Mtons, Cum.)* | >40 |

This FY 2024 Request will allow LPO to continue Outreach and Business Development activities, including developing marketing materials, engaging in stakeholder outreach, and ensuring that LPO's unique value proposition is widely known in the innovative energy technology market. LPO outreach efforts will focus on attracting quality applications into the Title 17 applicant pipeline and moving these applications through conditional commitment to financial close.

As part of its business development activities, LPO provides guidance and feedback to potential applicants through in-house financial, technical, environmental, and legal staff on how to submit successful Title 17 applications. This Budget will allow LPO to continue providing this valuable function.

*Title 17 Innovative Clean Energy Loan Guarantee Program (ICE) Applications as of Feb. 28, 2022*

| | *Total loan authority requested* | *Available loan authority* |
|---|---|---|
| *Tile 17 ICE* | $91.9 billion | $76.9 billion |

Strong applicant interest in Title 17 ICE, as well as LPO's efforts to identify and evaluate new applicants and originate new loans, is expected to continue to impact available loan authority in FY 2024 and beyond. Based on the current applicant pipeline, LPO anticipates obligating approximately $6.2 billion of Title 17 ICE loan authority in FY 2023 and approximately $20.5 billion of loan authority in FY 2024.

**Highlights and Major Changes in the FY 2024 Budget Request**

In FY 2024, LPO will support a range of eligible projects through the Title 17 ICE available loan authority of $76.9 billion as of February 2023. The FY 2024 Budget Request includes $70 million, wholly offset by an estimated $196.5 million in collected fees, for administrative expenses to continue originating loans for the Title 17 Loan Guarantee Program, as well as to effectively monitor the existing portfolio. In FY 2023, LPO will use approximately $10 million in available balances carried forward from prior-year appropriations to cover anticipated loan origination and loan portfolio monitoring activity. An increase of 17 Federal FTEs is included in the request. Finally, the FY 2024 Request supports ongoing implementation of investments authorized under the IIJA and IRA, including projects to finance domestic critical minerals supply chain and state energy financing institution-backed projects through Title 17 ICE, as well as the Energy Infrastructure Reinvestment Program.

[1] The number of loan guarantees and projects are different because multiple loan guarantees may be issued for a project.

**Title 17 Innovative Technology Loan Guarantee Program**
**$K**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Title 17 Innovative Technology Loan Guarantee Program** | | | | | |
| Administrative Expenses | 32,000 | 66,206 | 70,000 | +3,794 | 5% |
| Offsetting Collections | -6,288 | -52,224 | -196,524 | -144,300 | 276% |
| Rescission of Prior Year Balances | 0 | -150,000 | 0 | +150,000 | NM |
| **Total, Title 17 Innovative Technology Loan Guarantee Program** | **25,712** | **-136,018** | **-126,524** | **+9,494** | **7%** |

**Title 17 Innovative Technology Loan Guarantee Program**
**Explanation of Major Changes ($k)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| **Administrative Expenses:** | **+3,794** |
| Increase is needed to support a total of 119 FTEs, an increase of 17 from FY2023, and to pay for the costs of contractor, outside advisors and overhead expenses. | |
| **Offsetting Collections:** | **-144,300** |
| LPO anticipates receiving $6.7 million in maintenance fees from the current and anticipated portfolio and $196.5 million in fees associated with the use of $25.5 billion guaranteed loan authority FY 2024. Fees associated with the Energy Infrastructure Reinvestment (EIR) Program will be credited as offsetting collections in addition to the fees from Title 17 ICE. | |
| **Rescission of Prior Year Balances** | **+150,000** |
| A recission of prior year balances is not requested for FY 2024. | |
| **Total, Title 17 Innovative Technology Loan Guarantee Program** | **+9,494** |

**Administrative Expenses**
**$K**

| | FY 2022 | FY 2023 | FY 2024 | FY 2024 Request vs FY | FY 2024 Request vs FY |
|---|---|---|---|---|---|
| **Administrative Expenses** | | | | | |
| Salaries & Benefits | 16,903 | 21,797 | 26,418 | + 4,621 | 21% |
| Travel | 171 | 439 | 481 | + 42 | 10% |
| Support Services | 10,811 | 36,377 | 34,661 | - 1,716 | -5% |
| Other Related Expenses | 4,115 | 7,593 | 8,440 | + 847 | 11% |
| **Total, Administrative Expenses** | **32,000** | **66,206** | **69,700** | + 3,794 | 6% |
| **Federal FTEs** | | | | | |
| LPO | 77 | 100 | 115 | + 15 | 15% |
| Office of the General Counsel | 1 | 1 | 1 | 0 | 0% |
| Office of Management | 1 | 1 | 3 | + 2 | 200% |
| **Total, Federal FTEs** | **79** | **102** | **119** | + 17 | 17% |
| **Support Services** | | | | | |
| Management and Professional Support Services | | | | | |
| Mission Support | 10,811 | 27,679 | 25,900 | - 1,779 | -6% |
| IT Support | 0 | 8,698 | 8,761 | + 63 | 1% |
| Total, Management and Professional Support Services | 10,811 | 36,377 | 34,661 | - 1,716 | -5% |
| **Total, Support Services** | 10,811[2] | 36,377 | 34,661 | - 1,716 | -5% |
| **Other Related Expenses** | | | | | |
| Communication and Misc. Charges Related to IT | 254 | 280 | 340 | + 60 | 21% |
| Other Services | 40 | 850 | 890 | + 40 | 5% |
| Working Capital Fund | 2,823 | 2,643 | 3,240 | + 597 | 23% |
| Operation and Maintenance of Facilities | 330 | 3,000 | 3,000 | 0 | 0% |
| Supplies, Subscriptions and Publications | 639 | 590 | 600 | + 10 | 2% |
| Equipment | 29 | 230 | 370 | + 140 | 61% |

[2] $10,811,000 does not include $18,639,349 in Support Services funded by available unobligated balance carried over from prior fiscal years.

| | | | | | |
|---|---|---|---|---|---|
| **Total, Other Related Expenses** | 4,115 | 7,593 | 8,440 | + 847 | 11% |

**$K**

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Salaries and Benefits**<br>**21,797** | **26,418** | **+4,621** |
| · Provided salaries and benefits expenses, including a 4.6% raise effective January 1, 2023, for 102 full-time equivalent employees in support of the Title 17 program across the Loans Programs Office. | · Provides for salaries and benefits of 119 full-time equivalent employees across the Loans Programs Office. Estimate includes 5.2% raise effective January 1, 2024. | · Funds 17 additional FTEs to support enhanced loan activity. |
| **Travel**<br>**439** | **481** | **+42** |
| · 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 is due to the travel of additional staff and continued normalization from the restrictions imposed by the COVID-19 pandemic. |
| **Support Services**<br>**36,377** | **34,661** | **-1,716** |
| · Supported a range of contract services including administrative support, training, subject matter experts, legal services, information technology, credit analysis, and market assessments. The total information technology cost for LPO is $10,036,000 in FY23; $8,698,000 is included within Title 17. | · Supports a range of contract services including administrative support, training, all aspects of loan guarantee origination activities, including, subject matter experts, legal services, information technology, credit analysis, and market assessments. The total information technology costs for LPO is $10,231,000; $8,761,000 is included within Title 17. | · A reduction in contractor-provided support is planned as federal staff is increased. |
| **Other Related Expenses**<br>**7,593** | **8,440** | **+847** |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| · Supports DOE Working Capital Fund, software expenses, equipment, other services including conferences attendance fees, and publications. The total LPO WCF estimate for FY 2023 is $3,109,000, $2,643,000 is included within Title 17. | · Supports DOE Working Capital Fund, software expenses, equipment, other services including conferences attendance fees, and publications. The total LPO WCF estimate for FY 2024 is $3,820,000, $3,240,000 is included within Title 17. | · Increase reflects the overhead expenses required to support the additional federal FTEs relative to FY 2023. |

**Advanced Technology Vehicles Manufacturing Loan Program**
**Proposed Appropriation Language**

For Department of Energy administrative expenses necessary in carrying out the Advanced Technology Vehicles Manufacturing Loan Program, [$9,800,000] *$13,000,000*, to remain available until September 30, [2024] *2025*.

(Energy and Water Development and Related Agencies Appropriations Act, 2023.)

**Explanation of Changes**

The FY 2024 Budget requests $13 million to continue to support the increased loan origination and portfolio monitoring activities under the Advanced Technology Vehicles Manufacturing Loan Program (ATVM). The proposed language above shows changes from the Energy and Water Development and Related Agencies Appropriations Act, 2023.

**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

**Overview**

The Budget proposes $13 million to originate ATVM direct loans and continue the program's portfolio monitoring responsibilities. While the FY 2024 Budget Request does not request new loan authority, LPO anticipates obligating an estimated $14.9 billion in loans in FY 2023, and $15.9 billion in FY 2024. The proposed increase in administrative expenses in FY 2024 would support this increase in anticipated ATVM loan origination.

ATVM provides loans for the cost of re-equipping, expanding, or establishing manufacturing facilities in the United States (U.S.) to produce advanced technology vehicles or qualified components and for associated engineering integration costs. Through ATVM, LPO can provide advanced technology vehicle and supply chain projects and other high-impact ventures access to debt capital that private lenders cannot or will not provide, given the lack of history with new technology that is considered cutting edge. LPO is a committed partner in the early stages of development and throughout the lifetime of the project while monitoring the loans provided. The advanced technologies being proposed and developed will contribute to the reduction of carbon emissions and create new domestic manufacturing job opportunities with a free and fair choice to join a union.

The program has been key in propelling the resurgence of the American auto manufacturing industry and accelerating U.S. electric vehicle (EV) manufacturing, and the budget requested will allow LPO to continue growing the portfolio of this crucial program. This Request allows LPO to help achieve the Administration's goal of reaching net-zero emissions, economy-wide, by 2050. This includes providing access to capital for domestic manufacturers revitalizing U.S. manufacturing, creating good-quality jobs producing electric vehicles and components, securing domestic supply chains from raw materials to parts, and retooling factories to compete globally.

The Infrastructure Investment and Jobs Act (IIJA) expanded the definition of advanced technology vehicle to include advanced medium- and heavy-duty vehicles, locomotives, maritime vessels, aircraft, and hyperloop technology. Prior to the passage of the IIJA, ATVM authorities were limited to supporting manufacturing of light-duty vehicles and components. The Inflation Reduction Act (IRA) provided appropriations of $3 billion in credit subsidy to support new ATVM loans and unlocked the IIJA-expanded advanced technology vehicle modes. The Consolidated Appropriations Act, 2023, removed the prohibition on the use of existing authority and appropriated credit subsidy for the expanded eligibilities. LPO believes the expanded authorities provided through IIJA, which LPO provided initial implementing guidance for in FY 2022, can be leveraged by the ATVM program to reduce transportation emissions and create good paying jobs that provide the free and fair choice to join a union. In addition to providing appropriations, the IRA also removed the $25 billion loan authority cap established under Section 136(d)(1) of the Energy Independence and Security Act of 2007.

The FY 2024 Request also continues LPO's efforts to ensure that Federal funding no longer directly subsidizes fossil fuels, as required in Section 209 of Executive Order 14008, Tackling the Climate Crisis at Home and Abroad. LPO will ensure that ATVM is encouraging projects that support the transition to zero-emission vehicles and not directly subsidizing fossil fuels by excluding projects that manufacture gas-only light duty vehicles, and by including zero-emission or highly efficient fossil fueled medium- and heavy- duty vehicle manufacturing projects, as well as other clean transportation modes as authorized by IIJA.

**History**

Section 136 of the Energy Independence and Security Act of 2007, as amended, authorizes the Advanced Technology Vehicles Manufacturing Loan Program (ATVM), consisting of direct loans to support the manufacturing of advanced technology vehicles and qualifying components in the U.S. The ATVM program has issued 7 total loans, and over $13 billion has been committed to borrowers including Redwood Materials, Rhyolite Ridge, Syrah Technologies, Ultium Cells, Tesla, Nissan, and Ford. Together, these borrowers have repaid a collective $6 billion in principal, plus $1 billion in interest. Tesla and Nissan previously repaid their loans in full and in FY 2022, Ford completed repayment of their loan.

In FY 2022, DOE announced the first new ATVM loan in more than a decade, providing $102.1 million to Syrah Technologies LLC for the expansion of its Syrah Vidalia Facility – a processing facility that produces graphite-based active anode material. This was the first ATVM loan exclusively for a supply chain manufacturing project and the first loan to support a critical mineral project. Also, in early FY 2023, LPO issued a loan to Ultium Cells LLC (Ultium), a joint venture between General

Motors and LG Energy Solution, for a $2.5 billion loan to help finance the construction of new lithium-ion battery cell manufacturing facilities in Ohio, Tennessee, and Michigan. The project will manufacture large format, pouch-type cells that use a state-of-the-art nickel-cobalt-manganese-aluminum chemistry to deliver more range at less cost. Those cells can be arranged in different combinations to provide clean, reliable energy for all vehicles on the road today, including cars, busses, and medium- and heavy-duty work trucks. Ultium is expected to create more than 10,000 good-paying jobs—6,000 in construction jobs and 5,100 in operations—across the three facilities.

To date, projects that have been financed in part by ATVM loans have produced vehicles that are estimated to have saved over 19 billion gallons of gasoline, equivalent to a cumulative 26 million metric tons of carbon dioxide emissions. Projects supported by the program have supported 21.6 million low-emission vehicles since the program's inception, and have created and supported 43,000 permanent jobs across 8 states.

| *Portfolio Project Data* | *ATVM – 09/30/2022** |
|---|---|
| *Total Number of Active Projects* | 0 |
| *Number of Projects in Construction* | 0 |
| *Number of Projects in Operation* | 0 |
| *Production Capacity (Million vehicles/year)* | 0.06 |
| *Vehicles Produced (Millions, Cum.)* | 21.6 |
| *$CO_2$ Avoided (Mtons, Cum.)* | 26 |

** Most recent available data based on company reporting cycles*

The ATVM program provides long-term, low-interest rate debt capital to companies seeking to manufacture a range of advanced technology vehicles and associated components in the United States, including advanced medium- and heavy-duty vehicles, locomotives, maritime vessels, aircraft, and hyperloop technology.

The FY 2024 Request will allow LPO to continue Outreach and Business Development activities, including developing marketing materials, engaging in stakeholder outreach, and ensuring that LPO's unique value proposition is widely known across the entire advanced technology vehicles manufacturing supply chain. LPO outreach efforts will focus on attracting quality applications into ATVM's applicant pipeline and moving those applications through conditional commitment to financial close.

As part of its business development activities, LPO provides guidance and feedback to potential applicants through in-house financial, technical, environmental, and legal staff on how to submit successful applications under the ATVM loan program. The FY 2024 Budget will allow LPO to continue providing this valuable function. Because of LPO Outreach and Business Development's efforts to cultivate a pipeline of quality applicants, as well as the Origination Division's efforts to evaluate and process applications in FY 2021 and FY 2022, LPO was able to offer its first conditional commitments under ATVM since 2011 in FY 2022.

| *ATVM Applications as of Jan. 31, 2023* | |
|---|---|
| *Total loan authority requested* | $27.8 billion |

| | |
|---|---|
| *Estimated Available loan authority*[1] | $55.1 billion |

Strong applicant interest in ATVM, as well as LPO's efforts to identify and evaluate new applicants and originate new loans, is expected to continue to use available credit subsidy in FY 2023 and FY 2024. Based on the current applicant pipeline, LPO anticipates closing approximately $14.9 billion in loans in FY 2023 and $15.9 billion in FY 2024.

Finally, DOE remains an active participant in all stages of the project through completion. LPO has developed a strong and unique set of capabilities and expertise to manage the ATVM loan program, making it ideally positioned to bring advanced vehicle and component manufacturing projects to market and invigorate economic growth.

**Highlights and Major Changes in the FY 2024 Budget Request**

In FY 2024, LPO requests $13 million to originate ATVM direct loans and monitor the program's portfolio as more loans reach financial close. The increase in the request for Administrative Expenses supports an anticipated increase in origination activities in FY 2023 and FY 2024. To support the increase in expected loan activity, 18 additional Federal full-time equivalent (FTE) positions are planned (17 FTEs will be funded by available balances appropriated in IRA), raising the staffing at the end of FY 2024 to 49 FTEs from the current level of 31 FTEs.

[1] The IRA removed the $25 billion loan authority cap established under Section 136(d)(1) of the Energy Independence and Security Act of 2007. This estimate is based on the amount of direct loans that would be supported by available credit subsidy assuming an average subsidy rate. The figure listed here as "estimated available authority" is a best estimate based on credit subsidy available.

**Advanced Technology Vehicles Manufacturing Loan Program**

**$K**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Advanced Technology Vehicles Manufacturing Loan Program** | | | | | |
| Administrative Expenses | 5,000 | 9,800 | 13,000 | +3,200 | 32.7% |
| **Total, Advanced Technology Vehicles Manufacturing Loan Program** | **5,000** | **9,800** | **13,000** | **+3,200** | **32.7%** |

**Advanced Technology Vehicles Manufacturing Loan Program**

**Explanation of Major Changes ($K)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| **Administrative Expenses:** | **+3,200** |
| The request of $13 million will support 29 FTEs, an increase of 1 from FY 2023, and additional contractors and DOE laboratory efforts to support increased loan origination, portfolio monitoring, and related administrative expenses. | |
| **Total, Advanced Technology Vehicles Manufacturing Loan Program** | **+3,200** |

**Administrative Expenses**
**$K**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Administrative Expenses** | | | | | |
| Salaries & Benefits | 3,553 | 5,984 | 6,438 | + 454 | 8% |
| Travel | 33 | 124 | 132 | + 8 | 6% |
| Support Services[2] | 717 | 2,788 | 4,830 | + 2,042 | 73% |
| Other Related Expenses | 697 | 904 | 1,600 | + 696 | 77% |
| **Total, Administrative Expenses** | **5,000** | **9,800** | **13,000** | + 3,200 | 33% |
| **Federal FTEs** | 18 | 28 | 29 | + 1 | 4% |
| **Support Services** | | | | | |
| Management and Professional Support Services | | | | | |
| Mission Support | 84 | 1,690 | 3,730 | + 2,040 | 121% |
| IT Support | 633 | 1,098 | 1,100 | +2 | 0% |
| Total, Management and Professional Support Services | 717 | 2,788 | 4,830 | + 2,042 | 73% |
| **Total, Support Services** | 717[2] | 2,788 | 4,830 | + 2,042 | 73% |
| **Other Related Expenses** | | | | | |
| Communication and Misc. Charges Related to IT | 35 | 30 | 40 | + 10 | 33% |
| Other Services | 3 | 0 | 0 | 0 | 0% |
| Working Capital Fund | 246 | 404 | 440 | + 36 | 9% |
| Operation and Maintenance of Facilities | 300 | 360 | 1,000 | + 640 | 178% |
| Supplies, Subscriptions and Publications | 106 | 100 | 110 | + 10 | 10% |
| Equipment | 7 | 10 | 10 | 0 | 0% |
| **Total, Other Related Expenses** | 697 | 904 | 1,600 | + 696 | 77% |

[2] The FY 2022 enacted Support Services amount of $717,000 does not include $4,022,197 in Support Services funded with available unobligated balance carried over from prior fiscal years.

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Salaries and Benefits**<br>**$5,984** | **$6,438** | **+$454** |
| • Provided salaries and benefits, including a 4.6% raise effective January 1, 2023, for 28 full-time equivalent employees across the Loans Programs Office. | • Provides for salaries and benefits of 29 full-time equivalent employees across the Loans Programs Office. Estimate includes 5.2 % raise effective January 1, 2024. An increase of staff is necessary to continue origination activities and to monitor the expected additions to the ATVM portfolio both in FY23 and FY24. | • Funds 1 additional FTE to support enhanced loan activity. |
| **Travel**<br>**$124** | **$132** | **+$8** |
| • 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. | • Increase is due to the continued normalization of travel from the restrictions imposed by the COVID-19 pandemic. |
| **Support Services**<br>**$2,788** | **$4,830** | **+$2,042** |
| • Supports a range of contract services including administrative support, training, subject matter experts, legal services, information technology, credit analysis, and market assessments. The total information technology cost for LPO is $10,036,000 in FY23; $1,098,000 is included within the ATVM budget. | • Supports a range of contract services including administrative support, training, all aspects of loan guarantee origination activities, including, subject matter experts, legal services, information technology, credit analysis, and market assessments. The total information costs for LPO is $10,231,000; $1,100,000 is included within the ATVM request. | • Support service funding increases by $2,042,000 in FY 2024 compared to FY 2023. The increase is needed to meet rising IT costs and additional support service contractors to support the increase in loan activity. |
| **Other Related Expenses**<br>**$904** | **$1,600** | **+$696** |
| • Supports DOE Working Capital Fund, software, equipment, other services including conferences attendance fees, and publications. The total LPO WCF estimate for FY 2023 is $3,109,000, $404,000 is included here. Technical Support provided by DOE laboratories to LPO is $3,360,000, $360,000 is included within the ATVM budget. | • Supports DOE Working Capital Fund, software, equipment, other services including conferences attendance fees, publications and work at DOE national laboratories. The total LPO WCF estimate for FY 2024 is $3,820,000, $440,000 is included here. Technical Support provided by DOE laboratories to LPO is $4,000,000, $1,000,000 is included within the ATVM request. | • Support service funding increases by $696,000 in FY 2024 compared to FY 2023, $36,000 is for WCF and $640,000 is for technical support provided by DOE laboratories. |

## Tribal Energy Loan Guarantee Program
## Proposed Appropriation Language

For Department of Energy administrative expenses necessary in carrying out the Tribal Energy Loan Guarantee Program, [$2,000,000] $*6,300,000*, to remain available until September 30, [2024]*2025*[: Provided, That in this fiscal year and subsequent fiscal years, under section 2602(c) of the Energy Policy Act of 1992 (25 U.S.C. 3502(c)), the Secretary of Energy may also provide direct loans, as defined in section 502 of the Congressional Budget Act of 1974 (2 U.S.C. 661a): Provided further, That such direct loans shall be made through the Federal Financing Bank, with the full faith and credit of the United States Government on the principal and interest: Provided further, That any funds previously appropriated for the cost of loan guarantees under section 2602(c) of the Energy Policy Act of 1992 (25 U.S.C. 3502(c)) may also be used, in this fiscal year and subsequent fiscal years, for the cost of direct loans provided under such section of such Act: Provided further, That for the cost of direct loans for the Tribal Energy Loan Guarantee Program as provided for in the preceding three provisos and for the cost of guaranteed loans for such program under section 2602(c) of the Energy Policy Act of 1992 (25 U.S.C. 3502(c)), $2,000,000, to remain available until expended: Provided further, That such costs, including the cost of modifying such loans, shall be as defined in section 502 of the Congressional Budget Act of 1974 (2 U.S.C. 661a)].

(Energy and Water Development and Related Agencies Appropriations Act, 2023.)

## Explanation of Changes

The FY 2024 Budget requests $6.3 million to allow the Tribal Energy Loan Guarantee Program (TELGP) to continue outreach and originating activities and to monitor its expected portfolio. The Request supports recently enacted changes to the program, including the ability for tribal borrowers to apply for direct loans from the Federal Financing Bank via TELGP, which have greatly increased interest and accessibility to the program. An increase of 7 Federal FTEs is included in the request. The proposed language above shows changes from the Consolidated Appropriations Act, 2023.

**Public Law Authorizations**

- P.L.102-486, Energy Policy Act of 1992, as amended
- P.L. 117-103, Consolidated Appropriations Act of 2022
- P.L. 117-169, Inflation Reduction Act of 2022
- P.L. 117-328, Consolidated Appropriations Act, 2023

## Tribal Energy Loan Guarantee Program
## (K)

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|---|
| Tribal Energy Loan Guarantee Program | 2,000 | 4,000 | 6,300 |

**Overview**

The Tribal Energy Loan Guarantee Program (TELGP) is authorized by Section 2602 of the Energy Policy Act of 1992, as amended by the Energy Policy Act of 2005, to support energy development by Indian tribes, Alaska Native corporations, and other qualified entities. TELGP was first appropriated in FY 2017. The FY 2024 Budget requests $6.3 million to continue origination and monitoring related activities for TELGP to invigorate economic opportunities in tribal communities through the development of energy projects.

The $6.3 million in funding will support achieving the Administration's objectives of a carbon-pollution free electric sector by 2035 and net-zero emissions, economy-wide, by 2050. It also supports place-based initiatives and Justice40 investments. Specifically, TELGP provides debt capital for energy projects that lead to economic development and reduction of energy costs in some of the Nation's most vulnerable communities.

In FY 2022, The Inflation Reduction Act (IRA) included language to make permanent the ability for TELGP applicants to apply for direct loans via the U.S. Department of Treasury Federal Financing Bank (FFB), guaranteed by the Department of Energy (DOE), obviating the need for a previous partial guarantee of a commercial lender. This builds on Congress's efforts to authorize access to the FFB under the Consolidated Appropriations Act of 2022, which was set to expire at the end of FY 2022. This change – in addition to other changes in FY 2022 to the TELGP solicitation to clarify ownership requirements, lending obligations, and fees – has increased interest in and accessibility to TELGP loans. To provide greater clarity for how the Loan Programs Office (LPO) will consider direct loans and to reflect changes from recent legislation, LPO issued new TELGP solicitation supplements in FY 2022.

In addition to providing tribal borrowers the ability to apply for direct loans from the FFB, the IRA increased the aggregate amount of loans available at any time under TELGP from $2 billion to $20 billion. It also provided $75 million in appropriations to carry out the program.

LPO looks forward to working with Congress, tribal borrowers and developers, and other stakeholders to highlight and publicize these important improvements to the program, in addition to continuing to communicate the availability of loan authority and information about the benefits of the program and its application process to all potential borrowers and stakeholders. LPO will continue to work diligently to utilize the $20 billion in aggregate loan authority previously provided by Congress to ultimately deliver important energy and economic benefits to Indian tribes, consistent with the Administration's Justice40 objectives.

**Outreach and Business Development**

The FY 2024 Request will allow LPO to continue Outreach and Business Development Division activities started in FY 2018 with the release of the first TELGP solicitation. These activities have included active outreach to tribal leaders to make them aware of the program and the potential value to their tribes in developing energy projects as an economic development opportunity and solution to address issues of energy access and cost for tribal members. In addition, LPO engages with investors, project developers, and technology providers to encourage participation in tribal energy projects through the TELGP program. As part of its business development activities, LPO provides guidance and feedback to potential applicants through in-house financial, technical, environmental, and legal staff on how to submit successful applications under the TELGP loan program. This includes tribal advisors, attorneys, and accountants, to address project suitability, eligibility, ownership, and access to LPO financing.

In FY 2022, LPO held 843 (297 initial and 546 follow-ups) outreach meetings, including follow-up, structuring, and relationship development discussions, to disseminate information on the availability, benefits, and application process of TELGP to potential applicants and interested parties. For the first 3 months of FY 2023, 270 (123 initial and 147 follow-ups) outreach meetings have been held and four applications have been officially submitted in FY 2023.

This budget will allow LPO to continue to conduct robust outreach activities and process anticipated applications submitted to the TELGP program. LPO has a goal of increasing awareness of TELGP and having three to six applications officially submitted in FY 2024.

The request also supports LPO's ongoing close collaboration with the Department's Office of Indian Energy Policy and Programs (IE) and outreach to tribal members. This has included ongoing communication with tribal leaders to solicit feedback about the proposed design of TELGP, one-on-one meetings with tribal leaders, and participating in tribal energy annual summits and events. In April 2021, LPO and IE organized a virtual listening session to discuss funding and financing of tribal energy projects. The listening session welcomed more than 350 participants, who provided valuable feedback on making Department programs more effective for Indian Country to meet tribal economic development and energy resilience needs. LPO will continue to solicit feedback as appropriate to better serve tribes' needs, consistent with LPO's authority.

**Highlights and Major Changes in the FY 2023 Budget Request**

In FY 2024, LPO requests $6.3 million to continue outreach, origination, and monitoring activities for TELGP to invigorate economic opportunities in tribal communities through the development of energy projects. The Request supports recently enacted changes to the program, including the ability for tribal borrowers to apply for direct loans from the Federal Financing Bank via TELGP, which have greatly increased interest and accessibility to the program. An increase of 6 Federal FTEs is included in the request. Finally, the FY 2024 Request allows LPO to continue outreach activities to Indian tribes and Alaska Native Corporations to highlight and publicize important improvements to the program, in addition to continuing to communicate the availability of loan authority and information about the benefits of the program and its application process to all potential borrowers and stakeholders.

**Tribal Energy Loan Guarantee Program**
**($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Tribal Energy Loan Guarantee Program** | | | | | |
| Administrative Expenses | 2,000 | 2,000 | 6,300 | +4,300 | 215.0% |
| Guaranteed Loan Subsidy | 0 | 2,000 | 0 | -2,000 | -100.0% |
| **Total, Tribal Energy Loan Guarantee Program** | **2,000** | **4,000** | **6,300** | **+2,300** | **57.5%** |

**Tribal Energy Loan Guarantee Program**
**Explanation of Major Changes ($k)**

| | FY 2024 Request vs FY 2023 Enacted |
|---|---|
| **Administrative Expenses:** | |
| The request of $6.3 million is needed to support increased loan origination and related administrative expenses. | +4,300 |
| **Tribal Energy Loan Guarantee Credit Subsidy:** | |
| No additional appropriated credit subsidy is requested in FY 2024 due to the funding provided by the Inflation Reduction Act in FY 2022 and the Consolidated Appropriations Act, 2023. | -2,000 |
| **Total, Tribal Energy Loan Guarantee Program** | **+2,300** |

**Administrative Expenses**
**($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| Administrative Expenses | | | | | |
| Salaries & Benefits | 523 | 1,069 | 2,442 | + 1,373 | 128% |
| Travel | 2 | 19 | 48 | + 29 | 153% |
| Support Services | 1,209 | 680 | 3,280 | + 2,600 | 382% |
| Other Related Expenses | 266 | 232 | 530 | + 298 | 128% |
| Total, Administrative Expenses | **2,000** | **2,000** | **6,300** | + 4,300 | 215% |
| | | | | | |
| **Federal FTEs** | 2 | 5 | 11 | + 6 | 120% |
| | | | | | |
| **Support Services** | | | | | |
| Management and Professional Support Services | | | | | |
| Mission Support | 907 | 440 | 2,910 | + 2,470 | 561% |
| IT Support | 302 | 240 | 370 | + 130 | 54% |
| Total, Management and Professional Support Services | 1,209 | 680 | 3,280 | + 2,600 | 382% |
| **Total, Support Services**[1] | **1,209** | **680** | **3,280** | + 2,600 | 382% |
| | | | | | |
| **Other Related Expenses** | | | | | |
| Communication and Misc. Charges Related to IT | 14 | 50 | 110 | + 60 | 120% |
| Other Services | 3 | 40 | 80 | + 40 | 100% |
| Working Capital Fund | 211 | 62 | 140 | + 78 | 126% |
| Printing Supplies and Materials | 37 | 40 | 110 | + 70 | 175% |
| Equipment | 1 | 40 | 90 | + 50 | 125% |
| **Total, Other Related Expenses** | **266** | **232** | **530** | **+ 298** | **128%** |

**Activities and Explanation of Changes**

[1] Support Services obligation of $1,209,000 in FY 2022 excludes $301,818 funded by unobligated balances carried over from prior fiscal years. FY 2023 Support Services funding of $680,000 excludes the planned use of $845,000 from balances carried over from prior fiscal years.

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Salaries and Benefits**<br>**$1,069** | **$2,442** | **+$1,373** |
| • Provided for salaries and benefits, including a 4.6% raise effective January 1, 2023, of 5 full-time equivalent employees in support of the TELGP program across all LPO divisions. | • Provides for salaries and benefits of 11 full-time equivalent employees across all of the LPO divisions. Estimate includes 5.2 % raise effective January 1, 2024. | • Increase reflects an increase of 6 full-time equivalent employees. |
| **Travel**<br>**$19** | **$48** | **+$29** |
| • 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. | • Increase is due to the travel of additional staff and continued normalization from the restrictions imposed by the COVID-19 pandemic. |
| **Support Services**<br>**$680** | **$3,280** | **+$2,600** |
| • Supports a range of contract services including administrative support, training, subject matter experts, legal services, information technology, credit analysis, and market assessments. The total information technology cost for LPO is $10,036,000 in FY23; $240,000 is included within TELGP. | • Supports a range of contract services including administrative support, training, all aspects of loan guarantee origination activities, including, subject matter experts, legal services, information technology, credit analysis, and market assessments. The total information costs for LPO is $10,231,000; $370,000 is included within TELGP. | • Increase is due to the increase in full-time federal staff, increase in loan origination activities and anticipated loan monitoring. |
| **Other Related Expenses**<br>**$232** | **$530** | **+$298** |
| • Supports DOE Working Capital Fund (WCF), software, equipment, other services including conferences attendance fees, and publications. The total LPO WCF estimate for FY 2023 is $3,109,000; $62,000 is included within TELGP. | • Supports DOE Working Capital Fund, software, equipment, other services including conferences attendance fees, and publications. The total LPO WCF estimate for FY 2024 is $3,820,000, $140,000 is included within TELGP. | • Increase is due to an increase in the FTE and the cost of overhead expenses. |

# DEPARTMENT OF ENERGY
## Funding by Program
TAS_0208 - Title 17 Innovative Technology Loan Guarantee Program - FY 2024
(Dollars in Thousands)

| | | Request Detail | | |
|---|---|---|---|---|
| | | Requested Total | | |
| **Funding by Program for TAS_0208 - Title 17 Innovative Technology Loan Guarantee Program** | | FY 2022 | FY 2023 | FY 2024 |
| Loan Guarantee Program | Golden Field Office | 3 | 3 | 3 |
| | National Energy Technology Lab | 707 | 600 | 830 |
| | National Renewable Energy Laboratory | 0 | 0 | 500 |
| | Oak Ridge National Laboratory Site Office | 0 | 79 | 79 |
| | Washington Headquarters | 31,290 | 65,524 | 68,588 |
| | **Total:** | **32,000** | **66,206** | **70,000** |
| **Total Program** | | **32,000** | **66,206** | **70,000** |

# Power Marketing Administrations

# Power Marketing Administrations

**Southeastern Power Administration**
**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, $8,449,000, 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 $8,449,000, 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 2024 appropriation estimated at not more than $0: Provided further, That, notwithstanding 31 U.S.C. 3302, up to $71,850,000 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).*

**Explanation of Changes**

No changes.

**Public Law Authorizations:**
Public Law 78-534, Flood Control Act of 1944
Public Law 95-91, DOE Organization Act of 1977, Section 302
Public Law 102-486, Energy Policy Act of 1992

## Southeastern Power Administration

### Funding ($K)

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|---|
| Gross | 73,637 | 100,960 | 94,468 |
| Offsets | -73,637 | -100,960 | -94,468 |
| **Net BA** | 0 | 0 | 0 |

### Outyear Funding ($K)

| | FY 2025 Request | FY 2026 Request | FY 2027 Request | FY 2028 Request |
|---|---|---|---|---|
| Gross | 96,640 | 98,863 | 101,137 | 103,463 |
| Offsets | -96,640 | -98,863 | -101,137 | -103,463 |
| **Net BA** | 0 | 0 | 0 | 0 |

**Overview**

Southeastern Power Administration (Southeastern or SEPA) exists to carry out the functions assigned by the Flood Control Act of 1944: to market the electric power and energy generated by the Federal reservoir projects to public bodies and cooperatives 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 472 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.

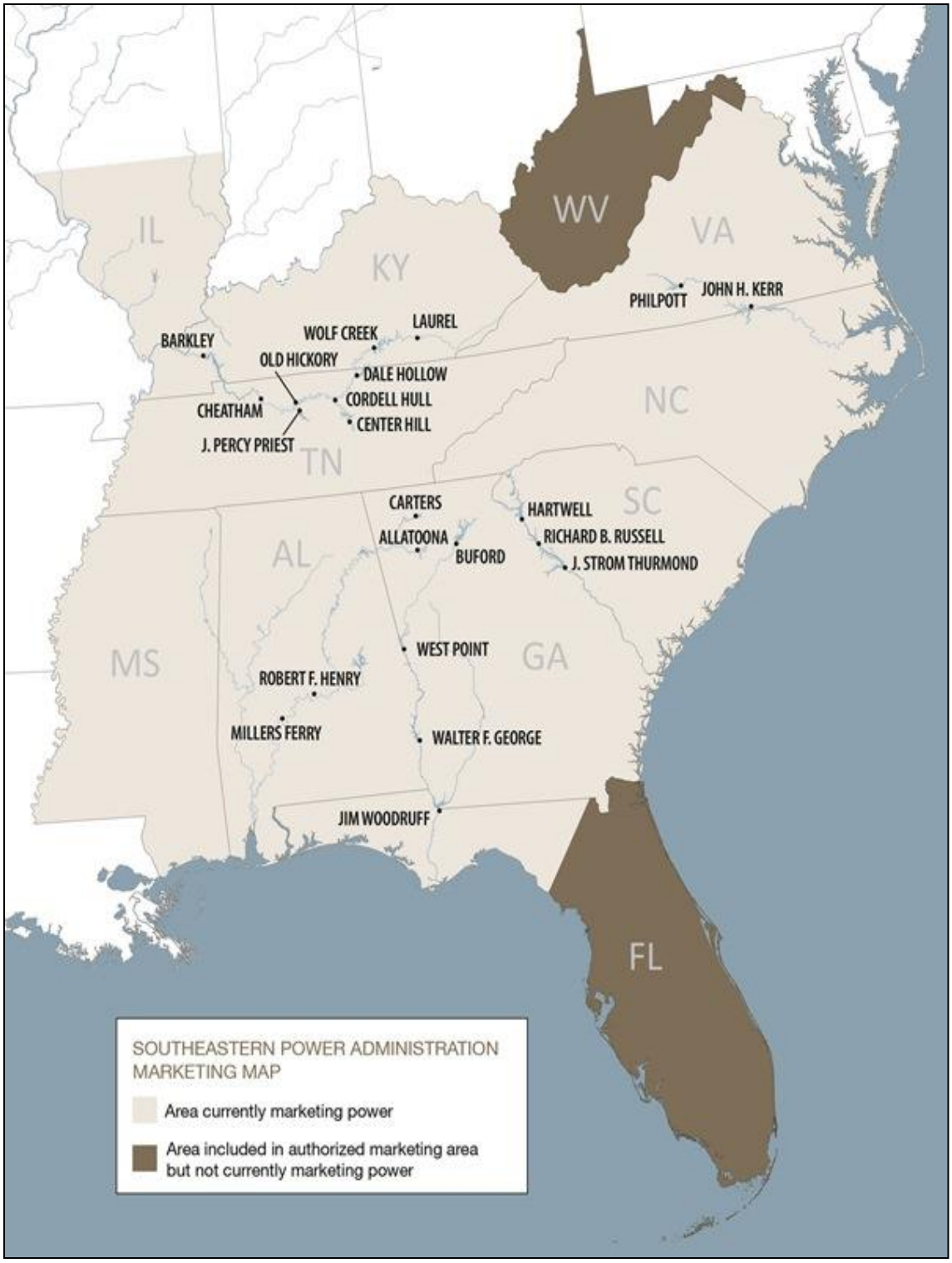
Annually, Southeastern produces an average of 7,717 gigawatt-hours of clean renewable hydroelectric energy. Southeastern maintains and upgrades its energy infrastructure to ensure reliable and efficient delivery of Federal power. Southeastern promotes energy efficiency, renewable energy, and sound management 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. This Budget submission enables Southeastern to promote the effective management of hydroelectric resources.

Program Direction supports day-to-day agency operation and Purchase Power and Wheeling supports acquisition of replacement and pumping power along with contractually required transmission services. Consistent with the authority provided in the FY 2010 Energy and Water Appropriations, the FY 2024 Budget provides funding for annual expenses (Program Direction) through discretionary offsetting collections derived from power receipts collected to recover those expenses.

**Highlights and Major Changes in the FY 2024 Budget Request**

Compared to FY23 Enacted levels, Southeastern's Request for FY 2024 decreases Purchase Power and Wheeling (-$6.668 million), reflecting changes in transmission rates and rainfall estimates, and increases Program Direction (+$.176 million) based on more accurate cost estimates.

**Service Area Map**



**Southeastern Power Administration**
**Funding by Congressional Control ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Southeastern Power Administration** | | | | | |
| Purchase Power and Wheeling (PPW) | 66,353 | 92,687 | 86,019 | -6,668 | -7% |
| Program Direction (PD) | 7,284 | 8,273 | 8,449 | 176 | 2% |
| **Subtotal, Southeastern Power Administration** | **73,637** | **100,960** | **94,468** | -6,492 | -6% |
| Offsetting Collections, PPW | -53,000 | -78,696 | -71,850 | 6,846 | -9% |
| Alternative Financing, PPW | -13,353 | -13,991 | -14,169 | -178 | 1% |
| Offsetting Collections, Annual Expenses, PD | -7,184 | -8,173 | -8,449 | -276 | 3% |
| Alternative Financing, PD | -100 | -100 | 0 | 100 | -100% |
| **Total, Southeastern Power Administration** | **0** | **0** | **0** | **0** | 0% |
| **Federal FTEs** | **44** | **44** | **44** | 0 | 0% |

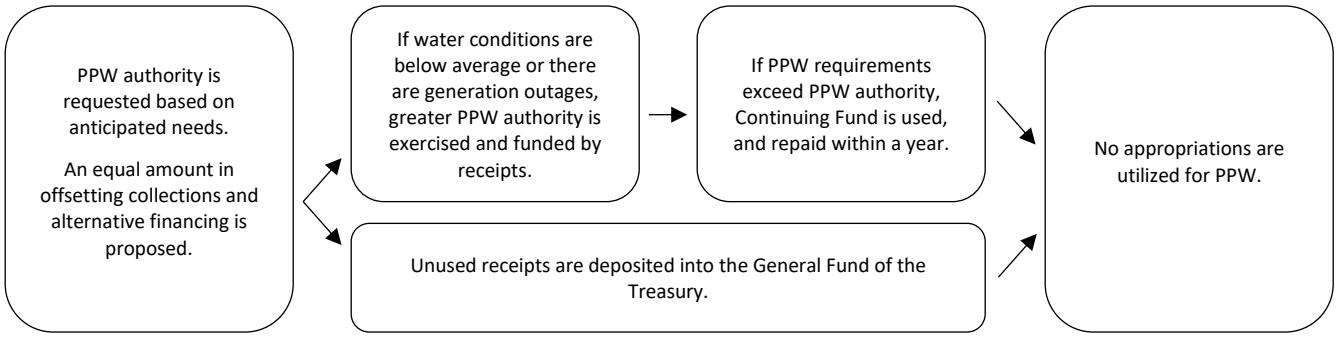
## Purchase Power and Wheeling

**Overview**

The mission of Purchase Power and Wheeling (PPW) is to provide funding for acquisition of transmission services, ancillary services for the system, pumping energy for the Richard B. Russell and Carters Pumped Storage units, and support of the Jim Woodruff Project. Southeastern must purchase power on the open market when its Federal generating assets cannot provide enough power to fulfill its contracts with its customers.

Additionally, because Southeastern does not own or operate any transmission infrastructure, transmission expenses are based on contracts with area transmission providers to deliver specified amounts of Federal power from the hydropower projects to Federal power customers. 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.

The FY 2024 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 replacement power and transmission services directly from suppliers. Southeastern will continue to assist its customers by arranging funding for these activities through alternative financing instruments, as needed.




**Highlights of the FY 2024 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 & Wheeling**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Purchase Power** | | | | | |
| Replacement Power | 3,797 | 7,447 | 115 | -7,332 | -98% |
| Russell Project pumping power | 6,900 | 12,017 | 12,405 | 388 | 3% |
| Carters Project pumping power | 5,766 | 13,244 | 11,303 | -1,941 | -15% |
| Jim Woodruff Project support | 2,600 | 2,000 | 2,000 | 0 | 0% |
| **Total, Purchase Power** | 19,063 | 34,708 | 25,823 | -8,885 | -26% |
| **Wheeling** | | | | | |
| Wheeling service charges | 42,580 | 53,239 | 55,456 | 2,217 | 4% |
| Ancillary Services | 4,710 | 4,740 | 4,740 | 0 | 0% |
| **Total, Wheeling** | 47,290 | 57,979 | 60,196 | 2,217 | 4% |
| **Total, Purchase Power and Wheeling** | 66,353 | 92,687 | 86,019 | -6,668 | -7% |
| **Alternative Financing** | | | | | |
| Net Billing | -13,353 | -13,991 | -14,169 | -178 | 1% |
| Subtotal, Purchase Power and Wheeling | 53,000 | 78,696 | 71,850 | -6,846 | -9% |
| Offsetting Collections Realized | -53,000 | -78,696 | -71,850 | 6,846 | -9% |
| **Total, Purchase Power and Wheeling Budget Authority** | **0** | **0** | **0** | 0 | 0% |

**Southeastern Power Administration**
**Purchase Power and Wheeling**
**($K)**

**Activities, Milestones, and Explanation of Changes ($K)**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Purchase Power and Wheeling $92,687** | **$86,019** | **-$6,668** |
| **Purchase Power $34,708** | **$25,823** | **-$8,885** |
| • On-Peak Replacement Power purchased to meet contract minimum service in drought conditions.<br>• Off-Peak Pumping Power purchased to supplement stream flow energy demand.<br>• Jim Woodruff System Generating Support required for high river flows at low head plant. | • Continuing activities from prior year. | • Reflects anticipated needs based on projected market prices.<br>• FY23 was the first year since FY17 that enacted funding authority matched requested levels.<br>• Due to constrained enacted levels for PPW offsetting collection authority from FY18-FY22, a comparison of requested funding to enacted levels shows significant increases. |
| **Wheeling $57,979** | **$60,196** | **+$2,217** |
| • Transmission expenses based on contracts with area transmission providers to deliver specified amounts of Federal power from the hydropower projects to Federal power customers. | • Continued funding supports ongoing activities. | • Reflects variations in transmission rates.<br>• FY23 was the first year since FY17 that enacted funding authority matched requested levels.<br>• Due to constrained enacted levels for PPW offsetting collection authority from FY18-FY22, a comparison of requested funding to enacted levels shows significant increases. |

## Program Direction

### Overview

Program Direction provides the Federal staffing resources and associated costs required to provide overall direction and execution of the Southeastern Power Administration. 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, energy efficiency and competitiveness programs, 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 2024 Budget Request

The FY 2024 Budget Request provides for the continuation of Southeastern's activities related to Program Direction at the level necessary to meet mission requirements.

**Program Direction Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Program Direction Summary** | | | | | |
| **Southeastern Power Administration** | | | | | |
| Salaries and Benefits | 5,600 | 5,800 | 6,075 | 275 | 5% |
| Travel | 50 | 50 | 120 | 70 | 140% |
| Support Services | 0 | 0 | 0 | 0 | 0% |
| Other Related Expenses | 1,634 | 2,423 | 2,254 | -169 | -7% |
| **Subtotal, Southeastern Power Administration** | **7,284** | **8,273** | **8,449** | 176 | 2% |
| Offsetting Collections (annual expenses) | -7,184 | -8,173 | -8,449 | -276 | 3% |
| Alternative Financing, PD | -100 | -100 | 0 | 100 | -100% |
| **Total, Program Direction** | **0** | **0** | **0** | 0 | 0% |
| **Federal FTEs** | **44** | **44** | **44** | 0 | 0% |
| **Support Services and Other Related Expenses** | | | | | |
| Support Services | | | | | |
| Management and Professional Support Services | 0 | 0 | 0 | 0 | 0% |
| **Total, Support Services** | **0** | **0** | **0** | 0 | 0% |
| **Other Related Expenses** | | | | | |
| Training | 21 | 35 | 40 | 5 | 14% |
| Communications, Utilities, Misc. | 215 | 285 | 287 | 2 | 1% |
| Equipment | 132 | 426 | 250 | -176 | -41% |
| Maintenance Agreements | 338 | 570 | 540 | -30 | -5% |
| Land and Structures | 0 | 0 | 0 | 0 | 0% |
| Rent to GSA | 0 | 0 | 0 | 0 | 0% |
| Tuition | 50 | 75 | 80 | 5 | 7% |
| Contract Services | 482 | 552 | 617 | 65 | 12% |
| Audit of Financial Statements | 263 | 320 | 260 | -60 | -19% |
| Supplies and Materials | 74 | 85 | 95 | 10 | 12% |
| Working Capital Fund | 50 | 65 | 75 | 10 | 15% |
| Printing and Reproduction | 9 | 10 | 10 | 0 | 0% |
| **Total, Other Related Expenses** | **1,634** | **2,423** | **2,254** | -169 | -7% |

## Program Direction
## ($K)

**Activities, Milestones, and Explanation of Changes ($K)**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Program Direction $8,273** | **$8,449** | **+$176** |
| **Salaries and Benefits $5,800** | **$6,075** | **+$275** |
| The funding supports Federal salaries and benefits for 44 FTEs who market Federal hydropower, promote energy efficiency and renewable energy, administrative support, and workloads in cybersecurity 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. | Continue funding support for Federal salaries and benefits for 44 FTEs. | Continue funding support for Federal salaries and benefits including the recruiting and retaining of FTEs. |
| **Travel $50** | **$120** | **+$70** |
| 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. | Continue funding supports ongoing activities. | Continue funding support for transportation and per diem expenses incurred for various meetings and site visits. |
| **Support Services $0** | **$0** | **$0** |
| No funding requested for FY 2023 | No funding is requested for FY 2024. | Reduced customer participation in program funding. |
| **Other Related Expenses $2,423** | **$2,254** | **-$169** |
| 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. | Continue funding support for Southeastern Power Administration's headquarters office and emergency control center, along with services of the Power Marketing Liaison Office, and the Human Resources Shared Service Center (HRSSC). | Reflects required hardware purchases and software service agreements and updates along with training, tuition, and communications costs. Costs are based on the historical usage and actual cost of similar items as well as inflationary increases. |

## Additional Tables

**Revenue and Receipts ($K)**

| | FY 2022 Actual | FY 2023 Estimate | FY 2024 Estimate | FY 2025 Estimate | FY 2026 Estimate | FY 2027 Estimate | FY 2028 Estimate |
|---|---|---|---|---|---|---|---|
| Gross Revenues | 306,606 | 317,955 | 320,109 | 322,378 | 324,759 | 327,261 | 329,889 |
| Net Billing (Credited as an Offsetting Receipt) | -13,782 | -13,991 | -14,169 | -14,355 | -14,551 | -14,757 | -14,973 |
| Total Cash Receipts | 292,824 | 303,964 | 305,940 | 308,023 | 310,208 | 312,504 | 314,916 |
| Use of Offsetting Collections to fund PPW | -53,000 | -78,696 | -71,850 | -73,933 | -76,118 | -78,415 | -80,825 |
| Use of Offsetting Collections to fund Annual Expenses | -7,184 | -8,273 | -8,449 | -8,443 | -8,598 | -8,753 | -8,909 |
| Total Receipts, net use of Offsetting Collections | 232,640 | 216,995 | 225,641 | 225,647 | 225,492 | 225,336 | 225,182 |
| Cumberland Rehabilitation | -43,328 | -50,000 | -50,000 | -50,000 | -50,000 | -50,000 | -50,000 |
| GA-AL-SC Rehabilitation | -870 | -15,000 | -15,000 | -15,000 | -15,000 | -15,000 | -15,000 |
| Kerr-Philpott Rehabilitation | -7,384 | -5,000 | -5,000 | -5,000 | -5,000 | -5,000 | -5,000 |
| Jim Woodruff | 0 | -1,000 | -1,000 | -1,000 | -1,000 | -1,000 | -1,000 |
| Accts Rec Yearly Difference | -6,941 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Proprietary Receipts | 174,117 | 145,995 | 154,641 | 154,647 | 154,492 | 154,336 | 154,182 |
| Percent of Sales to Preference Customers | 99% | 99% | 99% | 99% | 99% | 99% | 99% |
| Energy Sales and Power Marketed (megawatt-hours) | 7,409,202 | 5,587,740 | 5,587,740 | 5,587,740 | 5,587,740 | 5,587,740 | 5,587,740 |

| **Alternative Financing**2022 | Transmission | Purchase Power | Offsetting Collections | Net Billing | Appropriated Funds |
|---|---|---|---|---|---|
| Jim Woodruff System | 377 | 1,141 | -634 | -884 | 0 |
| Kerr-Philpott System | 16,526 | 0 | -16,526 | 0 | 0 |
| GA-AL-SC System | 20,959 | 17,928 | -35,725 | -3,162 | 0 |
| Cumberland System | 9,851 | 0 | -115 | -9,736 | 0 |
| | 47,713 | 19,069 | -53,000 | -13,782 | 0 |

| 2023 | Transmission | Purchase Power | Offsetting Collections | Net Billing | Appropriated Funds |
|---|---|---|---|---|---|
| Jim Woodruff System | 348 | 2,000 | -1,648 | -700 | 0 |
| Kerr-Philpott System | 18,477 | 0 | -18,477 | 0 | 0 |
| GA-AL-SC System | 29,339 | 32,708 | -58,492 | -3,555 | 0 |
| Cumberland System | 9,815 | 0 | -79 | -9,736 | 0 |
| | 57,979 | 34,708 | -78,696 | -13,991 | 0 |

| 2024 | Transmission | Purchase Power | Offsetting Collections | Net Billing | Appropriated Funds |
|---|---|---|---|---|---|
| Jim Woodruff System | 348 | 2,000 | -1,648 | -700 | 0 |
| Kerr-Philpott System | 19,461 | 0 | -19,461 | 0 | 0 |
| GA-AL-SC System | 30,568 | 23,823 | -50,658 | -3,733 | 0 |
| Cumberland System | 9,819 | 0 | -83 | -9,736 | 0 |
| | 60,196 | 25,823 | -71,850 | -14,169 | 0 |

**Power Marketed, Wheeled, or Exchanged by Project**

| Project | State | Plants | Installed Capacity (KW) | FY 2022 Estimated Power (GWH) | FY 2023 Estimated Power (GWH) | FY 2024 Estimated Power (GWH) |
|---|---|---|---|---|---|---|
| Kerr-Philpott System | | | | 293 | 293 | 293 |
| John H. Kerr | VA-NC | 1 | 291,000 | | | |
| Philpott | VA | 1 | 15,000 | | | |
| Georgia-Alabama-South Carolina System | | | | 2,508 | 2,508 | 2,508 |
| Allatoona | GA | 1 | 82,000 | | | |
| Buford | GA | 1 | 127,000 | | | |
| Carters | GA | 1 | 600,000 | | | |
| J. Strom Thurmond | GA-SC | 1 | 364,000 | | | |
| Walter F. George | GA-AL | 1 | 160,000 | | | |
| Hartwell | GA-SC | 1 | 424,000 | | | |
| R. F. Henry | AL | 1 | 82,000 | | | |
| Millers Ferry | AL | 1 | 90,000 | | | |
| West Point | GA-AL | 1 | 87,000 | | | |
| Richard B. Russell | GA-SC | 1 | 656,000 | | | |
| Jim Woodruff Project | FL-GA | 1 | 43,500 | 148 | 148 | 148 |
| Cumberland System | | | | 2,481 | 2,481 | 2,481 |
| Barkley | KY | 1 | 130,000 | | | |
| Center Hill | TN | 1 | 135,000 | | | |
| Cheatham | TN | 1 | 36,000 | | | |
| Cordell Hull | TN | 1 | 99,900 | | | |
| Dale Hollow | TN | 1 | 54,000 | | | |
| Old Hickory | TN | 1 | 103,752 | | | |
| J. Percy Priest | TN | 1 | 28,000 | | | |
| Wolf Creek | TN | 1 | 270,000 | | | |
| Laurel | TN | 1 | 61,000 | | | |
| Total Power Marketed | | 22 | 3,939,152 | 5,430 | 5,430 | 5,430 |

**System Statistics**

| | FY 2022 Actual | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|---|
| Generating Capacity: | | | |
| Nameplate Capacity (KW) | 3,939,152 | 3,939,152 | 3,939,152 |
| Peak Capacity (KW) [a] | 4,330,000 | 4,330,000 | 4,330,000 |
| Generating Stations | | | |
| Generating Projects (Number) | 22 | 22 | 22 |
| Available Energy | | | |
| Energy from Stream-flow (MWH) | 6,988,186 | 4,685,000 | 4,685,000 |
| Energy generated from Pumping (MWH) | 414,132 | 745,100 | 745,100 |
| Energy Purchased for Replacement (MWH) | 6,884 | 157,640 | 157,640 |
| Total, Energy available for marketing [b] (MWH) | 7,409,204 | 5,587,740 | 5,587,740 |

[a] Southeastern markets capacity based on nameplate plus an overload factor. NERC requires that Southeastern keep a portion of the capacity in reserve for emergency purposes and to cover losses.

[b] Gross amount. Transmission losses are deducted from this amount to estimate the amount of energy marketed.

# DEPARTMENT OF ENERGY

## Funding by Site

TAS_0302 - Southeastern Power Administration (SEPA) - FY 2024

(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| Purchase Power and Wheeling - SEPA | 66,353 | 92,687 | 0 |
| Program Direction - SEPA | 7,284 | 8,273 | 0 |
| Offsetting collections (for PD) - SEPA | -7,184 | -8,173 | 0 |
| Offsetting collections (for PPW) - SEPA | -53,000 | -78,696 | 0 |
| Offsetting Collections - SEPA | -60,184 | -86,869 | 0 |
| Less alternative financing (for PD) - SEPA | -100 | -100 | 0 |
| Less alternative financing (for PPW) - SEPA | -13,353 | -13,991 | 0 |
| Less alternative financing - SEPA | -13,453 | -14,091 | 0 |

**Southwestern Power Administration**
**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, [$53,488,000]$52,326,000 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 [$42,880,000]$40,886,000 collected by the Southwestern Power Administration from the sale of power and related services shall be credited to this account as discretionary offsetting collections, to remain available until expended, for the sole purpose of funding the annual expenses of the Southwestern Power Administration: Provided further, That the sum herein appropriated for annual expenses shall be reduced as collections are received during the fiscal year so as to result in a final fiscal year 2023 appropriation estimated at not more than [$ 10,608,000]$11,440,000: Provided further, That, notwithstanding 31 U.S.C. 3302, up to [$70,000,000]$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).*

**Explanation of Changes**

No changes.

**Public Law Authorizations**

Southwestern Power Administration:

- P.L. 78-534, Section 5, Flood Control Act of 1944
- P.L. 95–91, Section 302, DOE Organization Act of 1977
- P.L. 100-71, Supplemental Appropriations Act, 1987
- P.L. 101–101, Title III, Continuing Fund (amended 1989)
- P.L. 102-486, Section 721, Energy Policy Act of 1992
- P.L. 108-447, Appropriations Act, FY 2005
- P.L. 111-85, Appropriations Act, FY 2010

**Southwestern Power Administration**
**Overview**
**($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|---|
| Gross | 125,816 | 162,802 | 189,737 |
| Offsets | -115,416 | -152,194 | -178,297 |
| Net BA | 10,400 | 10,608 | 11,440 |

**Overview**

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 in an effort to balance diverse interests with power needs within broad parameters set by the U.S. Army Corps of Engineers (Corps), and implementing public policy.

Southwestern markets and delivers power at wholesale rates to 78 municipal utilities, 21 rural electric cooperatives, and 3 military installations in the six states of Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas[1]. 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 Center located in southwest Missouri.

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 policy 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 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 fulfilling clean energy security for the present as well as for future generations.

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 not only an important part of the Nation's clean energy portfolio due to clean generation capabilities, but it also provides support for other renewable resources. 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 clean energy security. Southwestern markets an average of 5,570 gigawatt-hours of clean renewable hydroelectric energy annually.

Southwestern will use the following strategies to fulfill its mission:

[1] Southwestern's system map can be found at https://www.energy.gov/sites/default/files/2022-08/SWPA_System_Map.pdf.

- Market and deliver, at the lowest possible cost, all available Federal hydropower generated at the Corps multipurpose projects and work with the Corps, States, cooperatives, and municipalities to meet its statutory requirements while balancing the interests of other water users.
- Maintain infrastructure and modernize systems to increase the resilience, reliability, efficiency, and use of Federal assets. This will be accomplished using appropriations; Federal power receipts; and alternative financing arrangements, which include net billing and/or reimbursable authority (customer advances).[2]
- Conduct annual power repayment studies to ensure power rates are sufficient to repay all annual operating costs and the Federal investment with interest.
- Meet Southwestern's 1200-hour peaking power contractual obligations with necessary purchase power and wheeling using Federal power receipts; alternative financing arrangements, which include net billing and/or reimbursable authority (customer advances); and the Continuing Fund as necessary in periods of below-average hydropower generation.
- Operate the transmission system efficiently to support the Nation's integrated power grid and engage in transmission policy initiatives within the RTOs in Southwestern's marketing area to respond effectively to the evolution of the electric utility industry.
- Meet requirements for Southwestern's compliance with the latest North American Electric Reliability Corporation (NERC) standards.
- Bolster Southwestern's grid resilience and cyber and physical security postures using best-available technologies and in cooperation with Department of Energy (DOE) and industry partners to protect the Federal transmission system and the Nation's power grid. Ongoing assessments, realigning vacant positions, 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.

External factors that present potential impacts to the overall achievement of the programs' strategic goals include weather, natural disasters, NERC reliability standards, industry market developments, physical and cybersecurity, changing electric industry organizational structure, interconnections, open access, the uncertainty of sustainable funding resources, competing uses' demand for the limited water resource, and other unforeseen requirements. More specifically:

- The bulk of Southwestern's transmission infrastructure is approximately 60 years old and requires ongoing maintenance and replacement while concurrently balancing changing and increasing demands for availability.
- Industry efforts to improve the reliability of the Nation's power grid are placing more requirements on Southwestern's workforce to implement mandatory reliability standards.
- The potential for malicious physical and cyber-attacks on Southwestern's assets remains a primary concern. These attacks, cyber and physical, on a utility's operation would threaten electric system reliability and potentially result in large scale power outages.
- As more of Southwestern's employees retire or leave Federal service, 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.
- Southwestern is increasingly challenged by more complex transmission policy developments including intricate energy and capacity markets, transmission planning processes, and technical rate structures; the deployment of new technologies such as renewables and distributed generation; and heightening emissions and environmental restrictions.
- 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.
- Extreme regional weather events have demonstrated increased price volatility for potential replacement energy purchases necessary to meet contractual power delivery obligations.

[2] Southwestern's authority to use net billing is inherent in the authority provided by the Flood Control Act of 1944 and has been affirmed by the Comptroller General to the Honorable Secretary of the Interior B-125127 (February 14, 1956).

- Greater support for climate resilience, regional grid reliability, infrastructure investment, and rate stability as regional utility customers make decisions to transition to cleaner energy resources.

**Highlights of the FY 2024 Budget Request**

Southwestern requests a net appropriation of $11.44 million for FY 2024. Southwestern's appropriation consists of four subprograms: Operations and Maintenance, Construction, Purchase Power and Wheeling, and Program Direction. Southwestern utilizes a variety of financing methods including appropriations, Federal power receipts, and alternative financing arrangements, which include net billing and/or reimbursable authority (customer advances).

**Southwestern Power Administration**
**Outyear Funding**

**Net BA ($K)**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| Operation and Maintenance | 11,440 | 11,703 | 11,972 | 12,247 | 12,529 |

**Major Outyear Priorities and Assumptions**

Outyear funding levels for Southwestern's Operation and Maintenance net appropriation total $47,547,000 for FY 2025 through FY 2028. Operation and Maintenance priorities include the following:

- Priority is placed on maintenance, upgrades, physical and cybersecurity, compliance, and cost containment.
- Replacement of Southwestern's transmission line structures many of which are approaching the estimated average service life for the components, to include the related capitalized payroll and travel costs.
- Increase physical security over Southwestern's assets to include the Substation Security Fence Replacement Program and IT's hardware and software upgrades that improve the ability to manage IT assets while driving efficiencies, controlling costs, maintaining compliance and reducing vulnerability.
- Implementation of DOE Order 470.3C Design Basis Threat (DBT) which places greater emphasis on limiting physical security risks at Power Marketing Administrations to include enhanced intrusion detection with surveillance cameras that link to existing Genetec Security system.

**Southwestern Power Administration**
**Funding by Congressional Control ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Operation and Maintenance** | | | | | |
| Operations and Maintenance (O&M) | **11,082** | 15,517 | 16,759 | + 1,242 | + 8% |
| Construction (CN) | **15,901** | 16,035 | 13,806 | - 2,229 | - 14% |
| Purchase Power and Wheeling (PPW) | **62,000** | 93,000 | 120,000 | + 27,000 | + 29% |
| Program Direction (PD) | **36,833** | 38,250 | 39,172 | + 922 | + 2% |
| **Subtotal, Operation and Maintenance** | **125,816** | **162,802** | **189,737** | **+ 26,935** | **+ 17%** |
| Offsetting Collections, O&M | **-4,395** | - 7,998 | - 8,884 | - 886 | - 11% |
| Offsetting Collections, PD | **-33,529** | - 34,882 | - 32,002 | - 2,880 | - 8% |
| Offsetting Collections, PPW | **-39,000** | - 70,000 | - 80,000 | - 10,000 | - 14% |
| Alternative Financing, O&M | **-4,591** | - 5,279 | - 4,388 | + 891 | + 17% |
| Alternative Financing, CN | **-10,901** | - 11,035 | - 8,806 | + 2,229 | + 20% |
| Alternative Financing, PD | **-0** | -0 | - 4,217 | - 4,217 | - 100% |
| Alternative Financing, PPW | **-23,000** | - 23,000 | - 40,000 | - 17,000 | - 74% |
| **Net Budget Authority, Operation and Maintenance** | **10,400** | **10,608** | **11,440** | **+ 832** | **+ 8%** |
| Federal FTEs | **194** | 194 | 194 | 0 | 0% |

**Operation and Maintenance**
**Explanation of Major Changes ($K)**

| | Explanation of Changes FY 2024 Request vs FY 2023 Enacted |
|---|---|
| **Operations and Maintenance:** The change reflects an increase in IT related support services, hardware and software upgrades, and an overall increase in equipment and material costs. | **+ 1,242** |
| **Construction:** The net change in the construction subprogram reflects a decrease due to a postponement of the Bull Shoals Communication Tower replacement project, and an increase for the Weleetka transformer purchase. | **- 2,229** |
| **Purchase Power and Wheeling:** The request reflects the anticipated needs for periods of severe drought or low water conditions, that can develop rapidly in Southwestern's region, based on projected market prices. It is important for Southwestern to maintain access to funding via spending authority from offsetting collections and alternative financing, at a level that provides Southwestern PPW funding options to best plan for and respond to varied hydrologic conditions, as well as operational impacts, such as hydropower unit outages for major rehabilitation. | **+ 27,000** |
| **Program Direction:** The increase in the program direction subprogram reflects aggressive recruiting to fill several technical hard to fill positions, back-filling retirees, cost of living increases for craft workers and power system dispatchers, and filling succession planning positions for knowledge transfer. Also, increase in support services for projected contractual cost of living adjustments. | **+ 922** |
| **Total, Southwestern, Operation and Maintenance** | **+ 26,935** |

## Operations and Maintenance
## Funding ($K)

| | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) |
|---|---|---|---|
| **Operations and Maintenance (O&M)** | | | |
| Power Marketing | 200 | 200 | 0 |
| Operations | 9,888 | 9,215 | - 673 |
| Maintenance | 2,930 | 5,294 | + 2,364 |
| Capitalized Moveable Equipment | 2,499 | 2,050 | - 449 |
| **Subtotal, Operations and Maintenance** | **15,517** | **16,759** | **+ 1,242** |
| Offsetting Collections (annual expenses) | - 7,998 | - 8,884 | - 886 |
| Alternative Financing | - 5,279 | - 4,388 | + 891 |
| **Total, Operations and Maintenance** | **2,240** | **3,487** | **+ 1,247** |

**Southwestern Power Administration**
**Operations and Maintenance**

**Description**

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 clean, safe, reliable, affordable, and secure renewable hydroelectric energy to our Nation. The Energy Policy Act (EPACT) and the DOE and Administration's policies emphasize its significant contribution to the Nation's past, current, and future energy supply; and identify Southwestern's important role in meeting electricity demand by supplying hydroelectric energy to its customers. These laws and policies emphasize the need to repair, maintain, and improve transmission and generation facilities to ensure safety, security, resilience, and reliability of the Nation's energy infrastructure. SWPA continuously assesses changing climate forecast data to improve climate resilience, including efforts to support the value and stability of the SWPA Federal hydropower products and to ensure response and recovery from climate and extreme weather events. SWPA is participating in the DOE Climate Adaptation and Resilience Plan implementation, and as part of that effort SWPA is in the process of conducting a Vulnerability Assessment and Resilience Plan.

Southwestern's planned O&M 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.

**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. The National Electric Transmission Congestion Study identified constraints in the Nation's interconnected electrical grid which could impede power flows. 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, negotiated architect/engineering contracts, 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 EPACT and 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, the Leopard Darter, and Interior Least Tern. 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 dispatch center and the Alternate Control Center.

**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 SWPA'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.

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Operations and Maintenance $15,517,000** | **$16,759,000** | **+ $1,242,000** |
| **Power Marketing $200,000** | **$200,000** | **$0** |
| • The Power Marketing activity funds the technical and economic studies to support transmission planning. | • The Power Marketing activity funds the technical and economic studies to support transmission planning. | • Funding request remains the same. |
| **Operations $9,888,000** | **$9,215,000** | **-$673,000** |
| *Communications ($6,466,000)*<br>• This subactivity funds telemetering improvements, technical support to protect cyber infrastructure, SCADA/EMS system maintenance, load forecasting, and digital testing equipment. | *Communications ($7,002,000)*<br>• This subactivity funds telemetering improvements, technical support to protect cyber infrastructure, SCADA/EMS system maintenance, load forecasting, and digital testing equipment. | *Communications (+ $536,000)*<br>• The increase reflects required hardware and software, and support services. |
| *Environmental, Safety, and Health ($2,161,000)*<br>• The subactivity funds environmental, safety, and health services. | *Environmental, Safety, and Health ($1,367,000)*<br>• The subactivity funds environmental, safety, and health services. | *Environmental, Safety, and Health (- $794,000)*<br>• The decrease reflects the use of retained funds during renegotiation of the cultural resources archeological survey on Southwestern's transmission lines for phase 2 to be completed in FY 2024. |
| *Other Transmission ($1,261,000)*<br>• The subactivity funds physical security, field utility costs, and day to day expenses of the dispatch center. Headquarters (HQ) utility costs were included in O&M for FY 2023. | *Other Transmission ($846,000)*<br>• The subactivity funds physical security, field utility costs, and day to day expenses of the dispatch center. | *Other Transmission (- $415,000)*<br>• The decrease reflects HQ utility costs being moved to Program Direction in FY 2024. |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Maintenance $2,930,000** | **$ 5,294,000** | **+ $2,364,000** |
| *Substation ($1,462,000)*<br>• This subactivity funds all equipment, parts, and materials for the operation of high voltage substations. | *Substation ($3,435,000)*<br>• This subactivity funds all equipment, parts, and materials for the operation of high voltage substations. | *Substation (+ $1,973,000)*<br>• The increase reflects parking lot refurbishment at 2 locations and increasing costs related to equipment purchases. |
| *Transmission Line Maintenance ($1,468,000)*<br>• This subactivity funds all equipment, parts, and materials for the operation of the high voltage transmission system. Also, vegetation management contracts. | *Transmission Line Maintenance ($1,859,000)*<br>• This subactivity funds all equipment, parts, and materials for the operation of the high voltage transmission system. Also, vegetation management contracts. | *Transmission Line Maintenance (+ $391,000)*<br>• The change reflects an increase in cost of materials. |
| **Capitalized Moveable Equipment $2,499,000** | **$2,050,000** | **- $449,000** |
| • This activity funds the replacement of vehicles, tractor-trailers, and heavy equipment used for the maintenance and repair of the transmission system and facilities. | • This activity funds the replacement of vehicles, tractor-trailers, and heavy equipment used for the maintenance and repair of the transmission system and facilities. | • The decrease reflects fewer estimated replacements. |

**Construction**
**Funding ($K)**

| | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) |
|---|---|---|---|
| **Construction** | | | |
| Transmission System | | | |
| Substation Upgrades | 567 | 1,610 | + 1,043 |
| Communication Upgrades | 4,122 | 480 | - 3,642 |
| Transmission Upgrades | 11,346 | 11,716 | + 370 |
| **Subtotal, Construction** | **16,035** | **13,806** | **- 2,229** |
| Alternative Financing | - 11,035 | - 8,806 | +2,229 |
| **Total, Construction** | **5,000** | **5,000** | **0** |

**Southwestern Power Administration**
**Construction**

**Description**

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 the North American Electric Reliability Corporation 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. SWPA supports climate resilience through improved response and recovery controls aimed to reduce the impact of various potential natural disaster risks to the transmission system.

**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**

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 $42.8 million in spectrum relocation funds, as approved by the Office of Management and Budget, and as reported to the Congress. Southwestern has completed 100 percent of the tower installation project and anticipates completing antenna and radio installation and

obtaining comparable capability by September 30,2024. 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.

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Construction $16,035,000** | **$13,806,000** | **- $2,229,000** |
| **Transmission System $16,035,000** | **$13,806,000** | **- $2,229,000** |
| *Substation Upgrades ($567,000)*<br>• This subactivity funds all substation equipment replacements. | *Substation Upgrades ($1,610,000)*<br>• This subactivity funds all substation equipment replacements. | *Substation Upgrades (+ $1,043,000)*<br>• The increase reflects additional costs for the Weleetka transformer replacement. |
| Communication Upgrades ($4,122,000)<br>• This subactivity funds all communication equipment additions and upgrades. Projects include microwave equipment, fiber terminal equipment upgrades, and microwave tower at Bull Shoals. | *Communication Upgrades ($480,000)*<br>• This subactivity funds all communication equipment additions and upgrades. | *Communication Upgrades (- $3,642,000)*<br>• The decrease reflects the postponement of the Bull Shoals Communication Tower. |
| *Transmission Upgrades ($11,716,000)*<br>• This subactivity funds transmission system upgrades such as structure rebuilds, reconductoring, etc.. | *Transmission Upgrades ($11,716,000)*<br>• This subactivity funds transmission system upgrades such as structure rebuilds, reconductoring, etc.. | *Transmission Upgrades (+ $370,000)*<br>• The increase in the transmission upgrades reflects the additional materials needed for the increase in line miles to be rebuilt. |

## Purchase Power and Wheeling
## Funding ($K)

| | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) |
|---|---|---|---|
| **Purchase Power and Wheeling** | | | |
| System Support | 89,500 | 116,500 | + 27,000 |
| Other Contractual Services | 3,500 | 3,500 | 0 |
| **Subtotal, Purchase Power and Wheeling** | **93,000** | 120,000 | **+ 27,000** |
| Offsetting Collections (PPW) | - 70,000 | - 80,000 | - 10,000 |
| Alternative Financing | - 23,000 | - 40,000 | - 17,000 |
| **Total, Purchase Power and Wheeling** | **0** | **0** | **0** |

**Southwestern Power Administration**
**Purchase Power and Wheeling**

**Description**

The Purchase Power and Wheeling (PPW) subprogram provides for the purchase of energy to meet peaking power contractual obligations and the delivery of Federal power. 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 make decisions regarding Federal hydropower and other clean energy resources as part of 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 or Southwestern's own transmission system.

In prior years, inadequate funding for PPW and hydrological fluctuations required multiple requests to access the Continuing Fund to ensure sufficient funding was available to fulfill Southwestern's 1200-hour peaking power contractual obligations. Today, requirements associated with utilizing the Continuing Fund for PPW needs could spike power rates for customers and limits the usefulness of this tool for replacement energy needs. In FY 2001, Southwestern requested, and Congress enacted, authority to use Federal power receipts that recover purchase power and wheeling expenses (offsetting collections) to fund its PPW program (up to a specified limit). However, since FY 2018, the enacted levels have been significantly below the requested levels. The use of requested offsetting collections will be largely dependent upon the hydrological conditions realized during the fiscal year. Under average conditions, less than half of the limit requested will be collected and used.

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 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 2022, Southwestern's PPW reserve balance was $108 million. Customers will provide other power resources and/or purchases for the remainder of their firm loads.

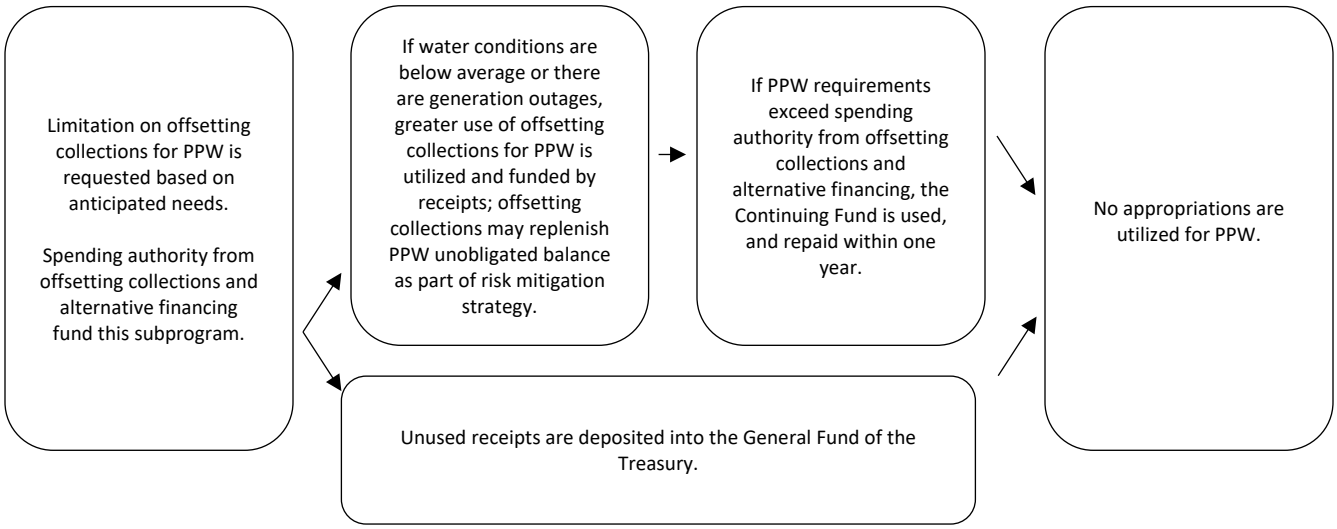
The activities of the PPW subprogram provide for the purchase of power that helps fulfill limited peaking power contractual obligations, thereby ensuring the marketability of the Federal hydropower resource and repayment of the Federal investment. This subprogram also provides for wheeling services that deliver Federal power to optimize the operation of the hydropower facilities marketed by Southwestern. This subprogram enhances the reliability of the electrical transmission grid. PPW includes two activities:

**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. The funding level is derived from contractual wheeling requirements. The FY 2023 funding request reflects the projected cost for wheeling services based on contractual pricing and delivery terms.



**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Purchase Power and Wheeling $93,000,000** | **$ 120,000,000** | **+ $27,000,000** |
| *System Support ($89,500,000)* | *($116,500,000)* | *(+ $27,000,000)* |
| • This activity funds purchase power requirement needed to fulfill all 1200-hour contractual peaking power obligations with customers. | • This activity funds purchase power requirement needed to fulfill all 1200-hour contractual peaking power obligations with customers. | • The overall increase in system support reflects maximum anticipated needs based on projected market prices and severe drought hydrologic conditions. Droughts in Southwestern's region can develop in a matter of months, such that adequate PPW funding must be available for proactive planning and rapid response. |
| *Other Contractual Services ($3,500,000)* | *($3,500,000)* | *(+ $0)* |
| • Contractual services for wheeling associated with the purchase of transmission service. | • Contractual services for wheeling associated with the purchase of transmission service. | • Funding request remains the same. |

## Program Direction
## Funding ($K)

| | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) |
|---|---|---|---|
| **Southwestern Power Administration** | | | |
| Salaries and Benefits | 28,528 | 28,667 | + 139 |
| Travel | 1,654 | 1,490 | - 164 |
| Support Services | 4,387 | 3,963 | - 424 |
| Other Related Expenses | 3,681 | 5,052 | + 1,371 |
| **Subtotal, Southwestern Power Administration** | **38,250** | **39,172** | **+ 922** |
| Offsetting Collections (annual expenses) | -34,882 | -32,002 | + 2,880 |
| Alternative Financing | -0 | -4,217 | - 4,217 |
| **Total, Program Direction** | **3,368** | **2,953** | **- 415** |
| **Federal FTEs** | 194 | 194 | 0 |
| **Support Services** | | | |
| Management Support | | | |
| Engineering and Technical Services | 0 | 0 | 0 |
| Technical Support | | | |
| Management and Professional Support Services | 4,387 | 3,963 | - 424 |
| Total Support Services | 4,387 | 3,963 | - 424 |
| **Total, Support Services** | **4,387** | **3,963** | **- 424** |
| **Other Related Expenses** | | | |
| Rent to Others | 0 | 0 | 0 |
| Communication, Utilities, Misc. | 882 | 890 | + 8 |
| EITS | 50 | 85 | + 35 |
| Printing and Reproduction | 45 | 45 | 0 |
| Other Services | 766 | 1,011 | + 245 |
| Training | 197 | 200 | + 3 |
| Power Marketing Liaison | 104 | 125 | + 21 |
| Financial Audit | 450 | 440 | - 10 |
| Supplies and Materials | 150 | 153 | + 3 |

| | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) |
|---|---|---|---|
| Equipment | 473 | 1,463 | + 990 |
| Working Capital Fund | 564 | 640 | + 76 |
| **Total, Other Related Expenses** | **3,681** | **5,052** | **+ 1,371** |

## 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 hire and train the next generation of engineers, cyber and physical security specialists, power system dispatchers, high voltage electricians, and linemen. These initiatives will address the shortage of these valuable resources because of retirement trends, and the ever-expanding demands on the electric utility industry, such as compliance with NERC and 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.

## Program Direction

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Program Direction $38,250,000** | **$39,172,000** | **+ $922,000** |
| *Salaries and Benefits ($28,528,000)* | *($28,667,000)* | *(+ $139,000)* |

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| • The FY 2023 level supports 194 Federal employees: 54 percent of the employees are GS; salaries of the remaining 46 percent (craft workers and power system dispatchers) are determined through union negotiations and wage surveys. This activity also includes overtime, awards, relocation, workers' compensation, recruitment bonuses, retention pay, and advanced in-hire rates. By the end of FY 2023, approximately 27 percent of Southwestern's staff will be eligible for optional retirement. Southwestern will continue to invest in its employees, emphasizing strong development programs, completing skills gap analyses, and pursuing aggressive recruitment and retention efforts. | • The FY 2024 level supports 194 Federal employees: 54 percent of the employees are GS; salaries of the remaining 46 percent (craft workers and power system dispatchers) are determined through union negotiations and wage surveys. This activity also includes overtime, awards, relocation, workers' compensation, recruitment bonuses, retention pay, and advanced in-hire rates. By the end of FY 2024, approximately 25 percent of Southwestern's staff will be eligible for optional retirement. Southwestern will continue to invest in its employees, emphasizing strong development programs, completing skills gap analyses, and pursuing aggressive recruitment and retention efforts. | • The increase in Salaries and Benefits reflects aggressive recruiting to fill several technical hard to fill positions, back-filling retirees, and filling succession planning positions for knowledge transfer. |
| *Travel ($1,654,000)* | *($1,490,000)* | *(- $164,000)* |
| • This activity 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. The funding level for this activity is primarily derived from the daily requirement of the field maintenance personnel to maintain 1,381 miles of transmission lines, 26 substations/switchyards, 51 microwave/radio sites, communication equipment, and the Supervisory Control and Data Acquisition network. Travel for the performance of general and administrative functions is also included. | • This activity 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. The funding level for this activity is primarily derived from the daily requirement of the field maintenance personnel to maintain 1,381 miles of transmission lines, 26 substations/switchyards, 51 microwave/radio sites, communication equipment, and the Supervisory Control and Data Acquisition network. Travel for the performance of general and administrative functions is also included. | • The decrease in travel reflects estimated transmission policy related efforts, water resource activities, and field maintenance crew travel. |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| *Support Services ($4,387,000)* | *($3,963,000)* | *(+ $424,000)* |
| • This activity funds contracted management support services including information technology, E-Government, 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. | • This activity funds contracted management support services including information technology, E-Government, 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. | • Decrease for a change in allocation of service contract costs between HQ and field. |
| *Other Related Expenses ($3,681,000)* | *($5,052,000)* | *(+ $1,371,000)* |
| • This activity funds rental space, facility security, the financial audit, services of the Power Marketing Liaison Office, the Human Resources Shared Service Center (HRSSC), the 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 workforce planning and required training to meet the NERC emergency operations requirement. Rental space costs assume the GSA inflation factor. Other costs are based on the historical usage and actual cost of similar items. | • This activity funds facility security, the financial audit, services of the Power Marketing Liaison Office, the Human Resources Shared Service Center (HRSSC), the 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 workforce planning and required training to meet the NERC emergency operations requirement. Costs are based on the historical usage and actual cost of similar items. | • Change reflects increase in software updates and maintenance costs required for FY 2024. |

**Southwestern Power Administration**
**Revenues and Receipts**
**Funding ($K)**

| | FY 2022 Actual | FY 2023 Estimate | FY 2024 Estimate | FY 2025 Estimate | FY 2026 Estimate | FY 2027 Estimate | FY 2028 Estimate |
|---|---|---|---|---|---|---|---|
| Gross Revenues | | | | | | | |
| Sale and Transmission of Electric Energy | 211,577 | 198,610 | 198,610 | 198,610 | 198,610 | 198,610 | 198,610 |
| Alternative Financing Credited as an Offsetting Receipt (O&M, CN, PD, PPW), Net Billing | -38,438 | -39,314 | -57,411 | -59,056 | -58,853 | -58,320 | -61,372 |
| Alternative Financing Credited as an Offsetting Receipt (Section 212), Net Billing[3] | -60,365 | -39,909 | -5,000 | -3,000 | -3,500 | -3,500 | -1,000 |
| Offsetting Collections, Annual Expenses (Net Zero) | -37,924 | -42,880 | -40,886 | -41,564 | -40,691 | -41,527 | -42,038 |
| Offsetting Collections, Purchase Power and Wheeling ('up to' ceiling)[4] | -39,000 | -70,000 | -80,000 | -80,000 | -80,000 | -80,000 | -80,000 |
| Total Proprietary Receipts | 35,850 | 6,507 | 15,313 | 14,990 | 15,566 | 15,263 | 14,200 |
| Percent of Sales to Preference Customers | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Energy Sales from Power Marketed (billions of kilowatt hours) | 5.4 | 5.3 | 5.4 | 5.4 | 5.4 | 5.4 | 5.4 |

[3] 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.

[4] FY 2022 amount enacted for the limit on PPW offsetting collections was $39 million. For FY 2023 through FY 2028, the estimated amount of offsetting collections for PPW is equivalent to the "up to" amount enacted (FY 2023), requested (FY 2024), or anticipated to be requested (FY 2025-2028) 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[5]**

| | Funding ($K) | | |
|---|---|---|---|
| | FY 2022 | FY 2023 | FY 2024 |
| Offsetting Collections for Reimbursable Work [6] | | | |
| Alternative Financing | | | |
| Operations and Maintenance | 4,591 | 5,279 | 4,388 |
| Construction | 10,901 | 11,035 | 8,806 |
| Purchase Power and Wheeling (PPW) | 23,000 | 23,000 | 40,000 |
| Program Direction | 0 | 0 | 4,217 |
| **Subtotal, Alternative Financing** | **38,492** | **39,314** | **57,411** |
| Offsetting Collections not anticipated for obligation in budget year | 0 | 0 | 0 |
| **Subtotal, Offsetting Collections for Reimbursable Work** | **38,492** | **39,314** | **57,411** |
| **Offsetting Collections for Reimbursable Work-for-Others [7]** | | | |
| **Non-Federal** | **12,508** | **12,686** | **12,589** |
| **Federal** | **6,000** | **6,000** | **6,000** |
| **Total, Offsetting Collections for Reimbursable** | **57,000** | **58,000** | **76,000** |

[5]Southwestern received permanent non-Federal reimbursable authority pursuant to 16 USC 825s-4. Table is shown for transparency purposes.

[6]Southwestern relies significantly on alternative financing arrangements with customers to finance much of its direct mission work on a reimbursable basis.

[7] 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 2022 Actual | FY 2023 Estimate | FY 2024 Estimate | FY 2025 Estimate | FY 2026 Estimate | FY 2027 Estimate | FY 2028 Estimate |
|---|---|---|---|---|---|---|---|
| Installed Capacity | 2,213,500 | 2,242,500 | 2,242,500 | 2,242,500 | 2,242,500 | 2,242,500 | 2,242,500 |
| Marketed Capacity | 2,058,500 | 2,058,500 | 2,058,500 | 2,058,500 | 2,058,500 | 2,058,500 | 2,058,500 |
| Generating Stations | | | | | | | |
| Generating Projects (Number) | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Substations/Switchyards (Number) | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| Substations/Switchyards (kVA Capacity) | 1,026,900 | 1,026,900 | 1,026,900 | 1,026,900 | 1,026,900 | 1,026,900 | 1,026,900 |
| Energy Generated | 4,818,706 | 5,177,500 | 5,098,400 | 5,139,700 | 5,152,400 | 5,152,400 | 5,152,400 |
| Energy Received | 138,427 | 241,500 | 249,900 | 246,700 | 244,800 | 244,800 | 244,800 |
| Total, Energy Available for Marketing | 4,957,133 | 5,419,000 | 5,348,300 | 5,386,400 | 5,397,200 | 5,397,200 | 5,397,200 |
| 161-KV | 1,118 | 1,118 | 1,118 | 1,118 | 1,118 | 1,118 | 1,118 |
| 138-KV | 164 | 164 | 164 | 164 | 164 | 164 | 164 |
| 69-KV | 99 | 99 | 99 | 99 | 99 | 99 | 99 |
| Total, Transmission Lines | 1,381 | 1,381 | 1,381 | 1,381 | 1,381 | 1,381 | 1,381 |

## Power Marketed, Wheeled, or Exchanged by Project

| State | Number of Plants | Installed Capacity (kW) | Marketed Capacity (kW) | FY 2022 Actual Energy (GWh) | FY 2023 Estimated Energy (GWh | FY 2024 Estimated Energy (GWh) | FY 2025 Estimated Energy (GWh) | FY 2026 Estimated Energy (GWh) | FY 2027 Estimated Energy (GWh) | FY 2028 Estimated Energy (GWh) |
|---|---|---|---|---|---|---|---|---|---|---|
| Power Marketed | | | | | | | | | | |
| Integrated System: | | | | | | | | | | |
| Missouri | 4 | 470,000 | 713,166 | 1,739 | 1,879 | 1,854 | 1,867 | 1,871 | 1,871 | 1,871 |
| Arkansas | 9 | 1,058,050 | 395,856 | 965 | 1,043 | 1,029 | 1,037 | 1,039 | 1,039 | 1,039 |
| Oklahoma | 7 | 514,100 | 426,635 | 1,040 | 1,124 | 1,109 | 1,117 | 1,119 | 1,119 | 1,119 |
| Texas | 2 | 112,000 | 162,527 | 396 | 428 | 422 | 426 | 426 | 426 | 426 |
| Louisiana | 0 | 0 | 136,495 | 333 | 360 | 355 | 357 | 358 | 358 | 358 |
| Kansas | 0 | 0 | 164,510 | 401 | 433 | 428 | 431 | 432 | 432 | 432 |
| Subtotals | 22 | 2,154,150 | 1,999,188 | 4,874 | 5,268 | 5,197 | 5,235 | 5,246 | 5,246 | 5,246 |
| Isolated: (Sam Rayburn and Robert D. Willis Projects) | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Texas | 2 | 59,350 | 29,675 | 60 | 76 | 76 | 76 | 76 | 76 | 76 |
| | Louisiana | 0 | 0 | 29,675 | 24 | 76 | 76 | 76 | 76 | 76 | 76 |
| Subtotals | | 2 | 59,350 | 59,350 | 84 | 152 | 152 | 152 | 152 | 152 | 152 |
| | | | | 2,058,338 | | | | | | | 5,397 |
| Total, Power Marketed[8] | | 24 | 2,213,500 | | 4,957 | 5,419 | 5,348 | 5,386 | 5,397 | 5,397 | |
| Power Wheeled (MW) | | | | | 611 | 589 | 592 | 595 | 598 | 598 | 598 |

[8] Total, Power Marketed: actual energy data is the energy delivered and therefore net of losses and other non-marketed energy; estimated data comes from Southwestern's 2022 power repayment studies.

**DEPARTMENT OF ENERGY**

**Funding by Site**

TAS_0303 - Southwestern Power Administration (SWPA) - FY 2024

(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Southwestern Power Administration Office** | | | |
| Operation And Maintenance - SWPA | 11,082 | 15,517 | 16,759 |
| Construction - SWPA | 15,901 | 16,035 | 13,806 |
| Purchase Power And Wheeling - SWPA | 62,000 | 93,000 | 120,000 |
| Program Direction - SWPA | 36,833 | 38,250 | 39,172 |
| Subtotal, SWPA | 125,816 | 162,802 | 189,737 |
| **Total Southwestern Power Administration Office** | **125,816** | **162,802** | **189,737** |
| **Undesignated LPI** | | | |
| Offsetting Collections (for O&M) - SWPA | -4,395 | -7,998 | -8,884 |
| Offsetting Collections (for PD) - SWPA | -33,529 | -34,882 | -32,002 |
| Offsetting Collections (for PPW) - SWPA | -39,000 | -70,000 | -80,000 |
| Offsetting Collections - SWPA | -76,924 | -112,880 | -120,886 |
| Less alternative financing (for O&M) - SWPA | -4,591 | -5,279 | -4,388 |
| Less alternative financing (for Construction) - SWPA | -10,901 | -11,035 | -8,806 |
| Less alternative financing (for PPW) - SWPA | -23,000 | -23,000 | -40,000 |
| Less alternative financing (for PD) - SWPA | 0 | 0 | -4,217 |
| Less alternative financing - SWPA | -38,492 | -39,314 | -57,411 |
| **Total Undesignated LPI** | **-115,416** | **-152,194** | **-178,297** |
| **Total Funding by Site for TAS_0303 - Southwestern Power Administration (SWPA)** | **10,400** | **10,608** | **11,440** |

**Construction, Rehabilitation, Operation and Maintenance**
**Western Area Power Administration**
**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, $313,289,000, including official reception and representation expenses in an amount not to exceed $1,500, to remain available until expended, of which $313,289,000 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 $213,417,000 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 2024 appropriation estimated at not more than $99,872,000 of which $99,872,000 is derived from the Reclamation Fund: Provided further, That notwithstanding 31 U.S.C. 3302, up to $475,000,000 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).*

**Explanation of Changes**

There is no change in the appropriation language.

**Public Law Authorizations**
P.L. 57-161, "The Reclamation Act of 1902"
P.L. 78-534, "Flood Control Act of 1944"
P.L. 95-91, "Department of Energy Organization Act" (1977)
P.L. 102-486, "Energy Policy Act of 1992"
P.L. 66-389, "Sundry Civil Appropriations Act" (1922)
P.L. 76-260, "Reclamation Project Act of 1939"
P.L. 80-790, "Emergency Fund Act of 1948"
P.L. 102-575, "Reclamation Projects Authorization and Adjustment Act of 1992"
"Economy Act" of 1932, as amended (41 stat. 613)
"Interior Department Appropriation Act of 1928" (44 Stat. 957)
P.L. 70-642, "Boulder Canyon Project Act" (1928)
P.L. 75-756, "Boulder Canyon Project Adjustment Act" (1940)
P.L. 98-381, "Hoover Power Plant Act of 1984"
P.L. 75-529, "The Fort Peck Project Act of 1938"
P.L. 84-484, "The Colorado River Storage Project Act of 1956"
P.L. 90-537, "The Colorado River Basin Project Act of 1968"
The Act of June 18, 1954 (68 Stat. 255)
P.L. No 111-5, "American Recovery and Reinvestment Act of 2009"

**Falcon and Amistad Operating and Maintenance Fund**
**Proposed Appropriation Language**

*For operation, maintenance, and emergency costs for the hydroelectric facilities at the Falcon and Amistad Dams, $3,425,000, 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 $3,197,000 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 2024 appropriation 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 2024, 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. (*Energy and Water Development and Related Agencies Appropriations Act, 2023.*)*

**Explanation of Changes**

There is no change in the appropriation language.

**Public Law Authorizations**
P.L. 103-236, "Foreign Relations Authorization Act, Fiscal Years 1994 and 1995"
The Act of June 18, 1954 (68 Stat. 255)

**Western Area Power Administration**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|---|
| Gross | 1,085,326 | 1,398,523 | 1,691,129 |
| Offsets | -994,326 | -1,299,563 | -1,591,029 |
| **Net BA** | **91,000** | **98,960** | **100,100** |

**Bipartisan Infrastructure Legislation (BIL) Appropriation ($K)**

| FY 2022 BIL Appropriation | FY 2023 BIL Appropriation | FY 2024 BIL Appropriation |
|---|---|---|
| **499,500** | **0** | **0** |

**Disaster Relief Supplemental (DRS) Appropriation ($K)**

| FY 2022 DRS Appropriation | FY 2023 DRS Appropriation | FY 2024 DRS Appropriation |
|---|---|---|
| **0** | **520,000** | **0** |

**Overview**

Western Area Power Administration (WAPA) continues to support the Department of Energy (DOE) priorities for a resilient, reliable and secure North American electricity system.

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.

WAPA serves a diverse group of nearly 700 wholesale customers, including more than two dozen military installations, DOE National labs, municipalities, rural electric cooperatives, public utility and irrigation districts, Federal and state agencies and Native American tribes. In turn, WAPA's customers provide service to 40 million Americans, including many disadvantaged and energy communities.

WAPA's base program is funded through three appropriation accounts: 1) the Construction, Rehabilitation, Operation and Maintenance Account (CROM); 2) Falcon and Amistad Operating and Maintenance Fund; and 3) Colorado River Basins Power Marketing Fund (CRBPMF). Within these three accounts, there are seven subprograms: four in the CROM Account, one in the Falcon and Amistad Operating and Maintenance Fund and two in CRBPMF.

WAPA's request has been formulated to meet its power marketing and contractual power delivery obligations with continued high marks for reliability. The Request prioritizes grid modernization through data-driven investment decisions designed to improve resiliency and reliability of WAPA's transmission system.

**Western Area Power Administration**
**Funding by Congressional Control ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Construction, Rehabilitation, Operation and Maintenance (CROM)** | | | | | |
| Operation and Maintenance | 81,983 | 85,229 | 130,131 | +44,902 | +53% |
| Construction and Rehabilitation | 35,185 | 47,189 | 0 | -47,189 | -100% |
| Purchase Power and Wheeling | 443,677 | 715,824 | 715,824 | 0 | 0% |
| Program Direction | 267,246 | 277,287 | 295,039 | +17,752 | +6% |
| **Subtotal, CROM Program** | **828,091** | **1,125,529** | **1,140,994** | **+15,465** | **+1%** |
| Alternative Financing | | | | | |
| Operation and Maintenance | -7,122 | -7,641 | -42,276 | -34,635 | +453% |
| Construction and Rehabilitation | -31,090 | -38,219 | 0 | +38,219 | -100% |
| Purchase Power and Wheeling | -273,677 | -240,824 | -240,824 | 0 | 0% |
| Program Direction | -51,849 | -54,868 | -60,084 | -5,216 | +10% |
| **Subtotal, Alternative Financing** | **-363,738** | **-341,552** | **-343,184** | **-1,632** | **0%** |
| Offsetting Collections from Colorado River Dam Fund | | | | | |
| Operation and Maintenance | -1,491 | -1,449 | -1,530 | -81 | +6% |
| Program Direction | -7,625 | -7,955 | -7,991 | -36 | 0% |
| **Subtotal, Offsetting Collections from Colorado River Dam Fund** | **-9,116** | **-9,404** | **-9,521** | **-117** | **+1%** |
| Offsetting Collections, annual Operation and Maintenance and Program Direction | | | | | |
| Operation and Maintenance | -27,530 | -29,180 | -29,449 | -269 | +1% |
| Program Direction | -166,935 | -171,661 | -183,968 | -12,307 | +7% |
| **Subtotal, Offsetting Collections, annual Operation and Maintenance and Program Direction** | **-194,465** | **-200,841** | **-213,417** | **-12,576** | **+6%** |
| Offsetting Collections, Purchase Power and Wheeling | -170,000 | -475,000 | -475,000 | 0 | 0% |
| Use of Prior Year Balances | | | | | |
| Annual Operation and Maintenance | 0 | 0 | 0 | 0 | 0% |
| Annual Program Direction | 0 | 0 | 0 | 0 | 0% |
| **Subtotal, Use of Prior Year Balances** | **0** | **0** | **0** | **0** | **0%** |
| **Subtotal, CROM** | **90,772** | **98,732** | **99,872** | **+1,140** | **+1%** |
| Rescission of Prior Year Balances | 0 | 0 | 0 | 0 | 0% |

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Total, CROM** | **90,772** | **98,732** | **99,872** | **+1,140** | **+1%** |
| **Federal FTEs** | **1,202** | **1,201** | **1,200** | **-1** | **0%** |
| | | | | | |
| **Falcon and Amistad Operating and Maintenance Fund** | 7,545 | 7,928 | 8,297 | +369 | +5% |
| Offsetting Collections, annual Operation and Maintenance | -5,580 | -6,102 | -3,197 | +2,905 | -48% |
| Use of Prior Year Balances | 0 | 0 | -3,000 | -3,000 | 0% |
| Alternative Financing | -1,737 | -1,598 | -1,872 | -274 | +17% |
| **Total, Falcon and Amistad** | **228** | **228** | **228** | **0** | **0%** |
| **Federal FTEs** | **0** | **0** | **0** | **0** | **0%** |
| | | | | | |
| **Colorado River Basins Power Marketing Fund (CRBPMF)** | 237,290 | 258,466 | 535,238 | +276,772 | +107% |
| Offsetting Collections | -237,290 | -258,466 | -535,238 | -276,772 | +107% |
| **Total, CRBPMF** | **0** | **0** | **0** | **0** | **0%** |
| **Federal FTEs** | **308** | **308** | **311** | **+3** | **+1%** |
| | | | | | |
| **Transmission Infrastructure Program Fund (TIP)** | | | | | |
| **Mandatory** | | | | | |
| New Borrowing Authority | 0 | 0 | 0 | 0 | 0% |
| Repayment of Borrowing Authority | 0 | 0 | 0 | 0 | 0% |
| **Subtotal, Borrowing Authority** | **0** | **0** | **0** | **0** | **0%** |
| Operating & Debt Service | 5,000 | 8,400 | 8,400 | 0 | 0% |
| Collections from Projects | -5,000 | -8,400 | -8,400 | 0 | 0% |
| **Subtotal, Operating & Debt Service** | **0** | **0** | **0** | **0** | **0%** |
| **Total, Mandatory** | **0** | **0** | **0** | **0** | **0%** |
| | | | | | |
| **Discretionary** | | | | | |
| Equipment, Contracts and Related Expenses | 4 | 4 | 86 | +82 | +2,050% |
| Program Direction | 12,396 | 6,596 | 6,514 | -82 | -1% |
| **Subtotal, Discretionary** | **12,400** | **6,600** | **6,600** | **0** | **0%** |
| Offsetting Collections | -12,400 | -6,600 | -6,600 | 0 | 0% |
| **Total, Discretionary** | **0** | **0** | **0** | **0** | **0%** |

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Total, TIP** | **0** | **0** | **0** | **0** | **0%** |
| **Federal FTEs** | **11** | **12** | **10** | **-2** | **-17%** |
| | | | | | |
| **Total, Western Area Power Administration** | **91,000** | **98,960** | **100,100** | **+1,140** | **+1%** |
| **Federal FTEs** | **1,521** | **1,521** | **1,521** | **0** | **0%** |

**Construction, Rehabilitation, Operation and Maintenance**
**Western Area Power Administration**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|---|
| Gross | 828,091 | 1,125,529 | 1,140,994 |
| Offsets | -737,319 | -1,026,797 | -1,041,122 |
| **Subtotal** | **90,772** | **98,732** | **99,872** |
| Rescission of prior year balances | 0 | 0 | 0 |
| **Net BA** | **90,772** | **98,732** | **99,872** |

**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.

**Highlights of the FY 2024 Budget Request**
WAPA's request has been formulated to meet its power marketing and contractual power delivery obligations. The Request prioritizes grid modernization through data-driven investment decisions designed to improve resiliency and reliability of WAPA's transmission system.

For FY24 and outyears, WAPA is adhering more strictly to common capital program definitions to improve consistency and transparency of budgeted activities in the O&M and C&R programs across WAPA's separate regions and power systems. There is no change in WAPA's overall capital program requirement.

- O&M Replacements, Additions & Upgrades will include all capital replacement activity, including minor related upgrades and additions. The C&R program will no longer include replacement and additions. Over the years, replacement activity (a maintenance activity) has migrated to the C&R program as the build-out of WAPA transmission system has effectively completed
- C&R will include capital investments greater than $25 million in total anticipated costs that meet the following criteria:
    - Construction of new facilities that provide service to new customers, expand service to existing customers or provide cost-effective benefits for WAPA customers
    - Major rehabilitation of existing infrastructure intended to restore assets to acceptable operating or environmental conditions

**Outyear Funding**
**($K)**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| **CROM Net BA** | **99,872** | **102,170** | **104,520** | **106,924** | **109,383** |

**Major Outyear Priorities and Assumptions**
Outyear funding levels for WAPA CROM total $422,997,000 for FY 2025 through FY 2028. The CROM appropriation priorities include:

- Operation and maintenance requirements for reliable and resilient transmission system
- Capital investments in grid modernization and safeguards
- Purchase power and wheeling to meet reserves and contractual power delivery obligations

**Operation and Maintenance**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Operation and Maintenance** | | | | | |
| Regular Operation and Maintenance | 36,322 | 38,490 | 38,965 | +475 | +1% |
| Replacements, Additions & Upgrades | 45,661 | 46,739 | 91,166 | +44,427 | +95% |
| **Total, Operation and Maintenance** | **81,983** | **85,229** | **130,131** | **+44,902** | **+53%** |
| Alternative Financing | -7,122 | -7,641 | -42,276 | -34,635 | +453% |
| Use of Receipts from Colorado River Dam Fund | -1,491 | -1,449 | -1,530 | -81 | +6% |
| Offsetting Collections | -27,530 | -29,180 | -29,449 | -269 | +1% |
| Use of Prior Year Balances | 0 | 0 | 0 | 0 | 0% |
| **Total, Operation and Maintenance (Budget Authority)** | **45,840** | **46,959** | **56,876** | **+9,917** | **+21%** |
| | | | | | |
| **Replacements, Additions & Upgrades** | | | | | |
| Aviation | 650 | 450 | 450 | 0 | 0% |
| Communication | 7,561 | 4,753 | 6,738 | +1,985 | +42% |
| Information Technology | 6,588 | 5,488 | 5,228 | -260 | -5% |
| Miscellaneous | 757 | 4,005 | 2,687 | -1,318 | -33% |
| Movable Equipment | 11,184 | 10,057 | 11,935 | +1,878 | +19% |
| Substations | 13,345 | 16,881 | 34,756 | +17,875 | +106% |
| Transmission Lines | 5,576 | 5,105 | 29,372 | +24,267 | +475% |
| **Total, Replacements, Additions & Upgrades** | **45,661** | **46,739** | **91,166** | **+44,427** | **+95%** |

**Description**
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 40 million Americans across its 15-state footprint.

**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.

Aviation
Helicopter and helicopter equipment investments that add value to, or extend the service life of the helicopter fleet, such as engines, rotor blades, avionics, airframes, and other major components.

Communication
Investments supporting telephone, mobile radio, microwave, and fiber optics communication systems.

Information Technology
Hardware and software investments supporting cybersecurity, network, infrastructure, supervisory control and data acquisition (SCADA), enterprise applications, power management and marketing, and operations and maintenance.

Miscellaneous
Investments that support the bulk electric system, such as maintenance facilities, access roads, water systems, physical security enhancements, and facility decommissioning and removal costs.

Movable Equipment
Equipment that supports the bulk electric system such as specialized vehicles (e.g., bucket trucks, graders, bulldozers, excavators, forklifts, trailers, mobile transformers) and test equipment (e.g., meter and relay test sets, pentameters, Ohm testers, oil dielectric testers, battery load testers, and communication and environmental control test equipment).

Substations
Substation infrastructure and related components, such as circuit breakers, transformers, relays, batteries and chargers, reactors, meters, buses, surge arresters, capacitor banks, and disconnect switches.

Transmission Lines
Transmission line infrastructure and related components, such as transmission line structures, hardware, conductor, and static wires.

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Operation and Maintenance $85,229,000** | **$130,131,000** | **+44,902,000** |
| *Regular O&M ($38,490,000)*<br>The continuing maintenance of WAPA's transmission system at or above industry standards supports DOE and WAPA missions by minimizing sudden failure, unplanned outages, and possible regional power system disruptions. The Request is based on projected work plans for activities funded from this account. Estimates are based on historical data of actual supplies needed to operate and maintain the transmission system and recent procurement of similar items. This Request also includes approximately $220,000 for appropriated O&M annual expenses that are required to fund WAPA's Salinity and Levee non-reimbursable power systems. The Request includes approximately $1,449,000 for activities in the Boulder Canyon Project, funded through receipts from the Colorado River Dam Fund. | *Regular O&M ($38,965,000)*<br>The continuing maintenance of WAPA's transmission system at or above industry standards supports DOE and WAPA missions by minimizing sudden failure, unplanned outages, and possible regional power system disruptions. The Request is based on projected work plans for activities funded from this account. Estimates are based on historical data of actual supplies needed to operate and maintain the transmission system and recent procurement of similar items. This Request also includes approximately $248,000 for appropriated O&M annual expenses that are required to fund WAPA's Salinity and Levee non-reimbursable power systems. The Request includes approximately $1,530,000 for activities in the Boulder Canyon Project, funded through receipts from the Colorado River Dam Fund. | *Regular O&M (+$475,000)*<br>Regular O&M increases are largely driven by transmission line maintenance requirements. |
| *Replacements, Additions and Upgrades ($46,739,000)*<br>Replacement needs are based on age, reliability, and safety of equipment, customer-coordinated review, cost analysis of rebuild versus replacement, availability of replacement parts, and obsolescence of diagnostic maintenance tools. Estimates are determined using actual costs of similar items. | *Replacements, Additions and Upgrades ($91,166,000)*<br>Replacement needs are based on age, reliability, and safety of equipment, customer-coordinated review, cost analysis of rebuild versus replacement, availability of replacement parts, and obsolescence of diagnostic maintenance tools. Estimates are determined using actual costs of similar items. | *Replacements, Additions and Upgrades (+44,427,000)*<br>Replacements, Additions and Upgrades increases reflect a shift in activities previously included in the Construction and Rehabilitation subprogram. The combination of this activity and the C&R subprogram actually represents a decrease of $2.8 million year over year. |

**Construction and Rehabilitation**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Construction and Rehabilitation** | | | | | |
| Nogales to Saguaro Transmission Line | 0 | 0 | 0 | 0 | 0% |
| Transmission Lines and Terminal Facilities | 28,400 | 15,027 | 0 | -15,027 | -100% |
| Substations | 888 | 22,801 | 0 | -22,801 | -100% |
| Other | 5,897 | 9,361 | 0 | -9,361 | -100% |
| **Subtotal, Construction and Rehabilitation** | **35,185** | **47,189** | **0** | **-47,189** | -100% |
| Alternative Financing | -31,090 | -38,219 | 0 | +38,219 | -100% |
| **Total, Construction and Rehabilitation (Budget Authority)** | **4,095** | **8,970** | **0** | **-8,970** | -100% |

**Construction, Rehabilitation, Operation and Maintenance**
**Construction and Rehabilitation**

**Description**

The Construction and Rehabilitation (C&R) subprogram supports WAPA's mission to deliver reliable, clean Federal hydroelectric power by emphasizing the construction of new facilities that provide service to new customers, expand service to existing customers, or provide cost-effective benefits across the customer base intended to provide continued reliability, improved connectivity, and increased resilience, flexibility and capability to the power grid; or major rehabilitation of existing infrastructure intended to restore assets to acceptable operating or environmental conditions.

Financing of the C&R subprogram is expected to rely primarily on voluntary stakeholder participation in alternative methods for capital financing except where specific infrastructure appropriations are made available. Stakeholder financing may be provided as either advances that are re-paid to the stakeholder through bill credits or as direct work for others financing resulting in contributed assets to WAPA without repayment to the stakeholder. The latter will be reflected in the Activities and Explanation of Changes at $0, with reimbursable authority included within the work for others request.

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Construction and Rehabilitation $47,189,000** | **$0** | **-$47,189,000** |
| | *Nogales to Saguaro Transmission Line ($0)*<br>• Public/private partnership:<br>  ○ Customer will advance funds to WAPA for all project costs (no repayment by WAPA)<br>  ○ WAPA will design, procure and construct the project at no cost to ratepayers<br>• Construction of the following facilities:<br>  ○ Rebuild/upgrade 64-mile 115-kV single circuit transmission line (wood H-frame structures) located on existing WAPA rights-of-way between Nogales (AZ) and Saguaro (AZ) substations to 230-kV double circuit transmission line (steel monopole structures)<br>  ○ New 230-kV connections to three existing customer substations<br>• Ownership:<br>  ○ WAPA and customer will each own a 230-kV circuit with WAPA's operated at 115-kV<br>• Benefit to WAPA customers:<br>  ○ Rebuild of existing transmission system infrastructure with no impact on WAPA rates | *Nogales to Saguaro Transmission Line (+$0)*<br>Funding for this project is being provided through the work for others program at no cost to WAPA. |
| *Transmission and Terminal Facilities ($15,027,000)*<br>• Continue rehabilitation and construction required on WAPA's transmission lines and terminal facilities to cost-effectively market and deliver clean Federal hydropower and promote a strong record of reliability and safety.<br>• Address additional system reliability risk and operational problems.<br><br>• Appropriations ($2,220,000) are requested for the following projects in FY 2023: | | *Transmission and Terminal Facilities (-$15,027,000)*<br>The decrease represents increased adherence to the definitions for replacements, additions and upgrades. Most projects recently reflected in the C&R subprogram were primarily larger scale replacements, additions, and upgrades, which are now more appropriately reflected within the Operations and Maintenance subprogram. |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| ○ Trinity-Weaverville-Lewiston (CA) upgrade rights-of-way for existing 17-mile segment of transmission line to reduce the risk of wildfires and increase reliability and safety of the surrounding community<br><br>• Alternative financing ($12,807,000) sought for the following projects in FY 2023:<br>○ Parker-Bouse (AZ) construct 15-mile segment of 230-kV double circuit transmission line and upgrade equipment at Bouse substation to improve reliability of service, improve safety, and reduce ongoing maintenance costs<br>○ Bouse-Kofa 161kV (AZ) rebuild of 75.6 miles of 161-kV transmission line to comply with NERC standards, increase reliability and reduce maintenance costs<br>○ Parker-Blythe 161-kV #2 Rebuild (AZ/CA) rebuild of 63.9 miles of 161-kV transmission line structure to increase reliability and reduce maintenance costs<br>○ Blythe-Knob (CA) replacement of failed and deteriorating wood transmission line structures to increase reliability and reduce maintenance costs | | |
| *Substations ($22,801,000)*<br>• Continue construction, modification, and rehabilitation of WAPA's substations to ensure power system reliability and stability.<br>• Address additional system reliability risk and operational problems.<br><br>• Appropriations ($4,100,000) are requested for the following projects in FY 2023: | | *Substations (-$22,801,000)*<br>The decrease represents increased adherence to the definitions for replacements, additions and upgrades. Most projects recently reflected in the C&R subprogram were primarily larger scale replacements, additions, and upgrades, which are now more appropriately reflected within the Operations and Maintenance subprogram. |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| ○ Yellowtail Substation (MT) replacement of entire protection and control system, including control building, to increase reliability<br><br>Alternative financing ($18,701,000) is being sought for the following projects in FY 2023:<br>○ Eagle Butte Substation (SD) replacement of existing single bus configuration with 115 kV ring bus to increase reliability and simplify maintenance procedures<br>○ Groton Substation (SD) transformer (40+ years) and control building replacement to reduce the risk of catastrophic failure, and increase reliability and safety<br>○ Philip Substation (SD) transformer replacement due to age (50+ years) and other asset management factors which could result in catastrophic failure, reliability, and customer outages<br>○ Sand Creek Switching Station (CO) installation of 3 breaker ring bus (power circuit breakers and control panels) to sectionalize the Erie-Hoyt-Willoby 115-kV transmission lines and to increase reliability and safety<br>○ Stegall Substation (NE) replacement of existing main and transfer bus configuration with breaker and a half arrangement to increase reliability and reduce maintenance requirements | | |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| *Other ($9,361,000)*<br>• Appropriations ($2,650,000) are requested for the following projects in FY 2023:<br>  o Mead Substation (NV) roadway improvements to increase accessibility and safety<br>  o Mead Substation (NV) domestic water system improvements to increase reliability and safety<br><br>• Alternative financing ($6,711,000) sought for the following projects in FY 2023:<br>  o Cottonwood Substation (CA) control building replacement (age and excessive maintenance requirements) to increase service reliability and reduce maintenance costs<br>  o Folsom Substation (CA) station service equipment upgrades to mitigate safety hazards and increase reliability<br>  o Rapid City Substation (SD) maintenance building replacement (40+ years old) will accommodate crew quarters, shop areas, house vehicles, and provide equipment storage and enable WAPA to be more efficient in maintenance and response to emergencies<br>  o Yuma (AZ) retrofit and equip newly acquired maintenance building critical to supporting aged and deteriorating transmission system infrastructure and increasing reliability for key preference customers | | *Other (-$9,361,000)*<br>The decrease represents increased adherence to the definitions for replacements, additions and upgrades. Most projects recently reflected in the C&R subprogram were primarily larger scale replacements, additions, and upgrades, which are now more appropriately reflected within the Operations and Maintenance subprogram. |

## Purchase Power and Wheeling
## Funding ($K)

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Purchase Power and Wheeling** | | | | | |
| Central Valley | 261,742 | 348,414 | 348,414 | 0 | 0% |
| Pick-Sloan Missouri Basin and other Programs | 181,935 | 367,410 | 367,410 | 0 | 0% |
| **Subtotal, Purchase Power and Wheeling** | **443,677** | **715,824** | **715,824** | **0** | **0%** |
| Alternative Financing Needed | -273,677 | -240,824 | -240,824 | 0 | 0% |
| Offsetting Collections | -170,000 | -475,000 | -475,000 | 0 | 0% |
| **Total, Purchase Power and Wheeling (Budget Authority)** | **0** | **0** | **0** | **0** | **0%** |

**Construction, Rehabilitation, Operation & Mainenance**
**Purchase Power and Wheeling**

**Description**
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. In recent years, PPW costs for WAPA Construction, Rehabilitation, Operation and Maintenance (CROM) account using PPW receipt authority and emergency appropriations have increased significantly, from $147 million in FY 2020, to $361 million in FY 2021, $418 million in FY 2022, and enacted at $475 million for FY 2023. The year-over-year increase is +146%, +16%, and +14% for FY 2021, FY 2022, and FY 2023 respectively. WAPA's budget request reflects anticipated requirements utilizing current information on hydro conditions, generation, contractual commitments, and power pricing.

WAPA has implemented a PPW risk mitigation strategy to ensure continuous operations during periods of significant drought. The strategy was developed consistent with existing authorities, and with the participation and support of WAPA power customers. Under this approach, WAPA retains receipts from the recovery of purchase power and wheeling expenses within the 'up to' amount specified by Congress. The receipts retained are available until expended and are available only for purchase power and wheeling expenses.

WAPA received a $500 million emergency appropriation through the Infrastructure Investment and Jobs Acts, providing near-term relief for immediate concerns regarding the reduced level of PPW reserves. Funds can be transferred from WAPA's CROM account to the Colorado River Basins Power Marketing Fund (CRBPMF) account as WAPA's Administrator determines is needed for purchase of power and transmission services per statute. The allocation of the IIJA funding will be prioritized in a manner that facilitates the restoration of PPW reserves in both the CROM and CRBPMF accounts.

WAPA received an additional $520 million appropriation through the Disaster Relief Supplemental for PPW support in FY 2023. Up to $100 million can be transferred from WAPA's CROM account to the Colorado River Basins Power Marketing Fund (CRBPMF) account as WAPA's Administrator determines is needed for purchase of power and transmission services per statute. The allocation of the DRS funding will be prioritized in a manner that facilitates the restoration of PPW reserves in both the CROM and CRBPMF accounts.

Since WAPA's inception, the full cost of the PPW program has been included in the rate setting process. Through this process, and utilizing interim rate adjusting capabilities, all PPW costs are fully recovered through WAPA's rates.

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.

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Central Valley Project** | | |
| *Program Requirements ($348,414,000)*<br>The Purchase Power and Wheeling subprogram continues to support WAPA's power marketing effort by providing for power purchases to firm the variable hydropower resource and securing transmission services as necessary to meet its contractual power delivery. | *Program Requirements (348,414,000)*<br>The Purchase Power and Wheeling subprogram continues to support WAPA's power marketing effort by providing for power purchases to firm the variable hydropower resource and securing transmission services as necessary to meet its contractual power delivery. | *Program Requirements ($0)*<br>No change year over year. 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. |
| **Pick-Sloan Missouri Basin** | | |
| *Program Requirements ($367,410,000)*<br>The Purchase Power and Wheeling subprogram continues to support WAPA's power marketing effort by providing for power purchases to firm the variable hydropower resource and securing transmission services as necessary to meet its contractual power delivery. | *Program Requirements ($367,410,000)*<br>The Purchase Power and Wheeling subprogram continues to support WAPA's power marketing effort by providing for power purchases to firm the variable hydropower resource and securing transmission services as necessary to meet its contractual power delivery. | *Program Requirements ($0)*<br>No change year over year. 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. |

**Construction, Rehabilitation, Operation & Maintenance**
**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.

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 assure that WAPA's facilities remain a reliable and resilient component of the nations 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
## Funding ($K)

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Program Direction** | | | | | |
| Salaries and Benefits | 183,875 | 191,911 | 205,871 | +13,960 | +7% |
| Travel | 10,497 | 10,610 | 10,336 | -274 | -3% |
| Support Services | 36,732 | 36,958 | 35,737 | -1,221 | -3% |
| Other Related Expenses | 36,142 | 37,808 | 43,095 | +5,287 | +14% |
| **Total, Program Direction** | **267,246** | **277,287** | **295,039** | **+17,752** | **+6%** |
| Use of Alternative Financing | -51,849 | -54,868 | -60,084 | -5,216 | +10% |
| Use of Receipts from Colorado River Dam Fund | -7625 | -7,955 | -7,991 | -36 | 0% |
| Offsetting Collections, Other Expenses | -166,935 | -171,661 | -183,968 | -12,307 | +7% |
| Use of Prior Year Balances | 0 | 0 | 0 | 0 | 0% |
| **Total, Program Direction (Budget Authority)** | **40,837** | **42,803** | **42,996** | **+193** | **0%** |
| **Federal FTEs** | **1,202** | **1,201** | **1,200** | **-1** | **0%** |
| | | | | | |
| **Support Services** | | | | | |
| Technical Support | | | | | |
| Economic and Environmental Analysis | 13,583 | 15,995 | 15,777 | -218 | -1% |
| **Total, Technical Support** | **13,583** | **15,995** | **15,777** | **-218** | **-1%** |
| Management Support | | | | | |
| Automated Data Processing | 13,445 | 11,645 | 11,525 | -120 | -1% |
| Training and Education | 3,537 | 3,313 | 3,000 | -313 | -9% |
| Reports and Analysis, Management and General Administrative Support | 6,167 | 6,005 | 5,435 | -570 | -9% |
| **Total Management Support** | **23,149** | **20,963** | **19,960** | **-1,003** | **-5%** |
| **Total, Support Services** | **36,732** | **36,958** | **35,737** | **-1,221** | **-3%** |
| | | | | | |
| **Other Related Expenses** | | | | | |
| Rent to GSA | 2,398 | 2,200 | 2,423 | +223 | +10% |
| Communication, Utilities, Misc. | 7,930 | 6,969 | 7,140 | +171 | +2% |
| Printing and Reproduction | 105 | 81 | 65 | -16 | -20% |

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| Other Services | 11,019 | 12,189 | 17,874 | +5,685 | +47% |
| Training | 12 | 2 | 0 | -2 | -100% |
| Purchases from Gov. Accounts | 1,341 | 1,285 | 924 | -361 | -28% |
| Operation and Maintenance of Equipment | 6,201 | 6,784 | 7,273 | +489 | +7% |
| Supplies and Materials | 2,293 | 2,285 | 2,076 | -209 | -9% |
| Equipment | 2,304 | 3,205 | 2,603 | -602 | -19% |
| Working Capital Fund | 2,539 | 2,808 | 2,717 | -91 | -3% |
| **Total, Other Related Expenses** | **36,142** | **37,808** | **43,095** | **+5,287** | **+14%** |

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Program Direction $277,287,000** | **$295,039,000** | **+$17,752,000** |
| **Salaries and Benefits $191,911,000** | **$205,871,000** | **+$13,960,000** |
| 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 funding is for Federal employees who construct and replace, operate and maintain and secure, on a continuing basis, WAPA's high-voltage interconnected transmission system. | The salary and benefits reflect known and anticipated increases for General Schedule, Wage Board and Administratively Determined employees. |
| **Travel $10,610,000** | **$10,336,000** | **-$274,000** |
| 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 $36,958,000** | **$35,737,000** | **-$1,221,000** |
| 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 funds information technology, job related training and education, engineering, miscellaneous advisory and reporting services, and general administrative support services. | Request reflects decrease in technical support for operations security and environmental services, and general administrative support. |

| Other Related Expenses $37,808,000 | $43,095,000 | +$5,287,000 |
|---|---|---|
| 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 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. | 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 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. | The primary increase is attributable to infrastructure other services related to substation and transmission facility maintenance and operations and slight increases in facility rent, communication, utilities; with decreases for equipment purchases and supplies and materials. |

# DEPARTMENT OF ENERGY
## Funding by Site
TAS_5068 - Western Area Power Administration - FY 2024
(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Western Area Power Administration Office** | | | |
| Operation And Maintenance - CROM | 81,983 | 85,229 | 130,131 |
| Construction And Rehabilitation - CROM | 35,185 | 47,189 | 0 |
| Purchase Power And Wheeling - CROM | 443,677 | 715,824 | 715,824 |
| Program Direction - CROM | 267,246 | 277,287 | 295,039 |
| Construction, Rehabilitation, Operation, and Maintenance (CROM) - WP | 828,091 | 1,125,529 | 1,140,994 |
| Less alternative financing (for O&M) - CROM | -7,122 | -7,641 | -42,276 |
| Less alternative financing (for Construction) - CROM | -31,090 | -38,219 | 0 |
| Less alternative financing (for PPW) - CROM | -273,677 | -240,824 | -240,824 |
| Less alternative financing (for PD) - CROM | -51,849 | -54,868 | -60,084 |
| Less alternative financing - CROM | -363,738 | -341,552 | -343,184 |
| Purchase Power & Wheeling Financed from Offsetting (P.L. 108-447/109-103) | -170,000 | -475,000 | -475,000 |
| Offsetting Collections - Colorado River Dam (P.L. 98-381) | -9,116 | -9,404 | -9,521 |
| Offsetting Collections (for O&M) - CROM | -27,530 | -29,180 | -29,449 |
| Offsetting Collections (for PD) - CROM | -166,935 | -171,661 | -183,968 |
| Offsetting Collections - CROM | -373,581 | -685,245 | -697,938 |
| **Total Western Area Power Administration Office** | **90,772** | **98,732** | **99,872** |
| **Total Funding by Site for TAS_5068 - Western Area Power Administration** | **90,772** | **98,732** | **99,872** |

**Falcon and Amistad Operating and Maintenance Fund**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|---|
| Gross | 7,545 | 7,928 | 8,297 |
| Offsets | -7,317 | -7,700 | -8,069 |
| **Net BA** | **228** | **228** | **228** |

**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 2024 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.

**Outyear Funding**
**($K)**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| **Falcon and Amistad Operating and Maintenance Fund Net BA** | **228** | **233** | **238** | **244** | **249** |

**Major Outyear Priorities and Assumptions**

Outyear funding levels for the Maintenance Fund total $964,000 for FY 2025 through FY 2028. Maintenance Fund priorities include the following:

- Annual operations and maintenance expenses will be offset by revenues collected from the customer
- The annual appropriation, along with customer advances, are necessary for capitalized replacement projects

## Falcon and Amistad Operating and Maintenance Fund
## Funding ($K)

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Western Area Power Administration** | | | | | |
| Falcon and Amistad Operating and Maintenance Fund | 7,545 | 7,928 | 8,297 | +369 | +5% |
| **Subtotal, Falcon and Amistad Operating and Maintenance Fund** | **7,545** | **7,928** | **8,297** | **+369** | **+5%** |
| Offsetting Collections | -5,580 | -6,102 | -3,197 | +2,905 | -48% |
| Use of Prior Year Balances | 0 | 0 | -3,000 | -3,000 | 0% |
| Alternative Financing | -1,737 | -1,598 | -1,872 | -274 | +17% |
| **Total, Falcon and Amistad Operating and Maintenance Fund** | **228** | **228** | **228** | **0** | **0%** |

## Falcon and Amistad Operating and Maintenance Fund

**Description**

The Falcon and Amistad Project consists of two international dams located on the Rio Grande River between Texas and Mexico. The United States and Mexico operate separate hydroelectric power plants on each side of the Rio Grande River. The power plants are independent and legislatively severable from the international reservoir storage dams. The Operating and Maintenance Fund was established in the Treasury of the United States and is administered by WAPA's Administrator for use by the Commissioner of the U.S. Section of the IBWC to defray administrative, O&M, replacement, and emergency costs for the hydroelectric facilities at the Falcon and Amistad Dams.

**IBWC**

O&M

Activities include salaries and benefits for the approximately 40 positions of the U.S. Section of the IBWC who operate and maintain the two power plants on a 24-hour/day basis, planned maintenance activities, required safety services, and emergency response to flood operations and/or equipment failure. O&M includes inspection and service of the HVAC and air compressor system, fire suppression systems, elevators, self-contained breathing apparatus, recharge and hydro-testing of fire extinguishers, calibration of test equipment, rebuild of electric motors, and repair of obsolete equipment when replacement parts are no longer available. Travel, training, communications, utilities, printing, and office supplies and materials for the IBWC employees and technical advisors is also funded by the O&M activity. The Request includes essential training for employees to comply with standards of the Interagency Commission on Dam Safety, Occupational and Health Administration, and the National Dam Safety Act.

Capital Investment

WAPA, the IBWC, and the customer have collaboratively developed a rehabilitation work plan to address immediate and future infrastructure needs for the hydroelectric facilities. Future infrastructure needs will be appropriately planned and categorized by all parties through regularly scheduled progress reviews.

**WAPA**

Marketing, Contract, Repayment Studies

This activity funds power marketing, administration of power contracts, and preparation of rate and repayment studies. Based on accurate studies, staff ensures power revenues are set at an appropriate level to recover annual expenses and meet repayment schedules.

## Falcon and Amistad Operating and Maintenance Fund

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Falcon and Amistad Operating and Maintenance Fund** | | |
| **$7,928,000** | **$8,297,000** | **+$369,000** |
| *IBWC O&M ($6,041,000)*<br>This activity funds the salaries and benefits for those employees assigned to the U.S. Section of the IBWC who operate and maintain the two power plants, equipment inspections and maintenance services, and travel, training, communications, utilities, printing, and office supplies/materials for the IBWC employees and technical advisors. | *IBWC O&M ($6,147,000)*<br>This activity funds the salaries and benefits for those employees assigned to the U.S. Section of the IBWC who operate and maintain the two power plants, equipment inspections and maintenance services, and travel, training, communications, utilities, printing, and office supplies/materials for the IBWC employees and technical advisors. | *IBWC O&M (+$106,000)*<br>The Request reflects projects in the 10-year O&M work plan that was developed to address recommendations in the U.S. Army Corps of Engineers (USACE) inspection report completed in 2018. Projects planned include development of a circuit breaker testing program at Falcon. Amounts are for offsetting collections; no direct appropriations are requested for this activity. |
| *IBWC Capital Investment ($1,826,000)*<br>This activity funds capital investment activities at the Falcon and Amistad hydroelectric facilities. | *IBWC Capital Investment ($2,100,000)*<br>This activity funds capital investment activities at the Falcon and Amistad hydroelectric facilities. | *IBWC Capital Investment (+$274,000)*<br>The Request reflects projects in the 10-year capital work plan that was developed to address recommendations in the U.S. Army Corps of Engineers inspection report completed in 2018. Projects planned include firewall containment improvements and repair/re-insulate stator winding at Falcon. |
| *WAPA Marketing, Contracts, Repayment ($61,000)*<br>This activity funds power marketing, administration of power contracts, and preparation of rate and repayment studies. | *WAPA Marketing, Contracts, Repayment ($50,000)*<br>This activity funds power marketing, administration of power contracts, and preparation of rate and repayment studies. | *WAPA Marketing, Contracts, Repayment (-$11,000)*<br>The decrease is attributed to reduced costs associated with power repayment studies software. Amounts are for offsetting collections; no direct appropriations are requested for this activity. |

**DEPARTMENT OF ENERGY**

**Funding by Site**

TAS_5178 - Falcon and Amistad Operating and Maintenance Fund - FY 2024

(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Western Area Power Administration Office** | | | |
| Falcon And Amistad Operation And Maintenance | 7,545 | 7,928 | 8,297 |
| Offsetting Collections - Falcon and Amistad Fund | -5,580 | -6,102 | -3,197 |
| Less alternative financing - Falcon and Amistad Fund | -1,737 | -1,598 | -1,872 |
| Use of Prior Year Balance Offset - Falcon & Amistad Operating & Maintenance | 0 | 0 | -3,000 |
| **Total Western Area Power Administration Office** | **228** | **228** | **228** |
| **Total Funding by Site for TAS_5178 - Falcon and Amistad Operating and Maintenance Fund** | **228** | **228** | **228** |

**Colorado River Basins Power Marketing Fund**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|---|
| Gross | 237,290 | 258,466 | 535,238 |
| Offsets | -237,290 | -258,466 | -535,238 |
| **Net BA** | **0** | **0** | **0** |

**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.

**Highlights of the FY 2024 Budget Request**

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.

**Outyear Funding**
**($K)**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| **CRBPMF Net BA** | **0** | **0** | **0** | **0** | **0** |

**Major Outyear Priorities and Assumptions**

Outyear funding levels for CRBPMF total $0 for FY 2025 through FY 2028. CRBPMF priorities include the following:

- Meeting power marketing and contractual power delivery obligations
- Addressing impact of severe drought and revenue concerns

## Colorado River Basins Power Marketing Fund
## Funding ($K)

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Colorado River Basins Power Marketing Fund** | | | | | |
| **Equipment, Contracts and Related Expenses** | | | | | |
| Supplies, Materials and Services | 12,237 | 12,728 | 12,231 | -497 | -4% |
| Purchase Power Costs | 104,946 | 119,236 | 401,799 | +282,563 | +237% |
| Capitalized Equipment | 16,616 | 16,863 | 19,045 | +2,182 | +13% |
| Interest/Transfers | 2,509 | 3,405 | 5,182 | +1,777 | +52% |
| Generating Agency Activities | 26,401 | 26,695 | 16,600 | -10,095 | -38% |
| **Total, Equipment, Contracts and Related Expenses** | **162,709** | **178,927** | **454,857** | **+275,930** | **+154%** |
| **Program Direction** | **74,581** | **79,539** | **80,381** | **+842** | **+1%** |
| **Total, Operating Expenses from new authority** | **237,290** | **258,466** | **535,238** | **+276,772** | **+107%** |
| Offsetting Collections Realized | -237,290 | -258,466 | -535,238 | -276,772 | +107% |
| **Total, Obligational Authority** | **0** | **0** | **0** | **0** | **0%** |

**Colorado River Basins Power Marketing Fund**
**Equipment, Contracts and Related Expenses**

**Description**

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.

Supplies, Materials and Services

This activity funds the procurement of supplies, materials, and services necessary to respond to routine and emergency situations in the transmission system. Estimates are based on recent actual costs for supplies needed to maintain transmission system reliability.

Purchase Power Costs

This activity funds the 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.

Capitalized Equipment

This activity funds the procurement of capitalized 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. Replacement and upgrade of aged power system components are crucial to system reliability and transmission services.

Transmission line estimates include the purchase of poles, crossarms, conductors, fusion splicers, line switches, overhead ground wire and hardware for the continued transmission line rebuilds. This estimate includes line rebuilds with the anticipated completion of 10 miles a year.

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.

Planned movable capitalized property estimates include replacements of special purpose trucks, replacement of generators to maintain the reliability and backup power to the communications system, and replacement of outdated test and recording equipment. Other estimates include the replacement of test equipment used to troubleshoot the new digital microwave radio system. Ongoing replacement is also planned for aging information technology support systems and

routers. Other requests include funding for other minor enhancements that provide for ease of maintenance, protection of equipment and materials, and environmental compliance.

Interest/Transfers

This activity funds interest payments to the U.S. Treasury. Estimates are based on Power Repayment Studies for the Projects funded in this account.

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.

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Equipment and Related Expenses $178,927,000** | **$454,857,000** | **+$275,930,000** |
| *Supplies, Materials & Services ($12,728,000)*<br>This activity funds the procurement of supplies, materials, and services necessary to respond to routine and emergency situations in the transmission system. | *Supplies, Materials & Services ($12,231,000)*<br>This activity funds the procurement of supplies, materials, and services necessary to respond to routine and emergency situations in the transmission system. | *Supplies, Materials & Services (-$497,000)*<br>This is primarily attributed to decrease in purchases of non-capitalized equipment, supplies and services for general substation maintenance with slight offset for increase in IT maintenance services. |
| *Purchase Power Costs ($119,236,000)*<br>This activity funds the procurement of electrical power, transmission capacity and wheeling services on the open market. Purchase power cost estimates are based on 24-month study factors including water cycle, snowpack, and market rates. | *Purchase Power Costs ($401,799,000)*<br>This activity funds the procurement of electrical power, transmission capacity and wheeling services on the open market. Purchase power cost estimates are based on 24-month study factors including water cycle, snowpack, and market rates. | *Purchase Power Costs (+$282,563,000)*<br>The increase is primarily attributed to purchase power requirements and costs. Severe drought conditions continue to persist and could lead to periods where hydrogeneration is significantly constrained. |
| *Capitalized Equipment ($16,863,000)*<br>This activity funds the procurement of capitalized 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. | *Capitalized Equipment ($19,045,000)*<br>This activity funds the procurement of capitalized equipment including circuit breakers, transformers, relays, switches, transmission line equipment, SCADA, and other communication and control equipment to assure reliable service to WAPA's customers. | *Capitalized Equipment (+$2,182,000)*<br>Request reflects increases in Movable Property replacements and Substation replacements. |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| *Interest/Transfers ($3,405,000)*<br>This activity funds interest payments to the U.S. Treasury. Estimates are based on Power Repayment Studies for the Projects funded in this account. | *Interest/Transfers ($5,182,000)*<br>This activity funds interest payments to the U.S. Treasury. Estimates are based on Power Repayment Studies for the Projects funded in this account. | *Interest/Transfers (+$1,777,000)*<br>Reflectsincrease in interest as calculated in the Power Repayment Study. |
| *Generating Agency Activities ($26,695,000)*<br>This activity direct funds the U.S. Army Corps of Engineers operation and maintenance and procurement of capitalized equipment for the Fort Peck Power Plant. | *Generating Agency Activities ($16,600,000)*<br>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. | Generating Agency Activities (-$10,095,000)<br>The decrease reflects scheduled replacements for capitalized communication, substation equipment and maintenance for the Fort Peck Power Plant. |

**Colorado River Basins Power Marketing Fund**
**Program Direction**

**Overview**

Program Direction provides the Federal staffing resources and associated costs required to provide overall direction and execution of the Colorado River Basins Power Marketing Fund. 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 2024 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.

## Colorado River Basins Power Marketing Fund
## Program Direction
## Funding ($K)

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Program Direction** | | | | | |
| Salaries and Benefits | 52,246 | 55,423 | 58,757 | +3,334 | +6% |
| Travel | 3,466 | 3,428 | 3,024 | -404 | -12% |
| Support Services | 8,176 | 9,032 | 8,019 | -1,013 | -11% |
| Other Related Expenses | 10,693 | 11,656 | 10,581 | -1,075 | -9% |
| **Total, Program Direction** | **75,581** | **79,539** | **80,381** | **+842** | **+1%** |
| **Federal FTEs** | **308** | **308** | **311** | **+3** | **+1%** |
| | | | | | |
| **Support Services** | | | | | |
| Technical Support | | | | | |
| Engineering and Technical Services | 2,214 | 2,858 | 2,397 | -461 | -16% |
| **Total, Technical Support** | **2,214** | **2,858** | **2,397** | **-461** | **-16%** |
| Management Support | | | | | |
| Automated Data Processing | 2,921 | 3,225 | 3,003 | -222 | -7% |
| Training and Education | 1,052 | 1,027 | 895 | -132 | -13% |
| Reports and Analyses, Management and General Administrative Support | 1,989 | 1,922 | 1,724 | -198 | -10% |
| **Total, Management Support** | **5,962** | **6,174** | **5,622** | **-552** | **-9%** |
| **Total, Support Services** | **8,176** | **9,032** | **8,019** | **-1,013** | **-11%** |
| | | | | | |
| **Other Related Expenses** | | | | | |
| Rent to GSA | 685 | 180 | 644 | +464 | +258% |
| Communication, Utilities, Misc. | 2,227 | 2,466 | 1,850 | -616 | -25% |
| Printing and Reproduction | 22 | 24 | 18 | -6 | -25% |
| Other Services | 3,579 | 4,145 | 3,684 | -461 | -11% |
| Training | 15 | 11 | 10 | -1 | -9% |
| Purchases from Gov. Accounts | 343 | 364 | 258 | -106 | -29% |
| Operation and Maintenance of Equipment | 1,782 | 2,008 | 2,040 | +32 | +2% |

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| Supplies and Materials | 659 | 676 | 583 | -93 | -14% |
| Equipment | 662 | 949 | 730 | -219 | -23% |
| Working Capital Fund | 719 | 833 | 764 | -69 | -8% |
| **Total, Other Related Expenses** | **10,693** | **11,656** | **10,581** | **-1,075** | **-9%** |

**Colorado River Basins Power Marketing Fund**
**Program Direction**

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Program Direction $79,539,000** | **$80,381,000** | **+$842,000** |
| **Salaries and Benefits $55,423,000** | **$58,757,000** | **+$3,334,000** |
| 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. | The increase in salaries and benefits supports the level of FTE charging to this account for maintenance and capital activities as well as known and anticipated increases for General Schedule, Wage Board and Administratively Determined employees. |
| **Travel $3,428,000** | **$3,024,000** | **-$404,000** |
| 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. | The slight decrease in travel reflects continued effort to use technological capabilities to decrease travel requirements. |
| **Support Services $9,032,000** | **$8,019,000** | **-$1,013,000** |
| 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 decrease is primarily due to services that support technical engineering and advisory activities. |
| **Other Related Expenses $11,656,000** | **$10,581,000** | **-$1,075,000** |

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| 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 decrease to this activity is primarily driven by cyclic requirements for transmission, substation, communication and operation and maintenance services. |

# DEPARTMENT OF ENERGY
## Funding by Site
TAS_4452 - Colorado River Basins Power Marketing Fund - FY 2024

(Dollars in Thousands)

| | Request Detail | | |
|---|---|---|---|
| | Requested Total | | |
| | FY 2022 | FY 2023 | FY 2024 |
| **Western Area Power Administration Office** | | | |
| Program Direction - Colorado River Basins Fund | 74,581 | 79,539 | 80,381 |
| Equipment, Contracts and Related Expenses - Colorado River Basins Fund | 162,709 | 178,927 | 454,857 |
| Colorado River Basins Fund | 237,290 | 258,466 | 535,238 |
| Offsetting collections - CRBPMF | -235,290 | -256,466 | -535,238 |
| **Total Western Area Power Administration Office** | **2,000** | **2,000** | **0** |
| **Total Funding by Site for TAS_4452 - Colorado River Basins Power Marketing Fund** | **2,000** | **2,000** | **0** |

**Transmission Infrastructure Program**
**Funding ($K)**

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request |
|---|---|---|---|
| Gross | 17,400 | 15,000 | 15,000 |
| Offsets | -17,400 | -15,000 | -15,000 |
| **Net BA** | **0** | **0** | **0** |

**Overview**

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.

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.

As mandated, the TIP program is completely 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 administrative costs for TIP are offset by advanced financing and collections. WAPA is not requesting any new annual appropriated funds for TIP.

**Highlights of the FY 2024 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.

**Outyear Funding**
**($K)**

| | FY 2024 Request | FY 2025 | FY 2026 | FY 2027 | FY 2028 |
|---|---|---|---|---|---|
| **TIP Net BA, Mandatory** | **0** | **0** | **0** | **0** | **0** |
| **TIP Net BA, Discretionary** | **0** | **0** | **0** | **0** | **0** |

**Major Outyear Priorities and Assumptions**

Outyear funding levels for TIP total $0 net mandatory and $0 net discretionary for FY 2025 through FY 2028. TIP priorities include the following:

- Mandatory amounts provide borrowing authority, offset by repayment of debt, for projects with an active loan and/or loan application (projects under development are not included)
- Discretionary amounts provide advance/reimbursable funding, offset by collections from project developers, for projects being evaluated for technical and financial merit prior to application for borrowing

## Transmission Infrastructure Program
## Funding ($K)

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Mandatory, Direct Budget Authority** | | | | | |
| New Borrowing Authority | 0 | 0 | 0 | 0 | 0% |
| Repayment of Borrowing Authority | 0 | 0 | 0 | 0 | 0% |
| **Net, Borrowing Authority** | **0** | **0** | **0** | **0** | **0%** |
| | | | | | |
| Operating Expenses | 1,200 | 4,600 | 4,600 | 0 | 0% |
| Interest Payment to Treasury | 2,311 | 2,311 | 2,311 | 0 | 0% |
| Other Uses | 1,489 | 1,489 | 1,489 | 0 | 0% |
| Collections from Projects | -5,000 | -8,400 | -8,400 | 0 | 0% |
| **Net, Operating & Debt Service** | **0** | **0** | **0** | **0** | **0%** |
| **Total Mandatory** | **0** | **0** | **0** | **0** | **0%** |
| **Federal FTEs (Mandatory)** | **1** | **1** | **1** | **0** | **0%** |
| | | | | | |
| **Discretionary, Reimbursable Budget Authority** | | | | | |
| Program Direction | 12,396 | 6,596 | 6,514 | -82 | -1% |
| Equipment, Contracts and Related Expenses | 4 | 4 | 86 | +82 | +2,050% |
| **Gross, Discretionary** | **12,400** | **6,600** | **6,600** | **0** | **0%** |
| Advance Funding (Non-Federal) | -1,750 | -5,000 | -5,000 | 0 | 0% |
| Reimbursable Funding (Federal) | 0 | -200 | -200 | 0 | 0% |
| Offsetting Collections | -10,650 | -1,400 | -1,400 | 0 | 0% |
| **Net, Discretionary** | **0** | **0** | **0** | **0** | **0%** |
| **Federal FTEs (Discretionary)** | **10** | **11** | **9** | **-2** | **-18%** |
| | | | | | |
| **Total, Transmission Infrastructure Program** | **0** | **0** | **0** | **0** | **0%** |
| **Total, Federal FTEs** | **11** | **12** | **10** | **-2** | **-17%** |

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Mandatory, Direct Budget Authority $0** | **$0** | **$0** |
| **New Borrowing Authority $0** | **$0** | **$0** |
| Projected loan estimates for projects with active loans or active loan applications. | Projected loan estimates for projects with active loans or active loan applications. | There are no projects with an active loan or an active loan application with projected borrowing in FY 2024. |
| **Repayment of Borrowing Authority $0** | **$0** | **$0** |
| This activity represents repayments to Treasury from projects for principal. | This activity represents repayments to Treasury from projects for principal. | There are no anticipated repayments to Treasury in FY 2024. |
| **Operating Expenses $4,600,000** | **$4,600,000** | **$0** |
| Costs associated with operating and maintaining the ED5-PVH transmission system. | Costs associated with operating and maintaining the ED5-PVH transmission system. | No change to operating expenses. |
| **Interest Payments to Treasury $2,311,000** | **$2,311,000** | **$0** |
| Estimated interest payments to Treasury for the active ED5-PVH loan and other projects with active loan applications. | Estimated interest payments to Treasury for the active ED5-PVH loan and other projects with active loan applications. | No change to interest payments to Treasury. |
| **Other Uses $1,489,000** | **$1,489,000** | **$0** |
| This activity represents proceeds available for additional operating expenses or debt service requirements. | This activity represents proceeds available for additional operating expenses or debt service requirements. | No change to other uses. |

## Transmission Infrastructure Program
## 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.

All 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
## Funding ($K)

| | FY 2022 Enacted | FY 2023 Enacted | FY 2024 Request | FY 2024 Request vs FY 2023 Enacted ($) | FY 2024 Request vs FY 2023 Enacted (%) |
|---|---|---|---|---|---|
| **Transmission Infrastructure** | | | | | |
| Salaries and Benefits | 1,678 | 1,374 | 1,292 | -82 | -6% |
| Travel | 94 | 44 | 44 | 0 | 0% |
| Support Services | 1,485 | 60 | 62 | +2 | +3% |
| Other Related Expenses | 9,139 | 5,118 | 5,116 | -2 | 0% |
| **Subtotal, Program Direction** | **12,396** | **6,596** | **6,514** | **-82** | **-1%** |
| Use of Offsetting Collections | -12,396 | -6,596 | -6,514 | +82 | -1% |
| **Total, Program Direction** | **0** | **0** | **0** | **0** | **0%** |
| **Federal FTEs (Mandatory)** | **1** | **1** | **1** | **0** | **0%** |
| **Federal FTEs (Discretionary)** | **10** | **11** | **9** | **-2** | **-18%** |
| **Federal FTEs (Total TIP)** | **11** | **12** | **10** | **-2** | **-17%** |
| | | | | | |
| **Support Services** | | | | | |
| Technical Support | | | | | |
| Engineering and Technical Services | 1,302 | 27 | 29 | +2 | +7% |
| **Total, Technical Support** | **1,302** | **27** | **29** | **+2** | **+7%** |
| Management Support | | | | | |
| Automated Data Processing | 127 | 0 | 0 | 0 | 0% |
| Training and Education | 12 | 13 | 13 | 0 | 0% |
| Reports and Analyses, Management and General Administrative Support | 44 | 20 | 20 | 0 | 0% |
| **Total Management Support** | **183** | **33** | **33** | **0** | **0%** |
| **Total, Support Services** | **1,485** | **60** | **62** | **+2** | **+3%** |
| | | | | | |
| **Other Related Expenses** | | | | | |
| Communication, Utilities, Misc. | 27 | 3 | 3 | 0 | 0% |
| Other Services | 9,096 | 5,094 | 5,097 | +3 | 0% |
| Working Capital Fund | 16 | 21 | 16 | -5 | -24% |
| **Total, Other Related Expenses** | **9,139** | **5,118** | **5,116** | **-2** | **0%** |

## Program Direction

**Activities and Explanation of Changes**

| FY 2023 Enacted | FY 2024 Request | Explanation of Changes<br>FY 2024 Request vs FY 2023 Enacted |
|---|---|---|
| **Program Direction $6,596,000** | **$6,514,000** | **-$82,000** |
| **Salaries and Benefits $1,374,000** | **$1,292,000** | **-$82,000** |
| 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. | The decrease in salary and benefits reflects a reduction of two FTE budgeted for this activity offset by known and anticipated increases for General Schedule employees. |
| **Travel $44,000** | **$44,000** | **$0** |
| 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. | No change in anticipated travel. |
| **Support Services $60,000** | **$62,000** | **+$2,000** |
| 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, and general administrative support. | 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 education, and general administrative support. | The increase in support services is due to the growth in technical support associated with project management and stage of development of projects given revised work scope demands. |
| **Other Related Expenses $5,118,000** | **$5,116,000** | **-$2,000** |
| 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 decrease is due to lower anticipated outside financial support and legal counsel. |

**Estimate of Gross Revenues [1]**

(Dollars in Thousands)

| | FY 2022 [2] | FY 2023 | FY 2024 |
|---|---|---|---|
| Boulder Canyon Project | 69,825 | 93,752 | 96,153 |
| Central Valley Project | 315,521 | 412,452 | 420,435 |
| Falcon-Amistad Project | 8,188 | 8,796 | 7,517 |
| Fryingpan-Arkansas Project | 21,393 | 23,149 | 23,149 |
| Pacific Northwest-Southwest Intertie Project | 60,211 | 38,792 | 38,792 |
| Parker-Davis Project | 98,117 | 92,258 | 94,488 |
| Pick-Sloan Missouri Basin Program | 640,645 | 654,025 | 656,371 |
| Provo River Project | 485 | 459 | 494 |
| Washoe Project | 474 | 436 | 436 |
| Salt Lake City Area Integrated Projects | 255,106 | 166,724 | 166,392 |
| Other | 182,672 | 0 | 0 |
| **Total, Gross Revenues** | **1,652,637** | **1,490,843** | **1,504,227** |

[1] Amounts for FY 2023 and FY 2024 are based on the FY 2021 Final Power Repayment Studies (PRS).

[2] FY 2022 amounts are actuals from the preliminary annual financial reports. For Central Valley Project, FY 2022 amounts reported exclude contractual pass-through purchase power arrangements which are included in the PRS estimates. The 'Other' FY 2022 amounts shown represent WAPA activities reported in the financials that are not reimbursable through the power and transmission rate-setting process and are not forecasted through the PRS.

## Estimate of Proprietary Receipts

(Dollars in Thousands)

| | FY 2022 Actual | FY 2023 | FY 2024 |
|---|---|---|---|
| **Mandatory Receipts** | | | |
| Falcon Amistad Maintenance Fund | 271 | 0 | 0 |
| Sale and Transmission of Electric Power, Falcon and Amistad Dams | 600 | 1,000 | 1,000 |
| Sale of Power and Other Utilities Not Otherwise Classified | 0 | 0 | 0 |
| Sale of Power–WAPA–Reclamation Fund | 298,206 | 45,453 | 85,321 |
| **Total, Mandatory Receipts** | **299,077** | **46,453** | **86,321** |
| | | | |
| **Discretionary Receipts** | | | |
| Offsetting Collections from the Recovery of Power Related Expenses – WAPA CROM | 170,000 | 475,000 | 475,000 |
| Less Purchase Power and Wheeling Expenses | -170,000 | -475,000 | -475,000 |
| Subtotal, WAPA CROM Recovery of Power Related Expenses | 0 | 0 | 0 |
| | | | |
| Offsetting Collections from the Recovery of Annual Expenses – WAPA CROM | 194,465 | 200,841 | 213,417 |
| Less Operating and Maintenance expenses | -27,530 | -29,180 | -29,449 |
| Less Program Direction Expenses | -166,935 | -171,661 | -183,968 |
| Subtotal, WAPA CROM Recovery of Annual Expenses | 0 | 0 | 0 |
| | | | |
| Offsetting Collections from the recovery of power related expenses – Falcon and Amistad | 5,580 | 6,102 | 3,197 |
| Less Operating and Maintenance expenses | -5,580 | -6,102 | -3,197 |
| Subtotal, Falcon and Amistad Recovery of Power Related Expenses | 0 | 0 | 0 |
| **Total, Discretionary Receipts** | **0** | **0** | **0** |
| **Total, Proprietary Receipts** | **299,077** | **46,453** | **154,321** |

**Western Area Power Administration**
**Estimate of Offsetting Collections for Reimbursable Work and Work-for-Others**

| | (Dollars in Thousands) | | |
|---|---|---|---|
| | FY 2022 | FY 2023 | FY 2024 |
| Construction, Rehabilitation, Operation and Maintenance (CROM) | | | |
| Offsetting Collections for Reimbursable Work [1] | | | |
| Alternative Financing | | | |
| Operations and Maintenance | 7,122 | 7,641 | 42,276 |
| Construction and Rehabilitation | 31,090 | 38,219 | 0 |
| Purchase Power and Wheeling (PPW) | 273,677 | 275,322 | 240,824 |
| Program Direction | 51,849 | 54,868 | 60,084 |
| Subtotal, Alternative Financing | 363,738 | 376,050 | 343,184 |
| | | | |
| Offsetting Collections not anticipated for obligation in budget year | 188,792 | 74,137 | 102,690 |
| Less PPW net billing, bill crediting, energy exchange | -242,646 | -238,591 | -243,395 |
| Offsetting collections from Colorado River Dam Fund | 9,116 | 9,404 | 9,521 |
| **Subtotal, Offsetting Collections for Reimbursable Work** | **319,000** | **221,000** | **212,000** |
| | | | |
| **Offsetting Collections for Reimbursable Work-for-Others** [2] | **337,000** | **390,000** | **416,000** |
| **Total, Offsetting Collections for Reimbursable** | **656,000** | **611,000** | **628,000** |

[1] WAPA relies significantly on alternative financing arrangements with customers to finance much of its direct mission work on a reimbursable basis.

[2] WAPA has partnering arrangements with many power customers and Federal agencies to perform electrical systems operations, maintenance, construction, purchase power, and transmission services on a reimbursable basis.

# BONNEVILLE POWER ADMINISTRATION

## FY 2024 Congressional Justification

## March 2023

# Bonneville Power Administration

## FY 2024 Congressional Justification

**Table of Contents**

## Bonneville Power Administration FY 2024 Congressional Justification

***FY 2024 Expenditure Authorization***

Expenditures from the Bonneville Power Administration Fund, established pursuant to Public Law 93-454, are approved for official reception and representation expenses in an amount not to exceed $5,000, provided that during fiscal year 2024 no new direct loan obligations may be made. (Consolidated Appropriation Act, 2023.)

***Explanation of Changes***

The proposed appropriations language restricts new direct loans in FY 2024 as in FY 2022. This bill language is drafted consistent with the Credit Reform Act of 1990.

***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 Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act) (Public Law 96-501) for acquisition of energy conservation, renewable and other power resources, investment in fish facilities, and other purposes, as well as 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 shall not exceed $6 billion before fiscal year 2028. Bonneville finances its total program by using its power and transmission revenues, and the proceeds of borrowing authority from the U.S. Treasury. Bonneville’s estimated FY 2024 obligations and cash transfers total approximately $4.5 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 2024 Bonneville Congressional Budget submission includes FY 2023 budget estimates.**

## Bonneville Funding Profile by Subprogram[1/]

(Accrued Expenditures in Thousands of Dollars)

| | Fiscal Year | | | |
|---|---|---|---|---|
| | 2022 Actuals | 2023 Original [/2] | 2023 Revised [/2] | 2024 Proposed |
| Capital Investment Obligations | | | | |
| Associated Project Costs [3/] | 190,294 | 264,120 | 281,260 | 270,000 |
| Fish & Wildlife | 16,119 | 43,000 | 43,000 | 41,335 |
| Subtotal, Power Services | 206,413 | 307,120 | 324,260 | 311,335 |
| Transmission Services | 373,500 | 497,086 | 497,160 | 593,840 |
| Capital Equipment & Bond Premium | 20,905 | 22,002 | 21,047 | 23,983 |
| Total, Capital Obligations [3/] | 600,818 | 826,208 | 842,468 | 929,159 |
| Expensed and Other Obligations | | | | |
| Expensed | 2,994,653 | 2,733,825 | 2,758,063 | 2,879,919 |
| Projects Funded in Advance [4/] | 120,536 | 55,775 | 61,166 | 45,924 |
| Total, Obligations | 3,716,007 | 3,615,808 | 3,661,697 | 3,855,001 |
| Capital Transfers (cash) | 694,200 | 696,000 | 735,596 | 673,266 |
| Bonneville Total (Oligations & Capital Transfers) | 4,410,207 | 4,311,808 | 4,397,293 | 4,528,267 |
| Bonneville Net Outlays | (806,000) | (324,967) | (332,469) | (208,923) |
| Full-time Equivalents (FTEs) [5/] | 2,847 | 3,000 | 3,000 | 3,000 |

**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

## Bonneville Outyear Funding Profile by Subprogram[1/]

(Accrued Expenditures in Thousands of Dollars)

| | Fiscal Year | | | |
|---|---|---|---|---|
| | 2025 | 2026 | 2027 | 2028 |
| Capital Investment Obligations | | | | |
| Associated Project Costs [3/] | 275,675 | 281,620 | 288,001 | 294,794 |
| Fish & Wildlife | 41,300 | 29,000 | 15,700 | 15,000 |
| Subtotal, Power Services | 316,975 | 310,620 | 303,701 | 309,794 |
| Transmission Services | 581,009 | 555,897 | 537,180 | 546,032 |
| Capital Equipment & Bond Premium | 22,830 | 24,990 | 23,180 | 23,970 |
| Total, Capital Obligations [3/] | 920,814 | 891,507 | 864,061 | 879,796 |
| Expensed and Other Obligations | | | | |
| Expensed | 2,993,800 | 3,094,149 | 3,176,877 | 3,257,217 |
| Projects Funded in Advance [4/] | 55,007 | 53,073 | 53,907 | 54,751 |
| Total, Obligations | 3,969,620 | 4,038,729 | 4,094,846 | 4,191,763 |
| Capital Transfers (cash) | 646,624 | 660,089 | 612,307 | 406,879 |
| Bonneville Total (Oligations & Capital Transfers) | 4,616,244 | 4,698,818 | 4,707,153 | 4,598,642 |
| Bonneville Net Outlays | (137,386) | (121,344) | (102,062) | (49,988) |
| Full-time Equivalents (FTEs) [5/] | 3,000 | 3,025 | 3,075 | 3,125 |

**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 2024 OMB 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 2024. The BPA estimates in this budget are consistent with the BP-24 IPR.

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 10/20/2022, DOE HR staff has reported FY 2022 BPA's FTE useage at 2,847.

Additional table notes are on the following page.

**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 2022 are $6,600 million.

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.

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.

FY 2022 Net Outlays are calculated using Bonneville's FY 2022 EOY Actuals. FY 2023 is based off of rate case and FY 2024 to 2028 Net Outlays are based on BP-24 IPR assumptions and an escalation factor from using the FY 2022 Whitebook Loads and Resources Report.

FTE outyear data are estimates and may change. Bonneville is facing a dynamic and changing energy marketplace and operations while, at the same time, many of its employees are eligible to retire in the near future. It is important that Bonneville 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 fish and wildlife 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 efficiency from its power customers. Bonneville's service territory is defined as the Pacific Northwest, which includes a 300,000 square mile area including the states of Oregon, Washington, Idaho, western Montana, and small parts of eastern Montana, California, Nevada, Utah, and Wyoming with a population of about 14 million people. Bonneville markets the electric power produced from 31 Federal Columbia River Power System (the FCRPS) hydro projects in the Pacific Northwest owned by the Corps and the Bureau of Reclamation. In addition, Bonneville also acquires power from non-federal generating resources, including the power from a nuclear power plant, the Columbia Generating Station (CGS). Bonneville uses the power from its non-federal resources and the Federal projects primarily to meet the Administrator's long term firm power sales contract obligations. Bonneville currently maintains and operates 15,108 circuit miles of transmission lines, 262 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 conservation and energy efficiency, 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 2024 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 Efficiency, the Residential Exchange Program, Federal Projects Operations & Maintenance (O&M) Costs, and the Northwest Power and Conservation Council (NPCC or Council). Transmission Service's costs include line items for Engineering, Operations, and Maintenance 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: (1) an adequate, efficient, economical, and reliable power supply; (2) 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 (3) 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. As of the end of FY 2022, Bonneville had revolving U.S. Treasury borrowing authority of $13.7 billion, of which approximately $8.02 billion remains available to be drawn.

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; the development of renewable energy resources within the Pacific Northwest; to assure the Northwest an adequate, efficient, economical, and reliable power supply; to promote regional participation and planning; and to protect, mitigate, and enhance 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 ratesetting process and established judicial review of Bonneville's final actions in the U.S. Court of Appeals for the Ninth Circuit.

**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 2024 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 evidences 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 ratesetting process.

As of May 2022, debt instruments issued by non-federal entities but secured by payment and other financial commitments provided by Bonneville received the following credit ratings: Moody's at Aa2 with a positive outlook, Standard & Poor's at AA- with a stable outlook, and Fitch at AA with a stable outlook.

**U.S. Treasury Payments & Budget Overview**

Bonneville's FY 2022 payment to the U.S. Treasury was approximately $951 million. This was the 39$^{th}$ consecutive year that Bonneville made its scheduled payments to the U.S. Treasury on time and in full. The payment included $694 million in principal, which included $346 million in early retirement of U.S. Treasury debt, $194 million for interest, $17 million in irrigation assistance payments, and $37 million in pension and post-retirement benefits. Total credits applied toward Bonneville's U.S. Treasury payment were about $136 million for FY 2022. The majority of these credits are established and applied under Section 4(h)(10)(C) of the Northwest Power Act. The FY 2023 and 2024 U.S. Treasury payments are currently estimated at $965 million and $895 million, respectively. The FY 2023 and 2024 4(h)(10)(C) credits are estimated to be $94.2 million and $111.3 million, respectively.

Bonneville's FY 2023 payment to the U.S. Treasury is currently estimated at approximately $965 million. Based on final FY 2022 financial results, operating conditions and financial reserves, Bonneville fully expects to make its FY 2023 Treasury payment on time and in full. This would be the 40$^{th}$ consecutive year that Bonneville has done so. Estimates of interest and amortization levels for outyear U.S. Treasury payments are included in the FY 2022-2023 final transmission and power rates. Bond and Appropriations Interest will continue to be revised based on upcoming capital investments and debt management actions. These estimates may change due to revised capital investment plans and actual U.S. Treasury borrowing. In recent years, Bonneville has made amortization payments in excess of those scheduled in its FERC-approved rate filings resulting in a balance of advance repayment. The cumulative balance of advance amortization payments as of the end of FY 2022 was in excess of $6.6 billion.

Bonneville has direct funding arrangements to fund the power-related portion of O&M and capital investments at Corps and Reclamation facilities as well as the expense O&M costs of the U.S. Fish and Wildlife Service (USFWS) Lower Snake River Compensation Plan facilities. Direct-funded FCRPS capital costs, which had been funded exclusively through appropriations to the Corps and Reclamation prior to the initiation of direct funding, are now funded primarily from the proceeds of bonds issued by Bonneville to the U.S. Treasury. Certain power prepayments have also been a source of funds for direct funding. Bonneville's aggregate direct funding provided for capital and O&M was $410 million in FY 2022.

Bonneville manages its overall debt portfolio, which includes both debt that is issued by non-federal entities and secured by Bonneville's financial commitments ("Non-Federal Debt"), and Bonneville's repayment obligations to the U.S. Treasury, to meet the objectives of: (1) minimizing the cost to Bonneville's ratepayers, (2) maximizing Bonneville's access to its lowest cost capital sources to meet future capital needs, and (3) maintaining sufficient financial flexibility to meet Bonneville's financial requirements.

Starting in FY 2014, Bonneville and Energy Northwest, the Washington state joint operating agency that owns and operates the CGS nuclear plant, have continued working together on an integrated debt management for their combined total debt portfolios. The debt service of these portfolios is borne by Bonneville and recovered from Bonneville ratepayers through Bonneville's rates. Energy Northwest-related debt, as refinanced under this effort, is called Regional Cooperation Debt.

The initial efforts under the Regional Cooperation Debt program included the issuance of Net Billed Bonds to refund outstanding Net Billed Bonds in Fiscal Year 2014 through Fiscal Year 2020. This enabled Bonneville to repay, earlier than would otherwise occur, Federal Appropriations Repayment Obligations.

The second phase of Regional Cooperation Debt program, which started in FY 2021, will have the effect of freeing up amounts in the Bonneville Fund that otherwise would have been used to fund the repayment of the principal of the refunded Net Billed Bonds, and that will instead be used to make payments to reduce the outstanding principal amount of bonds issued by Bonneville to the U.S. Treasury. Bonneville estimates that the aggregate remaining potential principal amount of refinancing Net Billed Bonds that could be issued in FY 2023 through 2030 could be up to $2.9 billion.

Bonneville can incur a bond premium when it repays a U.S. Treasury bond before the due date. When bonds are refinanced and premiums are incurred, the bond premiums can be capitalized. Historically, Bonneville generally has chosen to finance capitalized bond premiums with bonds issued to the U.S. Treasury, as envisioned by the Transmission Act.

**Budget Estimates & Planning**

This FY 2024 Budget proposes estimated accrued expenditures of $2,879 million for operating expenses, $46 million for Projects Funded in Advance (PFIA), $929 million for capital investments, and $673 million for capital transfers in FY 2024.

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 2024 Budget includes capital and expense estimates based on initial approved cost forecasts from Bonneville's BP-24 Integrated Program Review (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.

FY 2023-2028 revenue estimates in this budget, included in the Net Outlay formulation, reflect revised cost estimates, debt management strategies, and capital financing assumptions. The Net Outlay also includes depreciation and U.S. Treasury repayment credit assumptions. These U.S. Treasury repayment credits offset, among other things, Bonneville's Fish & Wildlife program costs allocable to the non-power project purposes of the FCRPS, as provided under Section 4(h)(10)(C) of the Northwest Power Act.

**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 2024 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, energy efficiency, 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 $929 million in bonds to be issued and sold to the U.S. Treasury in FY 2024.

The near-term forecast of capital funding levels has undergone an extensive internal review as a result of 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 2024 Budget includes updated capital investment levels for FY 2023 estimated at $785 million. Utilizing this review process helps Bonneville in its efforts as a participant in wholesale energy markets. Bonneville will continue to work with the 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 2024, total budget expense and capital obligations are estimated at $3,854 million. The total program requirements of all Bonneville programs, including total obligations and $673 million of capital transfers, are estimated at $4,527 million for FY 2024.

**Evidence & Analysis in the Budget**

Bonneville has undertaken several initiatives and processes to determine appropriate budget expenditures.

Through Bonneville's IPR process, the public is able to 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. The IPR occurs every two years, 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-24 IPR, which reviewed forecast costs for the FY 2024 rate period and FY 2025 during the summer of 2022. Bonneville was guided by the 2018 Strategic Direction goal to hold costs at or below the level of inflation through 2028, though Bonneville is experiencing greater cost pressures. Bonneville issued the closeout report for the BP-24 IPR in October 2022.

The forecast cost increases for Power Services are $96.5 million above BP-22. The primary drivers for the cost increase are adequately funding our generating partners; needed investments in core information technology (IT) systems and cybersecurity; supporting staffing levels in key areas; establishing the new Chief Workforce and Strategy Office; and meeting fish and wildlife program obligations.

Transmission Services is facing greater cost pressures and is projecting costs above BP-22 by $80 million. Projected cost increases include investments in core IT systems, the labor-related cost of Bonneville's current workforce, wildfire mitigation, cybersecurity, Grand Coulee Dam substation assets, and support for Bonneville's current workforce.

**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.

**FCRPS Cost Allocations**

The FY 2021 Energy and Water Development Appropriations Act included report language requesting that Bonneville, the Corps, and Reclamation provide quarterly reports on their work to resolve policy differences for the allocation of costs for multi-purpose projects of the FCRPS. This followed language in the House Committee on Appropriations report in the FY 2020 Energy and Water Development Appropriations Act, noting that the allocation of cost sharing among the authorized project purposes can be decades old and requesting that the three agencies return an outline of how cost allocations may be updated. The three agencies provided the subcommittee with an outline of cost allocation methods and authorities in June 2020, noting specific policy differences. Bonneville is continuing to provide the subcommittee with Quarterly reports of its progress.

BPA appreciates the OMB budget guidance to BPA indicating that Bonneville should work with the Corps of Engineers to determine if changes in cost allocation may be warranted and present a joint proposal to OMB for consideration for the FY 2025 Budget if both agencies agree changes may be warranted.

BPA agrees that a joint proposal to OMB would support the effort to determine whether or not project costs are being appropriately allocated to power, thus ensuring carbon free and reliable FCPRS hydropower costs are not inflated by non-joint, non-power costs. The joint effort also would support the federal interest determination portion of completing the directed studies on disposition of hydropower at the Willamette dams, authorized by the enacted into federal law on December 23, 2022 as Section 8220, Disposition Study of hydropower in the Willamette, Valley, Oregon (pp. 3162-6), of Division H. of Title LXXXI, the Water Resources Development Act of 2022 (WRDA), of the James M. Inhofe National Defense Authorization Act (NDAA), P.L. 117-263, and directed to be completed by June 2024. Thus, the timing for this joint effort is critical to assuring decarbonization goals and certain fish mitigation activities.

BPA appreciates OMB scheduling a joint meeting of OMB, the Corps and BPA to discuss cost allocation and potential development of a joint proposal. BPA intends to discuss with OMB and the Corps a proposed schedule for the BPA and the Corps joint report to OMB by August 1. And assuming the report will note reallocation is warranted, BPA intends to discuss with OMB and the Corps a joint proposal for commencing the cost allocation update process by September 15 for the FY 2025 Budget. BPA believes that the subcommittee continues to have an interest in expeditious commencement of these activities.

**Strategic Direction**

Bonneville's 2018-2023 Strategic Plan, released in 2018, describes how it will operate in a commercially successful manner while meeting its statutory obligations. Bonneville developed this strategic plan after listening to customers and constituents express their interests in Bonneville's commercial viability and ability to meet those obligations. The strategic plan was developed at the point when Bonneville was midway through 20-year firm power sales contracts with its preference power customers. Those customers continue to evaluate how Bonneville will be positioned to meet their needs beyond the terms of their current contracts.

The strategic plan is framed by these goals:

- Strengthen financial health
- Modernize assets and system operations
- Provide competitive power products and services
- Meet transmission customer needs efficiently and responsively

In 2020, Bonneville reassessed and reconfirmed its strategic goals and objectives. In its Strategic Plan Update, Bonneville added a fifth goal, "Value people and deliver results," which captures the agency's commitment to its workforce and the people it serves.

In calendar year 2023, Bonneville expects to complete a strategic planning refresh to prepare its 2024-2028 Strategic Plan.

The following provides more detail about the strategic plan's goals.

***Strategic Goal: Strengthen Financial Health***

**Financial Plan**

In 2018, Bonneville completed its Financial Plan to address the Strategic Plan's direction to maintain and enhance the agency's financial strength. The 2018 Financial Plan establishes a guiding framework for decision-making by defining the financial constraints within which Bonneville operates, and outlines Bonneville's financial health objectives. The plan contains Bonneville's statutory obligations and authorities, financial policies and established practices, and financial health objectives.

Bonneville adopted the Financial Reserves Policy (FRP), which guides the level of financial reserves Bonneville and each business line should hold, how to build financial reserves when they fall below a prescribed level, and a process to consider repurposing financial reserves when they exceed a prescribed level. The policy provides a framework to help ensure Bonneville maintains a minimum of 60 days cash on hand for each business line.

In FY 2022, Bonneville held a public process to refresh its Financial Plan. The objective of the Financial Plan Refresh was to ensure Bonneville's long-term financial goals are supported with the appropriate targets, metrics and policies. The scope of the project focused on debt management, debt capacity, and capital execution performance reporting. From September 2021 through March 2022, Bonneville engaged customers and constituents through a series of workshops to discuss proposals. Bonneville completed a Record of Decision in July 2022 to support a new Sustainable Capital Financing policy and issued the updated Financial Plan in September 2022.

The Sustainable Capital Financing Policy guides Bonneville's use of debt and revenue financing to finance its capital investments. The policy creates a default structure of 90 percent debt and 10 percent revenues for financing Bonneville's capital program. If a business unit is not on track to reach a debt-to-asset ratio of no more than 60 percent by 2040, the revenue financing will increase to the lower of 20 percent or an approximate 1 percent incremental rate impact per rate period.

**Increase in Bonneville's Treasury Borrowing Authority**

Section 40110 of Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, enacted on November 15, 2021 (during FY 2022), 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. With the new law, Bonneville 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. At the end of FY 2022, Bonneville had $8.02 billion of borrowing authority available against the current cap of $13.7 billion.

***Strategic Goal: Modernize Assets and System Operations***

**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 utilizes an Asset Management Program based on The Institute of Asset Management's (IAM's) conceptual model that aligns with the International Organization of Standardization (ISO) 55000 Series and Publically Available Specification (PAS) 55 standards. Investments are created, selected, and executed based on a strategy to apply best-practice industry standards to manage the lifecycle costs of Federal assets. This is central to maintaining the long-term value and reliability of the power and transmission systems. Achieving these objectives for power requires collaborative, long-term planning with Bonneville's Federal partners, the Corps, and Reclamation. Through the Asset Investment Excellence Initiative, the three agencies are establishing a long-term asset investment plan, applying prioritization tools to inform investment decisions to ensure the long-term affordability and reliability of the hydropower assets.

Bonneville operates within a complex environment that requires asset management tradeoffs. Bonneville's business decisions consider five dimensions of risk: financial, reliability, compliance, safety, and environmental. Reliability and safety remain Transmission Services' priorities. Transmission's asset management capability is continually maturing to maximize the value of its assets and help Bonneville maintain competitive advantage in the marketplace, enable industry change, and deliver on public responsibilities; as well as maintain financial strength through the management of lifecycle costs.

**Infrastructure Investments**

The FCRPS is one of the nation's largest nearly carbon-free power systems, and preserving and enhancing the value of the FCRPS for the future continues to be a major Bonneville focus. Bonneville's ongoing prioritization and execution of capital investment in transmission and FCRPS generation assets is the foundation for delivering clean, low-cost power to support the communities and economies of the region well into the future.

Bonneville continues to assess needed infrastructure investments in the Pacific Northwest to meet transmission capacity and reliability needs.

In January 2022, Bonneville signed a non-binding term sheet to clarify its role in the Boardman-to-Hemingway transmission project that would connect from northeast Oregon to southwest Idaho. Bonneville's role would be to acquire transmission service on the line, allowing Bonneville to reliably and cost-effectively serve six southeast Idaho preference customers. Bonneville has been evaluating options to serve these customers following the termination of legacy transmission service

agreements. Bonneville held a public review process in early 2022 to invite customer and public comment on this proposed participation.

Bonneville continues to evaluate additional transmission investments and alternative non-wires solutions across the Pacific Northwest to improve reliability and support both load and renewable generation needs. Bonneville makes use of certain alternative capital financing mechanisms, in addition to or in lieu of the use of its U.S. Treasury borrowing authority, to sustain funding for its infrastructure investment requirements. These approaches include revenue and financial reserves financing some amount of either or both power and transmission investments, or seeking, when feasible, third-party financing sources. See the BP-5 Potential Third-Party Financing Transparency table on page 101 of the Additional Tables section at the back of this document.

Bonneville plays a key role in advancing energy efficiency across the region consistent with its statutes, including developing and promoting related technologies, and exploring demand-side management opportunities.

Bonneville is also making disciplined technology innovation investments and looking to apply new operational and market mechanisms that enhance the reliability, efficiency, and flexibility of system operations.

**Transmission Facilities Capital Projects**

In 2021, Bonneville began construction of a new Technical Services Building to replace 80-year-old facilities at the Ross Complex in Vancouver, Washington. The facility includes lab space to support Bonneville's communication systems testing and diagnostics functions as well as one floor of general office space. The new facility offers long-term cost savings and supports Bonneville's ability to maintain system stability.

Bonneville is also continuing design and other activities related to its plans to replace the Dittmer Control Center, also located in the Ross Complex. After consultation with customers in the 2021 Integrated Program Review 2 process, Bonneville adjusted planned spending in Fiscal Year 2022 to just over $12 million and revised its proposed construction schedule.

**Power Prepayment Program**

Bonneville undertook a Power Prepayment Program in FY 2013 under which all Bonneville preference customers had an opportunity to submit formal offers to provide lump-sum payments to Bonneville as prepayments of a portion of their power purchases through September 30, 2028, the termination date of their current Long-Term Regional Dialogue Power Sales Contracts. Bonneville accepted power prepayments from four preference customers.

Upon Bonneville's receipt of the agreed-to, lump-sum prepayments, the selected preference customers became entitled to future portions of their electricity from Bonneville without further payment. The power prepayments are and will be recognized in the customers' future power bills from Bonneville as fixed, equal monthly prepayment credits. In effect, the amount of electricity that is prepaid may vary by month, depending on Bonneville's power rates and rate schedules that apply to electricity purchases by the prepaying customers in the related month. Because this is structured as a variable amount of prepayment and not as a fixed-price/fixed-amount type of prepayment, Bonneville maintains flexibility to establish rates for the electric power that is prepaid.

As a result of the FY 2013 Prepayment solicitation, Bonneville received $340 million in prepayments, which Bonneville is using to fund needed FCRPS investments. The aggregate prepayment credits are set at $2.55 million per month through FY 2028.

Depending on a variety of factors it is possible that Bonneville may seek to implement later phases of the Power Prepayment Program in connection with future FCRPS hydroelectric investment needs.

**Radio Spectrum Communications**

Bonneville's wireless communication system is used to operate and control critical national transmission grid infrastructure in a reliable, secure, and safe manner. Bonneville's communication systems are designed to meet strict reliability/availability objectives required by NERC and Western Electricity Coordinating Council (WECC) standards. Concerning proper spectrum stewardship, Bonneville designs highly efficient radio systems that use minimal radio frequency (RF) channel bandwidths to meet critical mission needs. However, in certain circumstances, efficiently designed spectrum radio systems will require broad RF channels and/or lower state RF modulation schemes to meet existing and future requirements in order to meet operational and reliability/availability objectives.

To meet Bonneville's mission/operational requirements, RF communication equipment approved for system use goes through a rigorous evaluation and testing process. RF spectrum efficiency factors are considered during the evaluation/testing period. RF terminal equipment approved for use is normally purchased directly from vendors and is not typically supplied through a Request for Proposal process.

Bonneville's operational telecommunications and other capital equipment and systems are acquired using Bonneville's self-financing and procurement authorities. The Bonneville budget includes a systemwide electric reliability performance indicator, consistent with NERC rules, to track and evaluate performance.

Bonneville may share temporarily-available spare capacity on its RF communication system with other government agencies (both Federal and state), and with other electric utilities in the region whose power systems interconnect with Bonneville. Non-critical administrative traffic is typically supported by commercial carrier enterprises. However, to meet the NERC and WECC electrical bulk transmission requirements, Bonneville exclusively operates highly critical transmission control traffic over its private telecommunication system as Bonneville has no control over the reliability/availability of the commercial enterprise or on how quickly critical operational control circuits are restored to active service during an interruption.

For high-capacity communication system applications, Bonneville considers and operates non-spectrum dependent alternatives such as fiber optic cable infrastructure systems.

During FY 2014, Bonneville began upgrading the Very High Frequency (VHF) land mobile system and installing a number of digital Synchronous Optical Network (SONET) rings typically consisting of fiber segments in combination with point-to-point microwave hops operating in the 4 GHz and 7/8 GHz bands. These various telecommunication systems operate within Bonneville's approximate 300,000 square mile regional utility service territory (Oregon, Washington, Idaho, western Montana) with the majority of the RF infrastructure located in low-population rural areas.

The FCRPS hydroelectric projects, owned by the Corps and Reclamation, also utilize Federal radio spectrum to preserve very high operational telecommunications and power system reliability.

In FY 2014, Bonneville completed work costing approximately $40 million, funded through the Spectrum Relocation Fund (SRF), to relocate its operational telecommunication systems from the 1710-55 MHz radio spectrum bands to alternative Federal radio spectrum bands, part of the AWS-1 Federal Spectrum Relocation. In accordance with Federal law, Bonneville plans to return the approximately $8.2 million of excess funds to the U.S. Treasury, via the SRF, as soon as the National Telecommunications and Information Administration (NTIA) officially notifies the Federal Communications Commission (FCC) that the DOE relocation effort is complete.

Bonneville began participating in a new spectrum relocation effort in FY 2015 to relocate its operational telecommunication systems from the 1755-80 MHz radio spectrum bands. The NTIA has approved and, in July 2014, web-posted Federal agency relocation plans, including the Bonneville relocation plan. The FCC held an auction of this spectrum on November 13, 2014. Bonneville received an additional $5.2 million from the SRF on July 29, 2015, to fully pay for this new relocation effort, including, as in the prior relocation, the purchase and installation of new digital radio equipment. Bonneville received obligational authority to proceed with this relocation effort by apportionment on July 24, 2015.

Bonneville has worked to complete its move off of 1755-80 MHz in two stages. First, Bonneville moved off of the old Federal frequencies and "retuned" to new alternate Federal frequencies in the band segment of 1780-1850 MHz, which is above the highest frequency involved in the auction. Three hops Federal frequency moves/retuning were completed as of June 7, 2017. The last remaining path, Happy Camp to Hilltop in northern California near the Oregon-California Border, was moved/retuned, and as of July 31, 2018, Bonneville was off AWS-3 radio frequencies, meeting the commitment date promised to the NTIA.

Bonneville still has additional work remaining to finish the construction related to the AWS-3 relocations. Bonneville will use the SRF relocation funds until the AWS-3 relocation work is completed and closed out. Bonneville will then complete its move of these four microwave hops to 7GHz-8GHz. This will take additional time because two of four hops require building construction to complete the work. AWS-3 funds will need to be retained by Bonneville at least through FY 2023 to complete construction of two communications buildings. This will accommodate the adjusted construction schedule with contingency for minor access issues due to weather or fire. Glass Butte was under construction during FY 2021 and is expected to be completed in FY 2023. Then, microwave installations can begin. Richland Franklin construction began in July of CY/FY 2021. The building construction occurred in FY 2021 with cutovers to the new radio equipment and retirement of

old radio equipment likely concluding in FY 2023. Bonneville will assure that "comparable capability" has been achieved for these four AWS-3 relocated Bonneville operational telecommunication hops.

***Strategic Goal: Provide Competitive Products and Services***

**Provider of Choice**

With Bonneville's current power sales contracts set to expire in 2028, Bonneville is planning for successor agreements. Bonneville' Provider of Choice initiative is laying the foundation to deliver competitively priced power beyond 2028. The initiative seeks to develop the policies and contracts Bonneville will offer its customers to meet their evolving needs well into the future.

Bonneville released a Provider of Choice Concept Paper in July 2022. The concept paper includes a high-level framework for post 2028 contract policies, products, services, and rate structures. Bonneville will invite its customers and other interested regional parties to participate in regional policy discussions to complete a Provider of Choice policy. Bonneville expects to issue a draft policy in the spring of 2023 and complete a final policy and Record of Decision in January 2024. Bonneville would then seek to enter contract negotiations and drafting in 2025 to be able to offer and execute contracts for service after 2028.

**Fiscal Year 2022 and 2023 Rates**

Bonneville adopted its power and transmission rates for FY 2022 and 2023 in July 2021. FERC approved the rates in March 2022. The average BP-22 power rate decreased by 2.5 percent compared to BP-20 rates. For transmission rates, the weighted average is an increase of approximately 5.4 percent for the two-year rate period. The power rates and transmission rates will be in effect through September 30, 2023. In November, 2022, Bonneville proposed new power and transmission rates for FY 2024 and 2025 and begin formal rates proceedings. BPA has made its decision on the application of the FY 2022 Power Reserves Distribution Clause Amount. The Administrator's final decision was released on Nov. 16, 2022. Funds will be distributed in FY 2023, which includes to customers.

**Grid Modernization**

Through FY 2023, Bonneville will continue a cross-agency Grid Modernization Initiative. Bonneville's reliance on legacy systems and non-standard commercial practices are costly to maintain and have led to Bonneville being conservative in its power and transmission operations, planning, and marketing. Bonneville's strategic objective is to modernize Federal power and transmission systems and their supporting technology. Bonneville's Grid Modernization Initiative includes 34 projects designed to increase automation, improve accuracy and enhance visibility into how the Federal power and transmission systems are functioning in real time, to ultimately enhance the optimization, resilience and reliability of the grid. The program includes upgrades to metering technology, outage management systems and other operational tools that improve visibility and accuracy in Bonneville's operations.

Bonneville's grid modernization effort included preparation for and successful initiation of participation in the Western Energy Imbalance Market (WEIM). The WEIM is operated by the California Independent System Operator and is a real-time wholesale electricity market with current participation of 17 western balancing authorities. Bonneville joined the WEIM after extensive consultations with its customers and constituents through regular public workshops. The rate and tariff issues for WEIM participation were included in the TC-22 and BP-22 cases, which were completed in July 2021. Bonneville continues to hold public workshops to report on WEIM performance and operational issues.

**Regional Resource Adequacy**

Bonneville continues to forecast that it has adequate power resources to meet its long-term contractual obligations to supply its regional firm power customers' demands in all foreseeable conditions. Recent regional forecasts, however, have shown that the Pacific Northwest as a whole is nearing periods of times of the year when regional power supplies may not be adequate to meet demand. Bonneville is joining other regional utilities through the Northwest Power Pool Western Resource Adequacy Program (WRAP) initiative to create a regional resource adequacy program. This effort seeks to develop a program that is based on voluntary participation with binding commitments to ensure that the region maintains a balance of supplies and demand in a very high percentage of likely conditions.

On September 29, 2021, Bonneville committed to participating in the non-binding forward-showing phase (Phase 3A) of the WRAP. The non-binding program participation is expected to run through the forward-showings for winter 2022-2023 and summer 2023. Bonneville continues to engage with its customers and regional leaders to gain more information about the binding program and to develop a better understanding of the business case and principles for Bonneville's potential

participation. Bonneville expects to make a decision on participating in the binding program in late 2022. FERC approval is required before the WRAP can become fully binding.

**The Columbia River System Operations Environmental Impact Statement and associated Endangered Species Act consultations**

In 2020, the Corps, Reclamation, and Bonneville completed the Columbia River System Operations (CRSO) Environmental Impact Statement (EIS) and associated Endangered Species Act (ESA) consultations on the Columbia River System (CRS) operations, maintenance and configuration for 14 Federal projects in the interior Columbia Basin. These 14 CRS Federal projects are a subset of the FCRPS. In the CRSO EIS, the three agencies prepared a reasonable range of alternatives for long-term system operations and evaluated the potential environmental and socioeconomic impacts on a number of system purposes, including flood risk management, irrigation, power generation, navigation, fish and wildlife, cultural resources and recreation.

The on-going action that requires evaluation under the National Environmental Policy Act (NEPA) is the long-term coordinated management of CRS projects. An underlying need to which the co-lead agencies responded is reviewing and updating the management of these projects, including evaluating measures to avoid, offset, or minimize impacts to resources affected by the management of the CRS in the context of new information and changed conditions in the Columbia River basin. In addition, the co-lead agencies responded to the Opinion and Order issued by the U.S. District Court for the District of Oregon such that this EIS evaluated how to ensure that the prospective management of the system is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat, including evaluating mitigation measures to address impacts to listed species. The co-lead agencies released a final Record of Decision (ROD) in September 2020. Regional parties subsequently challenged the CRSO EIS ROD in court.

In October 2021, the Administration announced a short-term agreement on operations of the Federal CRS multiple purpose projects. The agreement paused litigation over the selected alternative in the CRSO EIS ROD and associated ESA consultations. On August 4, 2022 the Administration announced the pause in the litigation would be extended one year to August 31, 2023, in the District Court and September 8, 2023, in the Ninth Circuit.

Discretionary taxpayer funds requested or enacted for litigation stay-related activities must be non-reimbursable in Federal law in order to assure such activities are not in lieu of ongoing priorities and programmatic and financial responsibilities of the other Federal agencies (Corps, Reclamation, USFWS, etc.). Those discretionary, non-reimbursable funds may not be recovered in Bonneville's wholesale electric power rates. Other Federal agencies that are seeking to fund stay activities beyond existing Bonneville funding priorities and beyond statutory obligations or responsibilities must seek non-reimbursable appropriations for those activities.

**Fish and Wildlife Program Overview**

Bonneville remains committed to funding its share of the region’s efforts to protect and mitigate Columbia River Basin fish and wildlife affected by the construction and operations of the FCRPS. To the extent possible, Bonneville integrates actions to protect species listed for protection under the ESA in response to relevant FCRPS Biological Opinions (BiOPs) with the Fish & Wildlife Program of the NPCC. Implementation of these efforts involve significant collaboration with Pacific Northwest states, Indian tribes, local communities and other Federal agencies.

Included in the Additional Tables section at the back of this document, on page 107, is the current tabulation of Bonneville’s Fish & Wildlife costs from FY 2012 through FY 2022.

**The Columbia River Treaty**

The U.S. Government reached consensus on a high level position for negotiations of the post-2024 future of the Columbia River Treaty in June 2015, and received authorization to negotiate with Canada on the Columbia River Treaty in October 2016. Government Affairs Canada notified the U.S. State Department in December 2017 of Canada's mandate to negotiate the Columbia River Treaty with the United States. Negotiations began in spring 2018 and continue to date. Both the U.S. State Department and Canadian negotiators have discussed shared objectives and exchanged information on flood risk management, hydropower, and ecosystem considerations.

***Strategic Goal: Meet Transmission Customer Needs Efficiently and Responsively***

**Revised Transmission Tariff**

In 2019, Bonneville adopted a broad regional settlement of a new Transmission Tariff, which included terms and conditions that would apply to all of Bonneville's customers. The Tariff set forth the process Bonneville may use to make future modifications to it and positioned the region to take advantage of opportunities in the rapidly changing industry as well as further its objectives for improving the agency's commercial performance.

Bonneville will conduct a Terms and Conditions Tariff Proceeding beginning in fall of 2022 to set or modify the terms and conditions of the Transmission Tariff. The proceeding will run concurrently with the BP-24 rate case.

**Integrating Regional Transmission Planning**

Bonneville participates in the NorthernGrid regional planning organization. Bonneville's 2018-2023 Strategic Plan included the objective of pursuing a single planning region in order to consolidate regional planning efforts and reduce duplication. In support of that objective, Bonneville worked together with other entities to scope and develop a new, single regional planning organization. The result of that effort is NorthernGrid. NorthernGrid is an association of member utilities that offers a forum for coordination of regional transmission planning activities. Participation in NorthernGrid facilitates Bonneville's efforts to meet transmission customer needs efficiently and responsibly through coordination of transmission planning across a broad spectrum of participants and a larger footprint. It includes participation by both FERC-jurisdictional and non-jurisdictional entities.

**Wildfire Risk Mitigation**

In 2020, Bonneville released its Wildfire Mitigation Plan to reduce the risk of Bonneville transmission lines and other assets from sparking wildfires, and to protect Bonneville's lines and assets from the threat of wildfires. The plan incorporated wildfire mitigation into Transmission Services' asset management planning strategy. In 2021, Bonneville updated the plan to add a public safety power shutoff (PSPS) procedure to further mitigate the risk of fire igniting from its transmission lines. PSPS is proactive de-energization of transmission lines and facilities based on a number of factors, including extreme weather like high winds, other environmental conditions, and asset condition.

***Strategic Goal: Value People and Deliver Results***

**COVID-19 Response**

Beginning in March 2020, Bonneville responded to the expanding COVID-19 pandemic by instructing all non-mission-critical operating personnel to telework for an indefinite period of time. Bonneville suspended transmission construction projects and limited field operations to critical work. As local health directives permitted, Bonneville resumed construction and maintenance activities. In June 2020, Bonneville completed an expedited rate proceeding to suspend its Financial Reserve Policy surcharge to provide its public power preference customers about $3 million per month of rate relief for the remainder of FY 2020 and a total of $30 million for FY 2021. Bonneville has since maintained a flexible telework policy that includes guidance from local health authorities in the communities where the agency has facilities. Bonneville has made a number of FCRPS self-financed expenditures to respond to the COVID-19 pandemic to keep employees safe and reliably continue power and transmission operations. The health and safety of Bonneville Federal and contract workers are of paramount importance and guides all actions to reenter agency facilities. Federal Centers for Disease Control (CDC) protocols as outlined in "Work Places and Businesses I COVID-19 I CDC" are being used, as practical and appropriate, to lower risk.

**Educational Activities**

Bonneville is a supporter of science, technology, engineering, and math (collectively known as "STEM") education programs. These programs provide support and encouragement to middle and high school students to study the sciences in school and to pursue careers in these fields. As a regional leader in STEM education, Bonneville proudly supports and organizes an award-winning Science Bowl. Bonneville also sponsors science fair competitions for students in Washington State, as well as a First Robotics tournament championship. Bonneville employees also serve as volunteer ambassadors, providing presentations, curricula, and activities to K-12 schools that enhance the learning experience for students and teachers, and extend awareness of the role of the region's hydroelectric system.

**Justice40 Initiative**

Recently the U.S. Department of Energy (DOE) announced its list of existing programs that provide Justice40 or Justice40-like benefits. While Bonneville is not a taxpayer-funded entity like other DOE elements, Bonneville does support the spirit of

Justice40 through its business activities and statutory requirements that benefit the people of the Northwest. Bonneville listed five large categories of our activities that provide Justice40-like benefits: Fish and Wildlife Mitigation Program; energy efficiency; Tribal STEM Grant Program; AIESEC internship partnership; public processes, including rate cases; and carbon-free, flexible hydropower and nuclear capacity and energy.

The following pages provide more specifics on the primary budget categories and subcategories.

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**Funding Schedule by Activity**

**Funding ($K)**

| Power Services - Capital | FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate | FY 2024 vs FY 2023 $ | FY 2024 vs FY 2023 % |
|---|---|---|---|---|---|
| Associated Projects | $ 190,294 | $ 281,260 | $ 270,000 | $ (11,260) | -4.0% |
| Fish & Wildlife | $ 16,119 | $ 43,000 | $ 41,335 | $ (1,665) | -3.9% |
| Power Information Technology | $ 778 | | | | |
| Power Non-IT | $ 1,033 | | | | |
| **Total, Power Services - Capital** | **$ 208,224** | **$ 324,260** | **$ 311,335** | **$ (12,925)** | **-4.0%** |

**Outyears ($K)**

| Power Services - Capital | FY 2024 Estimate | FY 2025 Estimate | FY 2026 Estimate | FY 2027 Estimate | FY 2028 Estimate |
|---|---|---|---|---|---|
| Associated Projects | $ 270,000 | $ 275,675 | $ 281,620 | $ 288,001 | $ 294,794 |
| Fish & Wildlife | $ 41,335 | $ 41,300 | $ 29,000 | $ 15,700 | $ 15,000 |
| **Total, Power Services - Capital** | **$ 311,335** | **$ 316,975** | **$ 310,620** | **$ 303,701** | **$ 309,794** |

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*Power Services – Capital*

**Overview**

Under the Power Services – Capital category, there are three subcategories. **Associated Project** costs provide for direct funding of additions, improvements, and replacements of existing the 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 the availability and increasing the efficiency of the FCRPS is critical to ensuring that the region has an adequate, efficient, economic, and reliable power supply. 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.

Since the beginning of direct funding in 1997, Bonneville has invested over $3 billion in direct capital in the FCRPS with the goal of maximizing system value for the region and its stakeholders. Ongoing analysis with its operating partners, the Corps and Reclamation, has identified ongoing investment needs for the foreseeable future to maintain the health of the hydro system.

These planned investments, included in the FY 2024 Budget estimates, will maintain the generation performance of the FCRPS. Moving forward with the cost-effective opportunities to preserve and enhance the capability of the FCRPS is a smart, economic, and environmentally beneficial decision for serving the growing Pacific Northwest electricity needs of Bonneville customers, particularly when compared to purchasing power from the wholesale power market.

**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 with the NPCC's Columbia Basin Fish and Wildlife Program (NPCC'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.

Under the Northwest Power Act, the NPCC must develop a program of measures designed to protect, mitigate, and enhance Columbia River Basin fish and wildlife affected by the Federal and non-federal hydroelectric projects in the basin while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply. The NPCC Program, the Columbia River System BiOps, other BiOps, and Bonneville's long-term agreements include prioritized strategies for mitigation actions and projects to meet Bonneville's responsibilities under the Northwest Power Act, the ESA, the Federal Clean Water Act, and other laws. When issues arise that potentially trigger the in-lieu provision of the Northwest Power Act, which prohibits Bonneville from funding mitigation that other entities are authorized or required to undertake, Bonneville works with the NPCC and regional fish and wildlife managers, customers, and tribes, as appropriate, to ensure ratepayers fund only appropriate mitigation.

Most projects recommended by the NPCC also undergo independent scientific review as directed by the 1996 Energy and Water Development Appropriations Act, which added Section 4(h)(10)(D) to the Northwest Power Act. As a result, the Council appoints an Independent Scientific Review Panel (ISRP) "to review a sufficient number of projects" proposed to be funded through Bonneville's annual Fish & Wildlife budget "to adequately ensure that the list of prioritized projects recommended is consistent with the Program." The Northwest Power Act further states that "in making its recommendations to Bonneville, the Council shall consider the impact of ocean conditions on fish and wildlife populations and shall determine whether the projects employ cost-effective measures to achieve program objectives." Today, most mitigation projects funded by Bonneville receive ISRP review as part of the NPCC recommendation process. The NPCC uses a multi-year project review cycle during which the ISRP reviews categories of projects grouped together.

To comply with the ESA, Bonneville funds capital investment actions to avoid jeopardizing listed species. Guidance for those actions is found in the current BiOps issued by the National Oceanic and Atmospheric Administration (NOAA) and the USFWS.

Under these collective BiOps, the Action Agencies (Bonneville, Corps, Reclamation) have committed to implement hydro, habitat, hatchery, and other actions throughout the Columbia River Basin to address impacts stemming from the operation of the Federal hydro-electric dams on ESA-listed fish, and to ensure that operations of the Federal dams do not jeopardize the continued existence of the ESA-listed species or adversely modify their designated critical habitat.

The Action Agencies also signed the 2008 Columbia Basin Fish Accords (Fish Accords or Accords) with five Northwest Tribes and the states of Idaho and Montana. In 2009, an agreement was signed with the state of Washington and Federal agencies (the state of Washington Estuary agreement). And in 2012, the Action Agencies signed an agreement with the Kalispel Tribe of Indians covering Albeni Falls Dam and FCRPS operations. Wildlife settlement agreements have been signed with the states of Oregon and Idaho to help complete mitigation for the flooding and inundation caused by the construction of FCRPS dams operating in those states. These Fish Accords and settlements complement the BiOps and provide firm commitments to prioritize mitigation actions and secure funding over the life of the agreements.

As of September 30, 2022, BPA has long-term fish and wildlife agreements with estimated contractual commitments of $372.9 million, which are likely to result in future expenses or regulatory assets. These agreements will expire at various dates through fiscal year 2027 and do not include the Columbia Basin Fish Accords extension agreements. As of November 1, 2022, BPA, the Corps, and Reclamation are in the process of signing agreements to extend the Columbia Basin Fish Accords with current Accords partners, namely certain states and tribes. The Accords and associated BPA funding commitments facilitate implementation of projects that provide BPA with legal compliance actions under applicable laws, including the Northwest Power Act and Endangered Species Act, and that benefit Columbia River Basin fish and wildlife. The existing agreements expired September 30, 2022, and will be extended until September 30, 2025. The extension agreements are expected to commit approximately $409 million for fish and wildlife protection and mitigation, which will result in future expenses or regulatory assets.

As noted above, BiOps, Fish Accord extensions, and wildlife settlement commitments are integrated with other projects and implemented through the NPCC Program under the Northwest Power Act. They provide the basis for Bonneville's planned capital investment for fish and wildlife.

There are no anticipated expenditures under the third subcategory, **Projects Funded In Advance,** during this budget period.

**Accomplishments**

Power Services – Capital expenditures over the past fiscal year resulted in the following:

- The BP-22 Draft ROD was issued in June 2021 and the final ROD was issued in late July
- 45,134 acre-feet/year of water protected and conserved
- 6,242 acres improved and protected in riparian areas
- 29,545 acres protected by purchase or lease
- 258 cubic-feet per second (cfs) of water flow protected and conserved
- 191 miles of stream improved and protected in riparian areas
- 129 miles of habitat accessed
- Completed switchyard modernization at Palisades
- Completed station service breaker replacement at Ice Harbor
- Completed intake gantry crane controls replacement at Ice Harbor
- Completed drainage system oil water separator at McNary
- Completed tailrace gantry crane rehabilitation at Dworshak
- Completed generator coolers replacement at Bonneville
- Completed transformers replacement at The Dalles
- Completed main unit breakers and station service upgrades at Bonneville
- Completed GDACS replacement at Chief Joseph
- Completed SCC board replacement at Chief Joseph

**Explanation of Changes**

Bonneville's budget includes $311.3 million in FY 2024 for Power Services – Capital, which is a 4.0 percent decrease from the FY 2023 forecasted level. The FY 2024 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 the BiOps, Fish Accord extensions, and other Columbia Basin fish and wildlife activities.

The FY 2024 budget decreases the levels for Associated Projects by $11.2 million and decreases the funding level for Fish & Wildlife, by $1.67 million compared to FY 2023.

**Strategic Management**

Bonneville markets available electric power to meet requested load while supporting the achievement of its vital responsibilities for fish and wildlife, energy efficiency, 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. Bonneville is committed to funding efforts to protect listed fish and wildlife species in the Columbia Basin under the ESA and working closely with the NPCC, regional fisheries managers, and other Federal agencies to prioritize and manage projects to mitigate fish and wildlife impacts by the FCRPS.
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.
5. Bonneville has assisted with a DOE Wind Power cross-cutting initiative to strengthen energy security.

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 pages discuss budget specifics under two of the three 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.

The text below discusses Corps projects first, followed by Reclamation projects.

**Corps of Engineers Projects**
**($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $162,988 | $229,286 | $201,075 |

**Bonneville Dam:**

- FY 2022. Continued generator coolers replacement, control room fire protection upgrades, oil storage room fire protection upgrades, trashracks replacement, elevators rehabilitation, feeder boards replacement, and tailrace gantry crane replacement. Began Headgate repair pit rehabilitation.
- FY 2023. Complete feeder boards replacement and oil storage room fire protection upgrades. Continue elevators rehabilitation, trashracks replacement, tailrace gantry crane replacement and headgate repair pit rehabilitation. Begin digital governors replacement, main unit breakers replacement, and spillway gate repair.
- FY 2024. Complete headgate repair pit rehabilitation and tailrace gantry crane replacement. Continue digital governors replacement, main unit breakers replacement and spillway gate repair. Begin spillway rock mitigation and Bradford Island Service Building PRQ switchgear upgrade.

**John Day Dam:**

- FY 2022. Completed unwatering system condition intervention. Continued BLH turbine hub upgrades and fixed blade conversions, control room fire protection upgrades, and emergency gantry crane replacement. Began trashracks replacement, turbine pit pumps replacement, and submerged traveling screen (STS) crane replacement.
- FY 2023. Complete control room fire protection upgrades. Continue BLH turbine hub upgrades and fixed blade conversions, control room fire protection upgrades, emergency gantry crane replacement, trashracks replacement, turbine pit pumps replacement, and submerged traveling screen (STS) crane replacement.
- FY 2024. Continue BLH turbine hub upgrades and fixed blade conversions, emergency gantry crane replacement, trashracks replacement, turbine pit pumps replacement, and STS crane replacement. Begin generator cooling water system, and turbine runner replacement and generator rewinds.

**The Dalles Dam:**

- FY 2022. Continued gate repair pit upgrades, intake and tailrace crane rails replacement, intake gantry crane replacement. Began oil accountability measures.
- FY 2023. Complete thrust bearing oil coolers. Continue intake gantry crane replacement, intake gantry crane rails replacement and oil accountability measures.
- FY 2024. Complete intake gantry crane replacement. Continue intake gantry crane rails replacement and oil accountability measures.

**Willamette Plants:**

- FY 2022. Completed powerhouse and transformer oil water separator at Foster. Continued GDACS installation at Cougar, spillway gate rehabilitation and wildfire debris boom at Detroit, butterfly valves project at Cougar, main

unit breakers and electrical reliability upgrades at Foster and Hills Creek, and wildlife sediment and debris modeling and Big Cliff.

- FY 2023. Complete wildfire sediment and debris modeling at Big Cliff, wildfire debris boom at Detroit, and intake gantry crane at Dexter. Continue butterfly valves project, spillway gate rehabilitation and GDACS installation at Cougar, main unit breakers and electrical reliability upgrades at Foster and Hills Creek. Begin bridge crane replacement at Green Peter.
- FY 2024. Complete electrical reliability upgrades at Foster and butterfly valves at Cougar. Continue spillway gate rehabilitation and GDACS installation at Cougar, bridge crane replacement at Green Peter, and main unit breakers and electrical reliability upgrades at Hills Creek. Begin powerhouse and transformer oil water separator at Detroit.

**Albeni Falls Dam:**

- FY 2022. Continued main unit transformers replacement.
- FY 2023. Complete installation of main unit transformers.
- FY 2024. Begin bridge crane rehabilitation and emergency diesel generator Installation.

**Libby Dam:**

- FY 2022 Continued system control console replacement and DC boards and breakers replacement. Began powerhouse gantry crane rehabilitation.
- FY 2023. Continue powerhouse gantry crane rehabilitation, system control console replacement, and DC boards and breakers system replacement.
- FY 2024. Complete DC boards and breakers system replacement, powerhouse gantry crane rehabilitation and system control console replacement. Begin 6$^{th}$ unit installation.

**Chief Joseph Dam:**

- FY 2022. Continued intake gantry crane replacement. Began upgrades for station service units.
- FY 2023. Continue intake gantry crane rehabilitation and upgrades for station service units. Begin Units 1-16 generator rewinds, freight elevator rehabilitation, powerhouse elevator rehabilitation, powerhouse sump pump and controls replacement and Units 1-16 exciters replacement.
- FY 2024. Continue upgrades for station service units, Units 1-16 generator rewinds, freight elevator rehabilitation, powerhouse elevator rehabilitation, Units 1-16 exciters replacement, and powerhouse sump pump and controls replacement. Begin power bus replacement.

**Dworshak Dam:**

- FY 2022. Completed RO valve upgrade and tailrace gantry crane upgrade.
- FY 2023. No planned capital projects.
- FY 2024. No planned capital projects.

**McNary Dam:**

- FY 2022. Completed headgate repair pit upgrade and 230kv transformer purchase. Continued digital governors upgrade, exciters upgrade, headgate system rehabilitation, intake gantry crane rehabilitation, iso-phase and HV bus replacement, powerhouse control system upgrades, station service turbine rehabilitation, tailrace gantry crane 4 replacement, and turbine design and replacement.
- FY 2023. Complete tailrace gantry crane 4 replacement and intake gantry crane rehabilitation. Continue digital governors upgrade, exciters upgrade, governors rehabilitation, headgate system rehabilitation, , ISO-phase and HV bus replacement, powerhouse control system upgrades, station service turbine rehabilitation, and turbine design and replacement.
- FY 2024. Continue digital governors upgrade, exciters upgrade, headgate system rehabilitation, iso-phase and HV bus replacement, powerhouse control system upgrades, and turbine design and replacement. Complete station service turbine rehabilitation.

**Ice Harbor Dam:**

- FY 2022. Completed intake gantry crane controls upgrade. Continued Units 1-3 turbine runners replacement and Units 1-3 stator windings replacement.
- FY 2023. Continue Units 1-3 turbine runner replacements and stator winding replacements. Begin intake gate hydraulic system upgrades.

- FY 2024. Continue Units 1-3 turbine runner replacements, stator winding replacements, intake gate hydraulic system upgrades.

**Little Goose Dam:**

- FY 2022. Continued headgate repair pit upgrade, iso-phase bus upgrades, Unit 5 rotor frame and bracket repair, and powerhouse roof replacement. Began DC system and LV switchgear upgrades.
- FY 2023. Complete powerhouse roof replacement and Unit 5 rotor frame and bracket repair. Continue DC system and LV switchgear upgrades, headgate repair pit upgrade, and iso-phase bus upgrades. Begin intake gate rehabilitation.
- FY 2024. Continue DC system and LV switchgear upgrade, headgate repair pit upgrade, intake gate rehabilitation, and iso-phase bus upgrades.

**Lower Granite Dam:**

- FY 2022. Completed main Units 3-6 blade seal replacement and DC system and LV switchgear upgrade. Continued digital governors replacement, drainage system oil water separator, iso-phase bus and housing upgrade, and main Unit 2 blade sleeve upgrade and rehabilitation.
- FY 2023. Complete iso-phase bus and housing upgrade. Continue main Unit 2 blade sleeve upgrade and rehabilitation. Begin trashrake crane and rake replacement.
- FY 2024. Continue Trashrake Crane and Rake Upgrade and Main Unit 2 Blade Sleeve upgrade and rehabilitation. Begin Turbine Intake Gate Hydraulic System Upgrade.

**Lower Monumental Dam:**

- FY 2022. Completed station service compressed air system and main Units 2-6 blade seal repair. Continued headgate repair pit upgrades, iso-phase bus upgrades and trash rake crane and rake upgrades. Began DC system and LV switchgear upgrades.
- FY 2023. Complete headgate repair pit upgrades. Continue iso-phase bus upgrades, trashrake crane and rake upgrades, DC system and LV switchgear upgrades and intake gate rehabilitation.
- FY 2024. Complete iso-phase bus upgrades and trashrake crane and rake upgrades. Continue DC system and LV switchgear upgrades and intake gate rehabilitation.

**Bureau of Reclamation Projects**
**($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $27,306 | $51,974 | $68,925 |

**Grand Coulee Dam:**

- FY 2022. Continued G11-18 transformers replacement, Block 31 elevator replacement, LPH/RPH bridge crane replacement, and TPP crane controls upgrade.
- FY 2023. Complete TPP crane control upgrades. Continue Block 31 elevator replacement, G11-18 transformers replacement, and LPH/RPH bridge crane replacement. Begin G1-18 iso-phase bus replacement, inclined elevator rehabilitation and radio system modernization.
- FY 2024. Continue LPH/RPH bridge crane replacement, station service compressed air system replacement, G11-18 transformers replacement, and TPP crane controls upgrade. Begin Inclined elevator rehabilitation, fire protection modernization and radio system modernization.

**Keys Pump Generating Plant:**

- FY 2022. Continued P1-P6 coaster gate replacement, P1-P6 exciters, relays and unit controls, PG7-12 governors, exciters, relays and unit controls and phase reversal switch replacement.
- FY 2023. Complete phase reversal switch replacement. Continue P1-P6 coaster gate replacement, P1-P6 exciters, relays and unit controls, PG7-12 governors, exciters, relays and unit controls and phase reversal switch replacement.
- FY 2024. Continue P1-P6 exciters, relays and unit controls, PG7-12 governors, exciters, and relays and unit controls.

**Hungry Horse Dam:**

- FY 2022. Completed SCADA replacement. Continued powerplant crane controls, disconnect switches replacement and main unit transformer fire protection system replacement. Begin radio system modernization.
- FY 2023. Complete main unit transformer fire protection system replacement and powerplant crane controls. Continue radio system modernization. Begin exciters replacement.
- FY 2024. Continue exciters replacement and radio system modernization.

**Chandler Dam:**

- FY 2022. No planned capital projects.
- FY 2023. No planned capital projects.
- FY 2024. No planned capital projects.

**Palisades Dam:**

- FY 2022. Completed switchyard modernization and microwave system backbone replacement. Continue hollow jet valve replacement.
- FY 2023. Complete hollow jet valve replacement.
- FY 2024. No planned capital projects.

**Green Springs Dam:**

- FY 2022. No planned capital projects.
- FY 2023. No planned capital projects.
- FY 2024. No planned capital projects.

**Black Canyon Dam:**

- FY 2022. Continue station service arc flash mitigation and Units 1 & 2 life safety modernization.
- FY 2023. Continue station service arc flash mitigation and Units 1 & 2 life safety modernization. Begin trash rake installation.
- FY 2024. Continue station service arc flash mitigation and Units 1 & 2 life safety modernization.

**Anderson Ranch Dam:**

- FY 2022. No planned capital projects.
- FY 2023. No planned capital projects.

- FY 2024. No planned capital projects.

**Roza Dam:**

- FY 2022. Completed switchyard rehabilitation and breaker upgrade.
- FY 2023. No planned capital projects.
- FY 2024. No planned capital projects.

**Minidoka Dam:**

- FY 2022. Complete microwave system backbone modernization and switchyard modernization.
- FY 2023. No planned capital projects.
- FY 2024. No planned capital projects.

**Fish & Wildlife Projects – Capital**

***Overview***

Bonneville continues to develop budgets for the suite of fish and wildlife mitigation projects originally adopted in FY 2007 based on recommendations from the NPCC. Bonneville reaffirmed and expanded many project-specific commitments in subsequent agreements and processes, including BiOps and 2022 Fish Accord extensions, and since then, virtually all these projects received independent science review through the NPCC and its project review processes. Bonneville's funding decisions embrace many of the management objectives and priorities in the NPCC's Program and continue to integrate ESA compliance as described in the NOAA Fisheries' and USFWS's FCRPS BiOps. Coordination continues among Bonneville, NPCC, Federal resource management agencies, states, tribes, and others to support the projects that satisfy Bonneville's mitigation responsibilities.

**Fish & Wildlife Projects**

**($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $16,119 | $43,000 | $41,335 |

Bonneville intends to continue implementing the types of capital projects listed below. These projects are based upon the best available science and are regionally important in that they 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. Specifically, as capital construction projects, hatchery facilities typically go through the NPCC's three-step process, which includes development of a master plan, environmental compliance, ESA consultation, value-engineering analysis, and review by the 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) Hatchery 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 projects included in this budget include the following.

**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 not begun and the expected start date is yet to be determined.

**Chief Joseph Hatchery Water Quality Project:**

The Chief Joseph Hatchery was a 2008 Accord commitment with the Confederated Tribes of the Colville Reservation; construction began in fiscal year 2010, with fish production starting in 2013. The Chief Joseph Hatchery operates 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 expected start date yet to be determined.

**Umatilla Hatchery Facility:**

The NPCC in 1990 recommended that Bonneville construct the Umatilla Hatchery, just east of the town of Irrigon, Oregon, to mitigate for the loss of salmon and steelhead habitat and migration blockage resulting from the CRS dams. Umatilla River anadromous fish had been largely extirpated in the early 1900s by irrigation dams, prior to construction of the CSR dams. Current hatchery production includes 810,000 spring Chinook, 600,000 fall Chinook, 500,000 coho, and 150,000 summer steelhead. Construction of the Umatilla Hatchery was completed in 1991 at a cost of $14 million. Bonneville funds the Oregon Department of Fish and Wildlife (ODFW) to operate the hatchery and the Confederated Tribes of the Umatilla Indian Reservation to operate acclimation facilities supporting the hatchery. The available water supply at the hatchery 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 and is in the early evaluation phase. It appears costs 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), as 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).).

**UmaBirch Conservation Easement Project:**

Fish and wildlife mitigation and ecology restoration is proposed for the UmaBirch Conservation Easement. The easement includes 774 acres for fish and wildlife mitigation and ecological restoration. Bonneville is currently working with the Confederated Tribes of the Umatilla Reservation to design a stream and floodplain restoration in the area. The majority of the instream and floodplain improvements would occur at the confluence of the Umatilla River and Birch Creek (Project Area 2) 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 miles of Birch Creek; removal of 1.3 miles of agricultural berms and removal of 0.3 miles 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 BiOp 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. This project requires the environmental compliance process be complete, which may impact implementation timeframes; the project is currently expected to start construction in FY 2024.

New construction-related habitat restoration projects that require capital funds in FY 2023 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 BiOp. This project requires the environmental compliance process be complete, which may impact implementation timeframes; the project is currently expected to start construction in FY 2023.

**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 floodplain and channel network. The Request is for a project-funding match of $3,294,616 from Bonneville against additional project investment from other Federal and state partners, for a total projected project cost of $5,994,616. This project has multiple coordination points and requires the environmental compliance process be complete, which may impact implementation timeframes; the project is currently expected to start construction in FY 2023.

The Further Consolidated Appropriations Act, 2019 (Public Law 116-94) provided expenditure authority for the following project:

**Steigerwald Project:**

The Steigerwald Floodplain Restoration Project is a collaborative project that will reconfigure the Port of Camas-Washougal's (Port's) existing Columbia River levee system to reduce flood risk, reconnect 960 acres of Columbia River floodplain, and increase ecological function at the Steigerwald Lake National Wildlife Refuge. Specifically, the project will construct 1.6 miles of setback levee, completely remove 2.2 miles of existing levee, provide unobstructed access to floodplain and tributary habitats for salmonids and lamprey, and greatly reduce flood risk to the Port's Industrial Park and City of Washougal's wastewater treatment plant, which serves 15,000 residents. Bonneville is working with the lower Columbia Estuary Partnership, which is leading the project. The project will provide seven survival benefit units (~15 percent of the Action Agencies' total goal in the estuary). Other partners include the Port, USFWS, Washington State Department of Transportation, City of Washougal, and several private landowners. Capital construction began in FY 2020 and will last three years.

The Consolidated Appropriations Act, 2016 (Public Law 114-113) provided expenditure authority for the following projects:

**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.

The FY 2014 Omnibus Appropriations Act (Public Law No. 113-76) provided expenditure authority for the following projects:

**John Day Reprogramming and Construction:**

The Columbia River Inter-Tribal Fish Commission (CRITFC) has proposed this project to balance the upriver and downriver salmon 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 would fund the construction of four circular tanks utilizing water reuse systems and the Corps would take over the operations and maintenance for the new infrastructure, which accommodates the reprogramming of hatchery fish. The project began design in FY 2022.

**Columbia River Basin White Sturgeon Hatchery:**

This project, proposed by the CRITFC, would mitigate for the decline of the white sturgeon population caused by consistently poor recruitment upstream of Bonneville Dam. Bonneville would fund the construction of a new facility, or the acquisition of an existing facility, to produce 15,000-30,000 yearling white sturgeon per year. The final project may include the collection, holding and spawning of broodstock, the rearing of wild-spawned juveniles, and the acclimation of juveniles prior to release. The site of the Yakama Nation's existing Marion Drain Sturgeon Hatchery near Toppenish, Washington, has been proposed as a location. The project team is working on additional analyses to respond to Council comments and to begin the environmental review process. Design for the project has not begun and the expected start date has yet to be determined.

**Kelt Reconditioning and Reproductive Success Evaluation Research:**

CRITFC is proposing 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 expected to be 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 is expected to start in FY 2023.

Ongoing projects (expenditure authority previously received):

**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 NPCC, and conditionally approved by Bonneville. The plan's original goals were to protect and increase naturally producing populations of spring Chinook and steelhead, 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 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, that provided updates to its fish management plans. Bonneville suspended the NEPA process while the Yakama Nation refined its proposal in response to site and budgetary limitations and comments on the draft EIS.

Since that time, the National Marine Fisheries Service (NMFS) has completed its 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 NPCC 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. Construction will occur after Bonneville completes its environmental compliance and alongside a three-way operations and maintenance agreement which affirms that NMFS will remain responsible for providing funding post-construction. Project design was initiated in summer of 2021.

**Mid-Columbia Coho Restoration:**

This Yakama Accord project is intended 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. This program will construct a facility on the Wenatchee River for holding and spawning broodstock, incubating eggs, and rearing juveniles. Additional semi-natural ponds will also be constructed in the Wenatchee and Methow sub-basins for acclimating smolts prior to their release. The phased approach, including associated facilities, incorporates

development of a mid-Columbia hatchery broodstock, 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.

Potential non-construction capital wildlife and resident fish habitat acquisitions (including conservation easements) eligible for capitalization are:

- Albeni Falls Wildlife Mitigation
- Willamette Wildlife Habitat Acquisitions
- Libby and Hungry Horse Reservoirs Resident Fish Acquisitions
- Southern Idaho Habitat Acquisitions

**Power Services – Capital: Activities, Milestones and Explanation of Changes ($K)**

| FY 2023 Estimate | FY 2024 Estimate | Explanation of Changes FY 2024 vs FY 2023 Estimate |
|---|---|---|
| **Power Services – Capital $324,260** | **$311,335** | **$-12,925/-4.0%** |
| **Associated Projects $281,260** | **$270,000** | **$-11,260/-4.0%** |
| Milestones:<br>Complete control room fire protection upgrades at Bonneville Dam.<br>Complete emergency gantry crane replacement, SQ board replacement and trash rack crane replacement at John Day Dam.<br>Complete fish unit breaker replacement and gate repair pit upgrades at The Dalles Dam.<br>Complete spillway gate rehabilitation at Detroit, intake gantry crane at Dexter and Oil Water Separator at Foster.<br>Complete powerhouse gantry crane rehabilitation at Libby Dam.<br>Complete intake gantry crane rehabilitation at Chief Joseph Dam.<br>Complete RO valve upgrade at Dworshak Dam.<br>Complete tailrace gantry crane 4 replacement at McNary Dam.<br>Complete intake gantry crane controls upgrade at Ice Harbor Dam.<br>Complete powerhouse roof replacement at Little Goose Dam.<br>Complete iso-phase bus and housing upgrade at Lower Granite Dam.<br>Complete iso-phase bus upgrades at Lower Monumental Dam.<br>Complete P1-P6 coaster gate replacement at Keys Pump Generating Plant. | Milestones:<br>Complete emergency gantry crane rehabilitation at The Dalles Dam.<br>Complete butterfly valves and spillway gates at Cougar Dam.<br>Complete main unit transformers installation at Albeni Falls Dam.<br>Complete DC boards and breakers system replacement at Libby Dam.<br>Complete Unit 5 rotor frame and bracket repair at Little Goose Dam.<br>Complete DC system and LV switchgear upgrade, trashrake crane and rake upgrade and main unit 2 blade sleeve upgrade and rehabilitation at Lower Granite Dam.<br>Complete trash rake crane and rake upgrades at Lower Monumental Dam.<br>Complete LPH/RPH bridge crane replacement and station service compressed air system replacement at Grand Coulee Dam.<br>Complete hollow jet valve replacement at Palisades Dam.<br>Complete station service turbine rehab at McNary.<br>Complete DC boards and breakers system replacement at Libby.<br>Complete system control console replacement at Libby. | The decrease reflects additional work efforts while continuing to align with Bonneville's strategic asset management plans. |

| FY 2023 Estimate | FY 2024 Estimate | Explanation of Changes<br>FY 2024 vs FY 2023 Estimate |
|---|---|---|
| Complete SCADA replacement and main unit transformer fire protection system replacement at Hungry Horse Dam.<br>Complete switchyard modernization at Palisades Dam.<br>Complete switchyard rehabilitation and breaker upgrade at Roza Dam.<br>Complete microwave system backbone modernization at Minidoka Dam. | | |
| **Fish & Wildlife $43,000** | **$41,335** | **$-1,665/-3.9%** |
| Milestones:<br>Continue implementation of the Program, BiOps and applicable Fish Accord extensions. | Milestones:<br>Continue implementation of the Program, BiOps and applicable Fish Accord extensions. | Fish & Wildlife will continue long-term, planned effort to reshape funding necessary to implement the BiOps, applicable Fish Accord extensions, Columbia River Basin fish and wildlife activities. |

**Funding Schedule by Activity**

**Funding ($K)**

| Transmission Services - Capital | FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate | FY 2024 vs FY 2023 | |
|---|---|---|---|---|---|
| | | | | $ | % |
| Main Grid | $ 8,611 | $ 6,219 | $ 38,285 | $ 32,066 | 515.6% |
| Area & Customer Services | $ 47,768 | $ 71,520 | $ 38,285 | $ (33,235) | -46.5% |
| Upgrades & Additions | $ 81,931 | $ 113,430 | $ 151,074 | $ 37,644 | 33.2% |
| System Replacements | $ 316,041 | $ 305,991 | $ 366,197 | $ 60,206 | 19.7% |
| Projects Funded in Advance | $ 34,771 | $ 61,166 | $ 45,924 | $ (15,242) | -24.9% |
| Environmental Capital | $ 7,978 | | | | |
| **Total, Transmission Services - Capital** | **$ 497,100** | **$ 558,327** | **$ 639,764** | **$ 81,437** | **14.6%** |

**Outyears ($K)**

| Transmission Services - Capital | FY 2024 Estimate | FY 2025 Estimate | FY 2026 Estimate | FY 2027 Estimate | FY 2028 Estimate |
|---|---|---|---|---|---|
| Main Grid | $ 38,285 | $ 38,521 | $ 40,318 | $ 35,963 | $ 27,669 |
| Area & Customer Services | $ 38,285 | $ 44,024 | $ 39,625 | $ 45,183 | $ 51,657 |
| Upgrades & Additions | $ 151,074 | $ 146,503 | $ 100,826 | $ 54,415 | $ 58,084 |
| System Replacements | $ 366,197 | $ 351,960 | $ 375,128 | $ 401,618 | $ 408,621 |
| Projects Funded in Advance | $ 45,924 | $ 55,007 | $ 53,073 | $ 53,907 | $ 54,751 |
| Revenue Financing | | | | | |
| **Total, Transmission Services - Capital** | **$ 639,764** | **$ 636,016** | **$ 608,970** | **$ 591,087** | **$ 600,783** |

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***Transmission Services – Capital***

**Overview**

Transmission Services is responsible for about 75 percent of the Pacific Northwest's high-voltage transmission. 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 Bonneville's Strategic Asset Management Plan (SAMP) development. Based on strategic goals, Transmission Services implements integrated, detailed asset plans to guide the following activities:

1. Improvements to system adequacy, reliability, and availability. These projects address multiple challenges, such as integration of renewable energy, the need to relieve a number of 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 specific long-term strategies for the following asset categories:
    a. Substations AC
    b. Power system control/system telecommunications
    c. Wood lines
    d. Steel lines
    e. Rights-of-way (ROW), (land rights, access roads, and vegetation management)
    f. System protection and control
    g. Control centers
    h. Non-electric facilities

The following external factors present the strongest impact to overall achievement of Transmission Services' strategic goals:

- Continually changing economic and institutional conditions
- Competitive dynamics
- Ongoing regulatory and technology changes in the electric industry
- Siting issues

The following text discusses "Expand" or expansion investments first, following by "Sustain" or replacement investments.

**Expand Investments**

Expand (or expansion) investments continue to make significant infrastructure improvements and additions to the Bonneville transmission system to assure 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, consumer demand, and the 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)** – System investments that are requested, and funded in advance, by customers.

Congressionally-approved Production Tax Credits (PTC) for renewable energy were enacted in 2005, and were to phase out beginning in 2023. The Inflation Reduction Act (IRA), enacted by President Biden on August 16, 2022, substantially changes and expands existing Federal income tax benefits for renewable energy, including extending the Wind PTC through 2033. The incentives created by these credits, along with Renewable Portfolio Standards (RPS) mandates implemented by the states of Oregon, Washington, and California, have spurred a large number of renewable projects interconnection requests to the Bonneville transmission system grid. As of September 30, 2022, Bonneville had interconnected between 8,000 and 8,583 MW of renewable qualified generation projects. Bonneville has more than 60,000 MW in additional renewable (wind, solar, biomass, geothermal, etc.) interconnection requests still remaining in the study queue. Solar project interconnection requests are currently making up the majority of the new requests in Bonneville's queue. The current projections are possibly 11,000 MW of renewable generation projects interconnected by 2026. Much of the remaining generation project transmission demand is the result of the RPS and other legislation enacted by Oregon and Washington that require retail utilities to acquire more than 8,000 MW of renewable energy 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 our system in that event. Also in the Bonneville transmission interconnection request queue is approximately 2,500 MW of natural gas-fired generation. Efficiency improvements to the FCRPS hydro units that qualify as renewable are also proposed between 2023 and 2024.

In June 2008, Bonneville's first Network Open Season (NOS) received 153 requests from 28 customers for 6,410 MW of new service, about three-fourths for wind energy integration. Bonneville subsequently offered 1,782 MW of new transmission service on its existing system. Bonneville identified four new Main Grid capital projects from the 2008 NOS: (1) McNary-John Day 500 kV transmission line (part of West of McNary Reinforcements Group 1); (2) Big Eddy-Knight 500 kV transmission line and substation (part of West of McNary Reinforcements Group 2); (3) Central Ferry- Lower Monumental 500 kV Reinforcement (formerly Little Goose Area Reinforcement); and (4) I-5 Corridor 500 kV Reinforcement. Construction of the McNary-John Day 500 kV transmission line is complete and Bonneville has completed construction of the Big Eddy-Knight project and the Central Ferry-Lower Monumental 500 kV Reinforcement project. On May 18, 2017, Bonneville announced its decision to not build the I-5 Corridor Reinforcement Project. Bonneville continues to work with constituents and stakeholders to study more cost-effective options to mitigate the current limitations along this path. Public meetings began in July 2017 to address alternatives to building. An update to Bonneville's Available Transfer Capability (ATC) methodology increased the available transmission service on the Westside paths by a few hundred megawatts. Other alternatives, such as energy storage devices, are still being evaluated.

Bonneville's 2009, 2010, 2013, 2016, 2019, 2020, 2021 and 2022 study processes for new Transmission Service Requests (TSR) total 38,397 MW, including approximately 12,600 MW of wind project interconnection and 12,800 MW of solar project interconnection. The 2010 study process identified the Montana to Washington project, for which environmental review was begun, however, the original requests to support this project have been subsequently withdrawn and so all work on the project was terminated. Subsequent TSRs also require this project, and Bonneville is now undertaking preliminary engineering activities on it again to move wind generation in Montana to the Northwest. The 2016 and 2019 study processes re-identified the Montana-to-Washington and Garrison-to-Ashe projects to move new wind generation in Montana to the Northwest. Requests to support the Garrison-to-Ashe project have subsequently been withdrawn as that project was terminated.

The 2013 study process identified upgrades to the Monroe-Novelty Hill 230-kV transmission line which were re-identified for additional new requests in the 2016 study process. The 2016 study process identified network upgrades in Central

Oregon, Walla Walla, Washington, and across the Raver-Paul flowgate. The 2019 study process identified additional reinforcements across the Raver-Paul flowgate, the same Central Oregon and Walla Walla projects, and some significant impacts to third parties, specifically Portland General Electric and Puget Sound Energy. The 2020 study process identified an additional Schultz-Raver Series Capacitor project. The 2021 study process identified major reinforcements to transfer more power to the loads on the Olympic peninsula. The 2022 study identified massive upgrades in central Oregon and the southern Oregon coast, along with moderate reinforcements of both the Cross Cascades North and Cross Cascades South paths, as well as more modest upgrades of the Raver-Paul, South of Allston, and South of Knight paths. Efforts are currently underway to provide required studies capacity to requesting customers.

**Sustain Investments**

Sustain investments are made to maintain the health of the existing infrastructure to assure reliable transmission in the Pacific Northwest. These investments enable continued compliance with national reliability standards, replace aging and obsolete equipment, and remove constraints that limit economic trade or the ability to maintain the transmission system.

In 2009, Bonneville Transmission Services began implementing best practice frameworks that provide a standardized structure and approach to asset management. As a result, Transmission Services' asset management strategies, derived from the agency's strategic plan, drive Bonneville's asset plans, which determine its capital and expense investment priorities. Sustain investments are forecasted, prioritized within asset programs, and optimized across the asset base for asset planning and approval. Bonneville now bundles both sustain and expand capital projects in an effort to improve execution and to lower risks and costs. Transmission Services' capital program does remain somewhat fluid and subject to changes as the complexity of the transmission system produces unexpected needs resulting from equipment failure, climate/weather incidents, changes in performance and/or operation of connected systems, outage schedules and conflicts, updated regulations, customer interconnection requests, etc. For these and other reasons, specificity with sustain investments in the transmission system is somewhat limited.

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, SONET, Telephone, 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.
9. Tools and Equipment Acquisition Program (TEAP) –Tools, equipment, fleet.
10. Facilities – Non-electric facilities including warehouses, operational structures, hangar, and maintenance centers.

In 2019, Transmission Services began an effort to determine the "Criticality, Health and Risk" (CHR) of major assets within the system. While all assets have not been analyzed through this effort as of yet, most of the major substations and lines have been assessed. The resulting information (the CHR score) is used to prioritize work on the system for all sustain work. Expand work is also routed to the sustain asset managers to determine if there is any sustain work that should be bundled with the expand work based upon the CHR score. The bundling of expand and sustain work began in 2014 to increase efficiencies of the crews on site and minimize the overlap of projects on the same site.

Given the recent disasters in California involving transmission and distribution lines being identified as the root cause of many wildfires, Bonneville has begun assessing its transmission facilities for wildfire risks. This is an ongoing effort that began three years ago and continues to mature. During the dry hot summer periods Bonneville has proactively de-energized transmission lines to mitigate the risk of fire hazards to our customers and the region. Bonneville is continually looking to upgrade its forecasting and wildfire risk analysis tools and capabilities, as well as identify and implement other preventive steps to mitigate the risk of wildfires.

Notwithstanding that the capital program for Transmission Services is subject to change, Bonneville has identified several general areas where capital investments will occur.

Bonneville will continue to fund fiber optic communications facilities needed to meet Bonneville's projected operational needs. To the extent that these investments create temporary periods of excess fiber optic capacity, such fiber capacity can be made available to telecommunications providers and to non-profits to meet public benefit internet access needs for rural areas and other needs in Bonneville's service area. Bonneville's investments in fiber optics, including the role of the private sector in building fiber optic networks, is consistent with the "Fiber Optic Cable Plan" submitted to Congress on May 24, 2000, accompanying the FY 2000 Energy and Water Development Appropriations Act. In accordance with this plan, when possible, Bonneville will establish partnerships with fiber optic facility and service providers to meet its needs.

In December 2004, Congress passed and the President signed the Commercial Spectrum Enhancement Act (CSEA, Title II of P.L. 108-494), creating the Spectrum Relocation Fund (SRF) to streamline the relocation of Federal systems from certain spectrum bands to accommodate commercial use by facilitating reimbursement of relocation costs to affected agencies. The Federal Communications Commission (FCC) has auctioned licenses for reallocated Federal spectrum, which will facilitate the provision of Advanced Wireless Services (AWS) to consumers. Funds were made available to agencies in FY 2007 for relocation of communications systems operating on the affected spectrum. These funds are mandatory and will remain available until expended, and agencies will return to the SRF any amounts received in excess of actual relocation costs. The estimated Bonneville cost of this relocation was $48.7 million. The project was completed in November 2013 with a cost of approximately $40 million and the operational system performance was being observed during FY 2014 and early FY 2015 to determine that it has achieved comparable capability as defined under the CSEA. Bonneville determined in December 2014 that comparable capability had been achieved.

Bonneville began participating in a new spectrum relocation effort in FY 2015. The NTIA has approved and, in July 2014, web-posted Federal agency relocation plans, including the Bonneville relocation plan. The FCC held an auction of this spectrum on November 13, 2014. Bonneville received an additional $5.2 million from the SRF on July 29, 2015, to fully pay for this new relocation effort, including, as in the prior relocation, the purchase and installation of new digital radio equipment.

As part of the Homeland Security Presidential Directives, Bonneville has completed a physical security assessment of all critical facilities and is implementing security enhancements at these facilities. These security enhancements increase controlled access to Bonneville's facilities and provide video surveillance and monitoring capabilities.

**Accomplishments**

Transmission Services – Capital expenditures over the past fiscal year resulted in the following:

- Both BP-22 Draft ROD and Terms and Conditions (TC-22) were issued in June 2021 and the final ROD was issued in late July.
- Integrated 6524.66 MW of renewable energy through September 2022 on Bonneville's transmission system.
- Completed the addition of a 500 kV transformer for wind hubs at John Day and Central Ferry Subs.
- Completed the Bonneville-Hood River line upgrade.
- Completed the Lane-Wend -1: rebuild Lane to Walt section.
- Completed the Mone line relay replacement and re-termination of Bays 4 and 5 project.
- Completed the replacement of Raver Reactor Banks 3 and 4.
- Completed the security enhancements at BELL substation and maintenance yards
- Completed the addition of a new 230kV transformer, breaker and disconnects at Longview substation.
- Completed 5 Grid Mod projects, with 12 in construction, 1 in design, 2 Approved, 1 in draft and 11 in scoping and under development.
- Completed Morrow Flats UEC Phase 2 L0389.
- Completed Holcomb Naselle 1 line rebuild.
- Completed Ostrander and Malin substation security enhancements.
- Completed the PSANI project capital work in the Seattle area.
- Completed replacement of dilapidated control houses at Holcomb and Kerr. Richland, Warren and Wendson are under construction and Kitsap, Pendleton, Troy, Cosmopolis, and NaSelle will be the next group started.

- Completed the installation of new reactor at Fairview Substation
- Completed the installation of new transformers at Anaconda and Dixon and retired Silver Bow Substation. Sold Anaconda Substation and related facilities to Northwestern Energy.
- Added new 4th bay at Morrow Flats. New reactor to be installed in spring 2023 along with another reactor at Jones Canyon.
- Completed 230kV breaker replacement and addition at Tacoma Substation.
- Completed L0389 phase 2 for UEC new Industrial load.
- Completed four Grid Mod Metering installations through FY 2022. Anticipate completing six more by FY 2025.
- Completed Sonet Ring for Bell Boundary.
- Completed Holcomb Naselle Wood Line rebuild.
- Completed Avangrids Montague Solar and Wind interconnection.
- Completed addition of a single 500kV transformer at Slatt for wind projects.
- Began design of Big Eddy-Ostrander-1 2.5" steel conductor replacement.

**Explanation of Changes**

Bonneville's Budget includes $639.7 million in FY 2024 for Transmission Services capital needs, which is a 14.6 percent increase from the FY 2023 forecasted level. The FY 2024 Budget increases the levels for Main Grid ($32.0 million), Upgrades & Additions ($37.6 million), and System Replacements ($60.2 million), but decreases the levels for Area & Customer Services ($33.2 million) and PFIA ($15.2 million).

The following pages discuss budget specifics under the five Transmission Services subcategories noted above: Main Grid, Area & Customer Services, Upgrades & Additions, System Replacements, and Projects Funded in Advance.

**Main Grid**

***Overview***

Bonneville's strategic objectives for Main Grid projects are to assure 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, projects are planned that will provide transmission reinforcement and voltage support to major load areas that are primarily west of the Cascade Mountains.

**Main Grid**
**($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $8,611 | $ 6,219 | $38,285 |

Continued investments in Main Grid assets include the following projects. Some of these projects require that the environmental compliance process be complete, which may impact implementation timeframes.

**Schultz-Wautoma 500KV Series Capacitors:**

- FY 2022. Begin construction.
- FY 2023. Continue construction.
- FY 2024. Complete construction.

**Montana-Washington:**

- FY 2022. Begin design of TSEP Montana to Washington Project.
- FY 2023. Complete design, begin construction.
- FY 2024. Continue construction.

**Continue Planning Studies *(all years):***

- Identify infrastructure additions.
- Identify projects driven by NERC and WECC reliability criteria.
- Identify system reactive needs to mitigate unacceptable low or high voltage problems and other system additions.
- Relieve transmission system congestion and integrate new generation facilities.

**Area & Customer Service**

***Overview***

Bonneville's strategic objective for Area and Customer Service projects is to assure that Bonneville meets reliability standards and contractual obligations to its load service areas.

**Area & Customer Service**
**($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $47,768 | $71,520 | $38,285 |

Continued investments in Area & Customer Service assets include the following projects. Some of these projects require that the environmental compliance process be complete, which may impact implementation timeframes.

**Midway Grandview Line Upgrade:**

- FY 2022. Project is complete.
- FY 2023. No planned capital projects.
- FY 2024. No planned capital projects.

**Whistling Ridge 230kV Ring Buss Substation:**

- FY 2023 Begin Scoping
- FY 2024 Begin Design

**Big Eddy Breaker Additions**

- FY 2022. No planned capital projects.
- FY 2023. No planned capital projects.
- FY 2024 No planned capital projects.

**Midway –Ashe Double Circuit 230kV Line:**

- FY 2022. Finalize design and begin construction.
- FY 2023. Continue construction.
- FY 2024. Continue construction.

**Carlton Substation Upgrade:**

- FY 2022. Begin construction.
- FY 2023. Complete construction.
- FY 2024. No planned capital projects.

**Conkelley Substation Retirement:**

- FY 2022. Begin construction.
- FY 2023. Continue construction.
- FY 2024. Continue construction.

**South Tri-Cities Reinforcement:**

- FY 2022. Begin design.
- FY 2023. Begin construction.
- FY 2024. Continue construction.

**LaPine Substation Upgrade TSEP – 2016:**

- FY 2022. Begin design.
- FY 2023. Begin construction.
- FY 2024. Continue construction.

**Longview Transformer Addition:**

- FY 2022. Continue construction.

- FY 2023. Complete construction.
- FY2024. No new capital projects planned.

**Continuous Activities (*all years*):**

- Continue 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 older 60 Hertz (Hz) communications and controls with 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 and remedial action schemes, among other proposals.

**Upgrades & Additions**
**($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $81,931 | $113,430 | $151,074 |

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 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.

Continued investments in Upgrades & Additions assets include the following projects. Some of these projects require that the environmental compliance process be complete, which may impact implementation timeframes.

**VHF Radio System Upgrade:**

- FY 2021. Complete construction.
- FY 2022. No planned capital projects.
- FY 2023. No planned capital projects.
- FY 2024. No planned capital projects.

**Vancouver Control Center (VCC):**

- FY 2022. Complete design.
- FY 2023. Begin demolition of North Ampere building.
- FY 2024. Begin construction of VCC building.

**500 kV Spares at Wind Integration Substations:**

- FY 2022. Continue construction
- FY 2023. Continue construction.
- FY 2024. Complete construction.

**Ross Station Service Upgrade:**

- FY 2022: Finish design.
- FY 2023: Begin and complete construction

**Continuous Activities (*all years*):**

- Upgrading two miles of fiber between Bonneville Power House and Bonneville Control House.
- Planning, design, material acquisition, and construction of special remedial action control schemes required for interconnecting new generation projects and mitigating immediate constrained paths.
- Planning, design, material acquisition, and construction of various system additions and upgrades necessary to maintain a reliable system for Bonneville's service area.
- Construction of secondary fiber related projects and digital radio system upgrades to improve the operational telecommunication system.
- Material procurement and construction to upgrade the main fiber optic backbone system (#KC and #NC systems).

**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. Transmission Services uses a total economic cost model to determine priorities for replacement.

**System Replacements**
**($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $316,041 | $305,991 | $366,197 |

Continued investments in System Replacements assets include the following.

**Non-Electric Replacements:**

- Continue non-electric replacements as necessary.
- Continue the design, material acquisition, and construction for the access road program capital component and the Land Rights program capital component in support of the Lines and ROW Programs.
- Continue design and construction of capital improvements for identified existing facilities.
- Continue replacement of tools, equipment, and vehicle fleet.
- Replaced a Bonneville fixed-wing aircraft with a new helicopter in April, 2022 utilizing General Services Administration (GSA) exchange sale authority.
- Replace four helicopters with four new helicopters utilizing GSA exchange sale authority in FY 2023.
- Replace a fixed-wing aircraft with a new fixed-wing aircraft utilizing GSA exchange sale authority in FY 2024, with procurement starting in FY 2023.

**Electric Replacements:**

- Continue replacement of system protection and control equipment and other substation and line facilities as needed to maintain reliability using reliability centered maintenance criteria. Such replacements include relays, annunciators, oscillographs, metering, and various types of communication related equipment replacing and migrating analog to digital technology and SCADA equipment.
- Begin replacement of Big Eddy-Ostrander-1 2.5" steel in FY 2023.
- Continue replacement of under-rated and high maintenance substation equipment.
- Continue replacing insulators and refurbishing foundations on 500 kV Lines.
- Continue replacement of older generations of digital equipment that is obsolete.
- Continue replacing critical, operational tools and business systems at the Dittmer and Munro Control Centers.
- Continue replacing deteriorating wood pole transmission line structures, spacer dampers, and insulators.

**Projects Funded in Advance**

***Overview***

The PFIA subcategory includes those facilities and/or equipment where Bonneville retains control or ownership but which are funded or financed by a third party, revenue, or with reserves, either in total or in part.

**Projects Funded in Advance**
**($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $ 34,771 | $61,166 | $45,924 |

Continued investments in PFIA assets include the following projects. Some of these projects require that the environmental compliance process be complete, which may impact implementation timeframes.

**Umatilla Electrical Cooperative - Phase 2:**

- FY 2022. No planned capital projects.
- FY 2023. No planned capital projects.
- FY 2024. No planned capital projects.

**Bakeoven Wind Project:**

- FY 2022. Begin project construction.
- FY 2023. Continue construction.
- FY 2024. Continue construction.

**Quenett Creek Load Service Project:**

- FY 2022. Start design.
- FY 2023. Begin construction.
- FY 2024. Continue construction at Big Eddy.

**PacifiCorps' Ponderosa Project Vitesse:**

- FY 2022. No planned capital projects.
- FY 2023. Project completion.
- FY 2024. No planned capital projects.

**Midway-Ashe Line Project:**

- FY 2022. In design.
- FY 2023. Begin construction.
- FY 2024. Continue construction.

**Avangrid Montague 1 Wind Project:**

- FY 2022. Complete construction.
- FY 2023. No planned capital projects.
- FY 2024. No planned capital projects.

**Morrow Solar Project:**

- FY 2022. Project deferred for one year.
- FY 2023. Begin design.
- FY 2024. Begin construction.

**NextEra's Ella Butte Wind Project:**

- FY 2022. No planned capital projects.
- FY 2023. Begin design.
- FY 2024. Begin construction.

**Morrow Flat 230kV Shunt Reactor:**

- FY 2022. Begin design.
- FY 2023. Start construction.
- FY 2024. Complete construction.

**Jones Canyon 230kV Shunt Reactor:**

- FY 2022. Begin design.
- FY 2023. Begin construction.
- FY 2024. Complete construction.

**Spar Canyon 230kV Reactor Addition:**

- FY 2022. Begin design.
- FY 2023. Begin construction.
- FY 2024. Complete construction.

**Whistling Ridge 230 kV Ring Bus Project:**

- FY 2022. No planned capital projects.
- FY 2023. Begin Scoping and design.
- FY 2024. Complete design and begin construction.

**Badger Canyon 1:**

- FY 2022. Begin design.
- FY 2023. Begin construction.
- FY 2024. Continue construction.

**Badger Canyon 2:**

- FY 2022. Begin design.
- FY 2023. Complete design and begin construction.
- FY 2024. Continue construction.

**Invenergy Crider Valley Wind:**

- FY 2022. Begin design.
- FY 2023. Begin construction.
- FY 2024. Continue construction.

**Boyd Ridge Substation:**

- FY 2022. Not started due to shortage of TE staff.
- FY 2023. Begin design.
- FY 2024. Complete design and begin construction.

**McNary 230KV section bay addition:**

- FY 2022. Begin design.
- FY 2023. Complete design and start construction.
- FY 2024. Continue construction.

**Continuous Activity (*all years*):**

- Continue to integrate various new generation and line/load projects into Bonneville transmission grid based on requests placed and processed in accordance with transmission tariff.
- Continue planning studies to identify system impacts and needs regarding proposed new generation projects.
- Engineer and begin construction of several large wind generation interconnection substations.

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## Transmission Services – Capital: Activities, Milestones and Explanation of Changes ($K)

| FY 2023 Estimate | FY 2024 Estimate | Explanation of Changes FY 2024 vs FY 2023 Estimate |
|---|---|---|
| **Transmission Services – Capital $558,327** | **$639,764** | **$81,437/14.6%** |
| **Main Grid $6,219**<br>Milestones:<br>• Continue construction of Schultz-Wautoma 500KV series capacitors.<br>• Begin design of TSEP Montana-to-Washington Project. | **$38,285**<br>Milestones:<br>• Complete construction of Schultz-Wautoma 500kv series capacitors.<br>• Complete design and begin construction TSEP Montana-to-Washington Project. | $**32,066/515.6%**<br>The increase reflects additional funding needs for investment in the transmission system assets. |
| **Area & Customer Service $71,520**<br>Milestones:<br>Finalize design and begin construction of Midway-Ashe double circuit 230kV line.<br>Complete construction of Carlton Substation Upgrade.<br>Begin construction of Conkelly Substation retirement.<br>Begin design of south Tri-Cities reinforcement.<br>Continue construction of Longview transformer addition. | **$38,285**<br>Milestones:<br>Continue construction of Midway-Ashe double circuit 230kV line.<br>Begin construction of south Tri-Cities reinforcement. | **$-33,235/-46.5%**<br>The decrease in the costs reflects a reshaping of funding needs for investment in the transmission system assets. |
| **Upgrades & Additions $113,430**<br>Milestones:<br>Complete design and complete demolition of North Ampere building.<br>Complete construction of 500kV Spares at wind integration substations.<br>Finish design and start construction of Ross Station Service upgrade. | **$151,074**<br>Milestones:<br>Continue construction of Vancouver Control Center.<br>Complete construction of Ross Station service upgrade. | **$37,644/33.2%**<br>The increase reflects additional funding needs for investment in the transmission system assets. |
| **Systems Replacements $305,991** | **$366,197** | **$60,206/19.7%** |

## Transmission Services – Capital: Activities, Milestones and Explanation of Changes ($K)

| FY 2023 Estimate | FY 2024 Estimate | Explanation of Changes FY 2024 vs FY 2023 Estimate |
|---|---|---|
| Milestones:<br>Replaced a Bonneville fixed-wing aircraft with a new helicopter in April, 2022 utilizing GSA exchange sale authority. Continue non-electric replacements as necessary.<br>Continue the design, material acquisition, and construction for the access road program capital component and the land rights program capital component in support of the lines and ROW programs.<br>Continue design and construction of capital improvements for identified existing facilities.<br>Continue replacement of tools, equipment, and vehicle fleet.<br>Continue replacement of system protection and control equipment and other substation and line facilities as needed to maintain reliability using reliability centered maintenance criteria. Such replacements include relays, annunciators, oscillographs, metering, and various types of communication related equipment replacing and migrating analog to digital technology and SCADA equipment.<br>Replace four helicopters with four new helicopters utilizing GSA exchange sale authority in FY 2023. | Milestones:<br>Continue replacement of under-rated and high maintenance substation equipment.<br>Continue replacing insulators and refurbishing foundations on 500 kV Lines.<br>Continue replacement of older generations of digital equipment that is obsolete.<br>Replace a fixed wing aircraft with a new fixed wing aircraft utilizing GSA exchange sale authority in FY 2024, with procurement starting in FY 2023.<br>Continue replacing critical, operational tools and business systems at the Dittmer and Munro Control Centers.<br>Continue replacing deteriorating wood pole transmission line structures, spacer dampers, and insulators. | The increase reflects additional funding needs for investment in the transmission system assets. |
| **Projects Funded in Advanced $61,166** | **$45,924** | **$-15,242/-24.9%** |

## Transmission Services – Capital: Activities, Milestones and Explanation of Changes ($K)

| FY 2023 Estimate | FY 2024 Estimate | Explanation of Changes<br>FY 2024 vs FY 2023 Estimate |
|---|---|---|
| Milestone:<br>Start design of Quenett Creek/Big Eddy load service project.<br>Begin construction of Midway-Ashe line project.<br>Scoping and begin design of Morrow solar project.<br>Begin design of Badger Canyon 1 project.<br>No progress in customer negotiation on Crider Valley wind project.<br>Begin scoping of Boyd Ridge Substation. | Milestones:<br>Begin construction of Quenett Creek/Big Eddyload service project.<br>Still in construction of Midway-Ashe line project.<br>Still in design of Morrow solar project.<br>Begin construction of Badger Canyon 1 project.<br>Begin scoping and design of Invenergy Crider Valley wind project.<br>Continue scoping and design of Boyd Ridge Substation. | The decrease in the costs reflects a reshaping of funding needs for investment in the transmission system assets. |

**Funding Schedule by Activity**

**Funding ($K)**

| Capital Information Technology (IT) & Equipment | FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate | FY 2024 vs FY 2023 $ | FY 2024 vs FY 2023 % |
|---|---|---|---|---|---|
| Capital IT & Equipment | $ 16,030 | $ 21,047 | $ 23,983 | $ 2,936 | 14.0% |
| **Total, Capital IT & Equipment** | **$ 16,030** | **$ 21,047** | **$ 23,983** | **$ 2,936** | **14.0%** |

**Outyears ($K)**

| Capital Information Technology (IT) & Equipment | FY 2024 Estimate | FY 2025 Estimate | FY 2026 Estimate | FY 2027 Estimate | FY 2028 Estimate |
|---|---|---|---|---|---|
| Capital IT & Equipment | $ 23,983 | $ 22,830 | $ 24,990 | $ 23,180 | $ 23,970 |
| **Total, Capital IT & Equipment** | **$ 23,983** | **$ 22,830** | **$ 24,990** | **$ 23,180** | **$ 23,970** |

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***Capital Information Technology & Equipment***

**Overview**

**Capital Information Technology (IT) & Equipment** provides for the acquisition of general and some 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 on-going efforts to facilitate delivery of 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 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $16,030 | $21,047 | $23,983 |

Bonneville continues to move its IT infrastructure to a more efficient architecture. This FY 2024 Budget supports this effort. IT continues to eliminate redundancies in tools and applications, establish an agency-wide IT enterprise architecture supported by standardized technical architecture, with standardization for IT purchasing criteria, software licensing processes with minimal agency liabilities through stronger contracts, continuous improvement practices for IT project management, and an agency IT portfolio cost management strategy. Other planned investments include acquisition of capital office furniture and equipment, capital automated data processing (ADP)-based administrative telecommunications equipment, ADP equipment (hardware), and support of capital software development for certain Bonneville programs.

The IT estimates in this FY 2024 Budget under Capital IT & Equipment include all 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
  - Power IT projects
  - Transmission Services IT projects (excluding grid operations)

**Capital Information Technology & Equipment:**
**Activities, Milestones and Explanation of Changes ($K)**

| FY 2023 Estimate | FY 2024 Estimate | Explanation of Changes FY 2024 vs FY 2023 Estimate |
|---|---|---|
| **Capital Information Technology & Equipment $21,047** | **$23,983** | **$2,936/14.0%** |
| **Capital Information Technology & Equipment $21,047** | **$23,983** | **$2,936/14.0%** |
| Milestones:<br>Capital system developments in support of:<br>Corporate IT projects<br>IT Infrastructure projects<br>Power IT projects<br>Transmission Services IT projects | Milestones:<br>Capital system developments in support of:<br>Corporate IT projects<br>IT Infrastructure projects<br>Power IT projects<br>Transmission Services IT projects | The increase reflects additional funding needs for investment in IT system assets. |

**Funding Schedule by Activity**

**Funding ($K)**

| Power Services - Operating Expenses | FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate | FY 2024 vs FY 2023 $ | FY 2024 vs FY 2023 % |
|---|---|---|---|---|---|
| Production | $ 1,144,542 | $ 919,422 | $ 947,516 | $ 28,095 | 3.1% |
| Associated Projects | $ 448,841 | $ 462,020 | $ 473,769 | $ 11,749 | 2.5% |
| Fish & Wildlife | $ 234,971 | $ 246,581 | $ 268,620 | $ 22,039 | 8.9% |
| Residential Exchange Program | $ 267,115 | $ 266,696 | $ 266,663 | $ (33) | 0.0% |
| Northwest Power & Conservation Council | $ 11,942 | $ 12,431 | $ 11,942 | $ (489) | -3.9% |
| Energy Efficiency & Renewable Resources | $ 121,661 | $ 150,734 | $ 151,233 | $ 500 | 0.3% |
| **Total, Power Services - Operating Expenses** | **$ 2,229,071** | **$ 2,057,883** | **$ 2,119,743** | **$ 61,861** | **3.0%** |

**Outyears ($K)**

| Power Services - Operating Expenses | FY 2024 Estimate | FY 2025 Estimate | FY 2026 Estimate | FY 2027 Estimate | FY 2028 Estimate |
|---|---|---|---|---|---|
| Production | $ 947,516 | $ 1,014,401 | $ 1,039,714 | $ 1,064,847 | $ 1,091,062 |
| Associated Projects | $ 473,769 | $ 486,375 | $ 498,097 | $ 509,770 | $ 521,394 |
| Fish & Wildlife | $ 268,620 | $ 268,250 | $ 274,922 | $ 281,565 | $ 288,177 |
| Residential Exchange Program | $ 266,663 | $ 266,696 | $ 273,123 | $ 279,524 | $ 285,898 |
| Northwest Power & Conservation Council | $ 11,942 | $ 11,942 | $ 12,230 | $ 12,516 | $ 12,802 |
| Energy Efficiency & Renewable Resources | $ 151,233 | $ 152,096 | $ 155,761 | $ 159,411 | $ 163,047 |
| **Total, Power Services - Operating Expenses** | **$ 2,119,743** | **$ 2,199,759** | **$ 2,253,847** | **$ 2,307,633** | **$ 2,362,379** |

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***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.

In FY 2018, Bonneville completed a long-term resource program, with the purpose of assessing Bonneville's future need for power and reserves and to develop an acquisition strategy to meet those projected needs. In the event that Bonneville does acquire output from a generating resource on a long-term basis, Bonneville will comply with Section 6 of the Northwest Power Act and will modify its budget to reflect the acquisition.

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 operations and maintenance costs that are part of the USFWS's Lower Snake River Compensation Plan (LSRCP) hatcheries. Bonneville is responsible for annual payments to the Confederated Tribes of the Colville Reservation for their contribution to the production of hydropower by the Grand Coulee Dam in accordance with the Settlement Agreement between the United States and the Colville Tribes (April 1994). Additionally, the Spokane Tribe of Indians of the Spokane Reservation Equitable Compensation Act (Public Law 116-100), enacted on December 20, 2019, provides for equitable compensation to the Spokane Tribe of Indians of the Spokane Reservation for the use of tribal land for the production of hydropower by the Grand Coulee Dam, and for other purposes. The Act provides Bonneville and Northwest electric ratepayers cost certainty on this issue as we move toward discussions of long-term power sales contracts with our utility customers. Bonneville expenditures under the settlement that began in FY 2021 are estimated at $6 million annually.

Bonneville's **Fish & Wildlife Program** provides for extensive 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. Consistent with the NPCC's Program, Bonneville also implements measures to aid in the protection of fish and wildlife in the Columbia River and its tributaries, under the ESA (see ESA discussion in the Power Services – Capital Overview section).

Bonneville's mitigation expenditures will focus on activities that benefit Columbia River Basin fish and wildlife resources, following priorities established through ESA consultations, agreements with resource managers, and the NPCC's Program, including actions that:

- Increase survival of ESA-listed and non-listed fish at FCRPS dams and reservoirs;
- Increase survival of ESA-listed and non-listed fish throughout their life cycle by protecting and enhancing important habitat areas;
- Protect and enhance important wildlife habitat;
- Use hatcheries to contribute to conservation and recovery of ESA-listed and non-listed fish;
- Provide offsite mitigation projects and habitat, passage, and other improvements that address factors limiting improvements of target species; and
- Support a focused and well-coordinated research, monitoring, and evaluation program.

[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.

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. Bonneville's utility-specific PF Exchange rates are determined each rate period. As described below, Bonneville and regional parties reached a settlement of the REP in 2011 under which the total amount of REP benefits available to the IOUs was established through 2028. Payments to the IOUs are made monthly based on historical invoiced exchange loads and the terms of the settlement.

Over the past decade, and prior to the settlement, regional parties filed multiple lawsuits challenging Bonneville's implementation of the REP. These lawsuits were consolidated into four cases that were stayed before the U.S. Court of Appeals for the Ninth Circuit. On July 26, 2011, Bonneville adopted a regionally supported settlement, referred to as the 2012 REP Settlement. Under the settlement, the region's six IOUs will receive about $4.1 billion in REP payments over the 17-year term of the settlement, beginning at $182.1 million in FY 2012, and increasing to $286.1 million in FY 2028. In addition to this settlement, Bonneville has reached related REP settlements with two consumer-owned utilities. A single challenge to the 2012 REP Settlement was dismissed by the U.S. Court of Appeals for the Ninth Circuit in October of 2013.

The **Northwest Power and Conservation Council** (NPCC) budget subcategory provides continued support of NPCC activities, as directed under the Northwest Power Act. The Energy and Water Development Appropriations Act of 1996 added Section 4(h)(10)(D) to the Northwest Power Act, directing the NPCC to appoint the Independent Scientific Review Panel (ISRP) "to review a sufficient number of projects" proposed to be funded through Bonneville's annual fish and wildlife budget "to adequately ensure that the list of prioritized projects recommended is consistent with the Program." The Northwest Power Act further states that "in making its recommendations to Bonneville, the NPCC shall consider the impact of ocean conditions on fish and wildlife populations and shall determine whether the projects employ cost effective measures to achieve program objectives." Today, most mitigation projects funded by Bonneville receive ISRP review as part of the NPCC recommendation process. The NPCC has shifted to a multi-year project review cycle during which the ISRP reviews categories of projects grouped together.

The NPCC'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 Fish and Wildlife Program. The Northwest Power Act directs Bonneville's funding of the NPCC, subject to certain limits based on forecasted Bonneville power sales, be included in Bonneville's annual budget to Congress. The cost of funding the Council is recovered through Bonneville's power rates.

Under the **Energy Efficiency & Renewable Resources** subcategory, Bonneville's Energy Efficiency 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 efficiency 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 efficiency.

Bonneville's Energy Efficiency program offers several ways for customer utilities to participate in energy conservation. Program components include:

1. Standard offer efficiency measures and custom projects, which result in customer proposals 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, Energy Smart Industrial, and the Green Motors programs.
3. Programs to help regional Federal installations reduce energy use, including Federal hatcheries and irrigation districts, and to support the Corps and Reclamation in their efforts to reduce energy use.
4. Efficiency 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 acquires conservation energy savings from its firm power customers under long-term Energy Conservation Agreements, and provides research, evaluation, contract support, NEEA support, and emerging technology development. Additionally, customers perform self-funded conservation.

**Explanation of Changes**

Bonneville's Budget includes $2,119.7 million in FY 2024 for Power Services operating expenses, which is an increase of 3 percent over the FY 2023 forecasted level.

The FY 2024 Budget decreases the level for the Residential Exchange ($0.33 million), NPCC ($0.49 million), but increases the level for Production ($28.1 million), Associated Projects costs ($11.7 million), Fish & Wildlife ($22.0 million), and Energy Efficiency & Renewable Resources ($0.50 million).

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 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $1,144,542 | $919,422 | $947,516 |

**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. A maintenance and refueling outage occurred in the fall of 2021.

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 the 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 wind 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 wind 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 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $448,841 | $462,020 | $473,769 |

Continued investments in Associated Projects include the following.

**Continuous Activity (*all years*):**

- Bureau of Reclamation
  - Continue direct funding of Reclamation operations and maintenance (O&M) power activities.
- Corps of Engineers
  - Continue direct funding of Corps O&M power activities.

**Fish & Wildlife Projects**

***Overview***

As discussed at length on pages 30-34 of this document, Bonneville implements a mature Fish & Wildlife mitigation program based on NPCC Program measures and developed from recommendations made by the region's fish and wildlife management agencies and tribes. Several recent NPCC reviews have made additional fish and wildlife project recommendations to Bonneville. Bonneville, in coordination with the NPCC, reviews new and on-going projects for consistency with the NPCC'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 NPCC's Program (including ISRP reviews) and the Accords extension as it integrates their implementation with actions necessary to fulfill ESA responsibilities. Regular coordination on implementation priorities continues among Bonneville, the NPCC, federal resource management agencies, states, tribes, and others.

**Fish & Wildlife**
**($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $234,971 | $246,581 | $268,620 |

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 applicable extensions of the Columbia Basin Fish Accords. 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, the NPCC Program, and the 2022 amendments to extend the Columbia Basin Fish Accords.
- Mitigation supporting resident fish to offset anadromous fish losses in areas of the basin where Federal dams have blocked anadromy (referred to as "substitution" in the NPCC's Program): mitigate for reservoir power operation impacts to 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 NPCC 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, NPPC, Energy Efficiency & Renewable Resources**

***Overview***

See detailed descriptions of these three budget subcategories on pages 64 and 65.

**Residential Exchange, NPCC, and Energy Efficiency & Renewable Resources ($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $400,717 | $429,861 | $429,838 |

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**

- Continue support of NPCC activities, as directed under the Northwest Power Act, including regional power plan development and maintenance and fish and wildlife program activities.

**Energy Efficiency & Renewable Resources**

- Conservation purchases: Provide programmatic savings reimbursements and energy efficiency incentives to Bonneville customers to purchase conservation savings. This includes performance payments and Energy Smart Reserved Power payments for Federal installations and fish hatcheries and irrigation districts.
- Conservation infrastructure: 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: Support for NEEA's market transformation initiatives. NEEA identifies barriers and opportunities to increase the market adoption of efficiency by leveraging its regional partnerships.

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**Residential Exchange Program, Northwest Power & Conservation Council**
**Energy Efficiency & Renewable Resources:**
**Activities, Milestones and Explanation of Changes ($K)**

| FY 2023 Estimate | FY 2024 Estimate | Explanation of Changes FY 2024 vs FY 2023 Estimate |
|---|---|---|
| **Power Services - Operating Expense $2,057,883** | **$2,119,743** | **$61,861/3.0%** |
| **Production $919,422**<br>Milestones:<br>Continue to provide oversight of all signed contracts.<br>Continue to provide wind resource integration services for customer wind generation. | **$947,516**<br>Milestones:<br>Continue to provide oversight of all signed contracts.<br>Continue to provide wind resource integration services for customer wind generation. | **$28,095/3.1%**<br>The increase is due to higher CGS and support costs. |
| **Associated Project Costs $462,020**<br>Milestones:<br>Continue direct funding of Corps and Reclamation O&M power activities. | **$473,769**<br>Milestones:<br>Continue direct funding of Corps and Reclamation O&M power activities. | **$11,749/2.5%**<br>The increase addresses inflation and the rise in labor costs. |
| **Fish & Wildlife Costs $246,581**<br>Milestones:<br>Continue implementing both ongoing and new projects that support ESA-listed species and other measures called for under the current CRS BiOps, the 2018 Fish Accord extensions, the Washington Estuary Agreement, the Kalispel Agreement, the Southern Idaho Agreement, and the Willamette Agreement. | **$268,620**<br>Milestones:<br>Continue implementing both ongoing and new projects that support ESA-listed species and other measures called for under the current CRS BiOps, the 2018 Fish Accord extensions, the Washington Estuary Agreement, the Kalispel Agreement, the Willamette Agreement, and the Southern Idaho Agreement. | **$22,037/8.9%**<br>The increase in the costs reflect funding associated with the BiOps, 2018 Fish Accord extension commitments, and Northwest Power Act activities. |

| FY 2023 Estimate | FY 2024 Estimate | Explanation of Changes FY 2024 vs FY 2023 Estimate |
|---|---|---|
| **Residential Exchange Program $266,696**<br>Milestones:<br>Continue to provide REP benefits. | **$266,663**<br>Milestones:<br>Continue to provide REP benefits. | **$-33/0.0%**<br>No change in scheduled amount of REP payments payable to IOUs prescribed by REP. |
| **NW Power & Conservation Council $12,431**<br>Milestones:<br>Continue support of the NPCC activities, as directed under the Northwest Power Act, including regional power plan development and maintenance, and fish and wildlife program activities. | **$11,942**<br>Milestones:<br>Continue support of the NPCC activities, as directed under the Northwest Power Act, including regional power plan development and maintenance, and fish and wildlife program activities. | **$-489/-3.9%**<br>The decrease reflects our cost cutting effort while continuing emphasis on the NPCC. |
| **Energy Efficiency & Renewable Resources $150,734**<br>Milestones:<br>Continue close-out of the legacy conservation resource acquisition contracts, which support Bonneville's contractual obligation to serve customer loads.<br>Continue to support utility incentive programs.<br>Continue to support regional energy efficiency programs.<br>Continue supporting energy efficiency at direct serve Federal agencies.<br>. | **$151,233**<br>Milestones:<br>Continue close-out of the legacy conservation resource acquisition contracts, which support Bonneville's contractual obligation to serve customer loads.<br>Continue to support utility incentive programs.<br>Continue to support regional energy efficiency programs.<br>Continue supporting energy efficiency at direct serve Federal agencies. | **$500/0.3%**<br>The increase reflects higher funding while continuing emphasis on the energy efficiency program consistent with the Power Plan. |

**Funding Schedule by Activity**

**Funding ($K)**

| Transmission Services - Operating Expenses | FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate | FY 2024 vs FY 2023 $ | FY 2024 vs FY 2023 % |
|---|---|---|---|---|---|
| Engineering | $ 113,817 | $ 86,842 | $ 93,631 | $ 6,789 | 7.8% |
| Operations | $ 221,869 | $ 207,742 | $ 240,459 | $ 32,716 | 15.7% |
| Maintenance | $ 211,170 | $ 218,972 | $ 242,678 | $ 23,705 | 10.8% |
| **Total, Transmission Services - Operating Expenses** | **$ 546,856** | **$ 513,557** | **$ 576,768** | **$ 63,211** | **12.3%** |

**Outyears ($K)**

| Transmission Services - Operating Expenses | FY 2024 Estimate | FY 2025 Estimate | FY 2026 Estimate | FY 2027 Estimate | FY 2028 Estimate |
|---|---|---|---|---|---|
| Engineering | 93,631 | 95,090 | 97,736 | 100,376 | 103,000 |
| Operations | 240,459 | 249,048 | 257,716 | 266,134 | 274,479 |
| Maintenance | 242,678 | 250,399 | 258,481 | 266,529 | 274,513 |
| **Total, Transmission Services - Operating Expenses** | **576,768** | **594,538** | **613,933** | **633,039** | **651,992** |

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**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. Maintain the safety and reliability of the transmission system;
2. Increase the focus on meeting customers' needs;
3. Optimize the transmission system;
4. Provide open access and non-discriminatory transmission service; and
5. Improve Bonneville's cost effectiveness.

***Explanation of Changes***

Bonneville's Budget includes $576.8 million in FY 2024 for Transmission Services operating expense, which is a 12.3 percent increase over the FY 2023 forecasted level. The increase continues the operation and maintenance of Bonneville's transmission assets.

The FY 2024 Budget increases the levels for Engineering ($6.8 million), Operations ($32.7 million), and Maintenance ($23.7 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 and 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 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $113,817 | $86,842 | $93,631 |

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 Bonneville faces including reliability, energy efficiency, 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: 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. 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: 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 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $221,869 | $207,742 | $240,459 |

**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. Also includes load, frequency, and voltage control of Federal generating plants, and coordinating long- and short-term outages of system equipment. In addition, provides technical engineering support of dispatching function and provides all technical and systems support for Dittmer Control Center (DCC) and Munro Control Center (MCC).

**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 Open Access Transmission Tariff (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, including wind.

Continued investments in Operations include the following.

**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 cybersecurity.
- 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. The use of RCM practices is focused 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, meeting reliability standards, including vegetation management, and environmental constraints associated with construction, enhancement, and maintenance of the system. The Bonneville transmission system encompasses 15,108 circuit miles on over 11,860 rights-of-way miles (many of these miles are through rugged, inaccessible terrain).

**Maintenance**
**($K)**

| FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate |
|---|---|---|
| $211,170 | $218,972 | $242,678 |

Continued investments in Maintenance include the following

**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.

**Transmission Line Maintenance:**

Maintain and repair 15,108 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's 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 262 substations. Work includes inspections, diagnostic testing, and predictive and condition-based maintenance.

**System Protection Maintenance:**

Maintain relaying metering and remedial action scheme equipment used to control and protect the electrical transmission system and to meter energy transfers for the purpose of revenue billing. Additionally, field-engineering services provide technical advice and assure 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. 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.

**Transmission Services – Operating Expense: Activities, Milestones, and Explanation of Changes ($K)**

| FY 2023 Estimate | FY 2024 Estimate | Explanation of Changes FY 2024 vs FY 2023 Estimate |
|---|---|---|
| **Transmission Services - Operating Expense $513,557** | **$576,768** | **$63,211/12.3%** |
| **Engineering $86,842** | **$93,631** | **$6,789/7.8%** |
| Milestones:<br>Continue efforts to identify best methods for improving system reliability and maintenance practices.<br>Continue cost reduction efforts by identifying opportunities for low-cost reinforcement and voltage support of the existing transmission system. | Milestones:<br>Continue efforts to identify best methods for improving system reliability and maintenance practices.<br>Continue cost reduction efforts by identifying opportunities for low-cost reinforcement and voltage support of the existing transmission system. | The increase reflects continued emphasis on system reliability standards compliance and research and development. |
| **Operations $207,742** | **$240,459** | **$32,716/15.7%** |
| Milestones:<br>Continue to operate within parameters of NERC and WECC.<br>Continue support of increased compliance activities related to the reliability of the transmission system, including cybersecurity. | Milestones:<br>Continue to operate within parameters of NERC and WECC.<br>Continue support of increased compliance activities related to the reliability of the transmission system, including cybersecurity. | The increase reflects continued emphasis on reliability compliance activities, resource integration activities, key strategic initiative, security, and control center systems support. |
| **Maintenance $218,972** | **$242,678** | **$23,705/10.8%** |
| Milestones:<br>Continue to improve performance to meet System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) targets. | Milestones:<br>Continue to improve performance to meet System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) targets. | The increase reflects implementation of facilities asset management plans, continued implementation of live-line crew, NERC/WECC compliance activities related to land rights and vegetation management, continuing maintenance program activities, including system protection, right-of-way, line maintenance, and performance improvements. |

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*Interest, Pension, and Post-retirement Benefits Operating Expense*

**Funding ($K)**

| Interest, Pension, & Post-Retirement Benefits | FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate | FY 2024 vs FY 2023 $ | FY 2024 vs FY 2023 % |
|---|---|---|---|---|---|
| BPA Bond Interest (Net) | $ 152,803 | $ 113,624 | $ 120,768 | $ 7,144 | 6.3% |
| BPA Appropriation Interest | $ - | $ - | $ - | $ - | 0.0% |
| Corps of Engineers Appropriation Interest | $ 39,717 | $ 39,893 | $ 28,583 | $ (11,310) | -28.4% |
| Lower Snake River Comp Plan Interest | $ 186 | $ 186 | $ 102 | $ (84) | -45.4% |
| Bureau of Reclamation Appropriation Interest | $ 1,198 | $ 1,198 | $ 1,066 | $ (132) | -11.0% |
| Bond Premiums Paid/Discounts (not capitalized) | $ - | $ (1,583) | $ (5,890) | $ (4,307) | 272.0% |
| **Subtotal, Interest - Operating Expense** | **$ 193,903** | **$ 153,317** | **$ 144,628** | **$ (8,690)** | **-5.7%** |
| Additional Pension and Post-Retirement Benefits | $ 37,231 | $ 32,306 | $ 37,780 | $ 5,474 | 16.9% |
| **Total, Interest, Pension, & Post-Retirement Benefits** | **$ 231,134** | **$ 185,623** | **$ 182,407** | **$ (3,216)** | **-1.7%** |

**Outyears ($K)**

| Interest, Pension, & Post-Retirement Benefits | FY 2024 Estimate | FY 2025 Estimate | FY 2026 Estimate | FY 2027 Estimate | FY 2028 Estimate |
|---|---|---|---|---|---|
| BPA Bond Interest (Net) | $ 120,768 | $ 141,467 | $ 167,982 | $ 181,906 | $ 196,591 |
| BPA Appropriation Interest | $ - | $ - | $ - | $ - | $ - |
| Corps of Engineers Appropriation Interest | $ 28,583 | $ 18,300 | $ 15,488 | $ 13,461 | $ 13,598 |
| Lower Snake River Comp Plan Interest | $ 102 | $ 176 | $ - | $ 88 | $ 88 |
| Bureau of Reclamation Appropriation Interest | $ 1,066 | $ 982 | $ 982 | $ 357 | $ 357 |
| Bond Premiums Paid/Discounts (not capitalized) | $ (5,890) | $ 263 | $ 2,681 | $ 237 | $ (8,860) |
| **Subtotal, Interest - Operating Expense** | **$ 144,628** | **$ 161,189** | **$ 187,132** | **$ 196,048** | **$ 201,774** |
| Additional Pension and Post-Retirement Benefits | $ 37,780 | $ 38,314 | $ 39,237 | $ 40,157 | $ 41,072 |
| **Total, Interest, Pension, & Post-Retirement Benefits** | **$ 182,407** | **$ 199,503** | **$ 226,369** | **$ 236,205** | **$ 242,846** |

***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.

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 ($K)**

| Capital Transfers | FY 2022 Actuals | FY 2023 Estimate | FY 2024 Estimate | FY 2024 vs FY 2023 $ | FY 2024 vs FY 2023 % |
|---|---|---|---|---|---|
| BPA Bond Amortization [1] | $ 689,200 | $ 469,587 | $ 388,297 | $ (81,290) | -17.3% |
| Bureau of Reclamation Appropriation Amortization | $ 5,000 | $ 3,072 | $ 2,219 | $ (853) | -27.8% |
| BPA Appropriation Amortization | $ - | $ - | $ - | $ - | 0.0% |
| Corps of Engineers Appropriation Amortization | $ - | $ 261,018 | $ 282,401 | $ 21,383 | 8.2% |
| Lower Snake River Comp Plan Amortizatoin | $ - | $ 1,919 | $ 349 | $ (1,569) | -81.8% |
| **Total, Capital Transfers** | **$ 694,200** | **$ 735,596** | **$ 673,266** | **$ (62,330)** | **-8.5%** |

**Outyears ($K)**

| Capital Transfers | FY 2024 Estimate | FY 2025 Estimate | FY 2026 Estimate | FY 2027 Estimate | FY 2028 Estimate |
|---|---|---|---|---|---|
| BPA Bond Amortization [1] | $ 388,297 | $ 538,077 | $ 571,317 | $ 612,307 | $ 406,879 |
| Bureau of Reclamation Appropriation Amortization | $ 2,219 | $ 19 | $ 19,237 | $ - | $ - |
| BPA Appropriation Amortization | $ - | $ - | $ - | $ - | $ - |
| Corps of Engineers Appropriation Amortization | $ 282,401 | $ 108,528 | $ 69,535 | $ - | $ - |
| Lower Snake River Comp Plan Amortizatoin | $ 349 | $ - | $ - | $ - | $ - |
| **Total, Capital Transfers** | **$ 673,266** | **$ 646,624** | **$ 660,089** | **$ 612,307** | **$ 406,879** |

[1] Bonneville "Bond(s)" in this FY 2024 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 evidences 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)

| BP-1 SUMMARY[1/3/] | FISCAL YEAR 2022 | | 2023 | | 2024 | | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Oblig. | Outlays | Oblig. | Outlays | Oblig. | Outlays | Oblig. | Oblig. | Oblig. | Oblig. |
| 1 Residential Exchange Program | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 273 | 280 | 286 |
| 2 Power Services [2/] | 1,581 | 1,581 | 1,382 | 1,382 | 1,422 | 1,422 | 1,501 | 1,538 | 1,575 | 1,612 |
| 3 Transmission Services | 920 | 920 | 1,011 | 1,011 | 1,171 | 1,171 | 1,176 | 1,170 | 1,170 | 1,198 |
| 4 Conservation & Energy Efficiency | 122 | 122 | 151 | 151 | 151 | 151 | 152 | 156 | 159 | 163 |
| 5 Fish & Wildlife | 251 | 251 | 290 | 290 | 310 | 310 | 310 | 304 | 297 | 303 |
| 6 Interest/ Pension [4/] | 231 | 231 | 186 | 186 | 182 | 182 | 200 | 226 | 236 | 243 |
| 7 Associated Project Cost - Capital | 190 | 190 | 281 | 281 | 270 | 270 | 276 | 282 | 288 | 295 |
| 8 Capital Equipment | 21 | 21 | 21 | 21 | 24 | 24 | 23 | 25 | 23 | 24 |
| 9 Planning Council | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 13 | 13 |
| 10 Projects Funded in Advance | 121 | 121 | 61 | 61 | 46 | 46 | 55 | 53 | 54 | 55 |
| 11 Capitalized Bond Premiums | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 **TOTAL OBLIGATIONS/OUTLAYS** [3/] | **3,716** | **3,716** | **3,662** | **3,662** | **3,855** | **3,855** | **3,970** | **4,039** | **4,095** | **4,192** |

**REVENUES AND REIMBURSEMENTS**

Current Services

(in millions of dollars)

**FISCAL YEAR**

| | BP-1 SUMMARY | 2022 | | 2023 | | 2024 | | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Oblig. | Outlays | Oblig. | Outlays | Oblig. | Outlays | Oblig. | Oblig. | Oblig. | Oblig. |
| 13 | Revenues [5/] | 4,396 | 4,396 | 3,933 | 3,933 | 4,018 | 4,018 | 4,052 | 4,107 | 4,143 | 4,187 |
| 14 | Project Funded in Advance | 121 | 121 | 61 | 61 | 46 | 46 | 55 | 53 | 54 | 55 |
| 15 | **TOTAL** | **4,517** | **4,517** | **3,994** | **3,994** | **4,064** | **4,064** | **4,107** | **4,160** | **4,197** | **4,242** |
| 16 | **BUDGET AUTHORITY (NET) [6/]** | **(984)** | | **107** | | **256** | | **274** | **231** | **252** | **473** |
| 17 | **OUTLAYS (NET) [6/7/8]** | | **(806)** | | **(332)** | | **(209)** | **(137)** | **(121)** | **(102)** | **(50)** |

**These notes are an integral part of this table.**

1/ This FY 2024 budget includes capital and expense estimates based on final spending proposals from Bonneville's BP-24 IPR process.

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/ See Interest Expense, Pension and Post-retirement Benefits and Capital Transfers section of this budget for a complete discussion of these cost estimates.

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 2022 Net Outlays are calculated using Bonneville's FY 2022 EOY Actuals. FY 2023 is based off of rate case and FY 2024 to 2028 Net Outlays are based on BP-24 IPR assumptions and an escalation factor from using the FY 2022 Whitebook Loads and Resources Report.

**EXPENSED OBLIGATIONS/OUTLAYS [1,4/]**
**Current Services**
(in millions of dollars)
**FISCAL YEAR**

| BP-2 | 2022 | | 2023 | | 2024 | | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Oblig. | Outlays | Oblig. | Outlays | Oblig. | Outlays | Oblig. | Oblig. | Oblig. | Oblig. |
| 1 Residential Exchange Program | 267 | 267 | 267 | 267 | 267 | 267 | 267 | 273 | 280 | 286 |
| 2 Power Services [2/] | 1,581 | 1,581 | 1,382 | 1,382 | 1,422 | 1,422 | 1,501 | 1,538 | 1,575 | 1,612 |
| 3 Transmission Services | 547 | 547 | 514 | 514 | 577 | 577 | 595 | 614 | 633 | 652 |
| 4 Conservation & Energy Efficiency | 122 | 122 | 151 | 151 | 151 | 151 | 152 | 156 | 159 | 163 |
| 5 Fish & Wildlife | 235 | 235 | 247 | 247 | 269 | 269 | 268 | 275 | 282 | 288 |
| 6 Interest/ Pension [3/] | 231 | 231 | 186 | 186 | 182 | 182 | 200 | 226 | 236 | 243 |
| 7 Planning Council | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 13 | 13 |
| 8 TOTAL EXPENSE | 2,995 | 2,995 | 2,758 | 2,758 | 2,880 | 2,880 | 2,994 | 3,094 | 3,177 | 3,257 |
| 9 Projects Funded in Advance | 121 | 121 | 61 | 61 | 46 | 46 | 55 | 53 | 54 | 55 |

**CAPITAL OBLIGATIONS/OUTLAYS** [1/]

Current Services

(in millions of dollars)

**FISCAL YEAR**

| | **BP-2 continued** | **2022** | | **2023** | | **2024** | | **2025** | **2026** | **2027** | **2028** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Oblig.** | **Outlays** | **Oblig.** | **Outlays** | **Oblig.** | **Outlays** | **Oblig.** | **Oblig.** | **Oblig.** | **Oblig.** |
| 10 | Transmission Services | 374 | 374 | 497 | 497 | 594 | 594 | 581 | 556 | 537 | 546 |
| 11 | Associated Project Cost | 190 | 190 | 281 | 281 | 270 | 270 | 276 | 282 | 288 | 295 |
| 12 | Fish & Wildlife | 16 | 16 | 43 | 43 | 41 | 41 | 41 | 29 | 16 | 15 |
| 13 | Capital Equipment | 21 | 21 | 21 | 21 | 24 | 24 | 23 | 25 | 23 | 24 |
| 14 | Capitalized Bond Premiums | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | **TOTAL CAPITAL INVESTMENTS** | **601** | **601** | **842** | **842** | **929** | **929** | **921** | **892** | **864** | **880** |
| 16 | **TREASURY BORROWING AUTHORITY TO** | | | | | | | | | | |
| 17 | **FINANCE CAPITAL OBLIGATIONS** [4/] | **601** | | **842** | | **929** | | **921** | **892** | **864** | **880** |

**These notes are an integral part of this table.**

[1/] This FY 2024 budget includes capital and expense estimates based on final spending proposals from Bonneville's BP-24 IPR process.

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/] See Interest Expense, Pension and Post-retirement Benefits and Capital Transfers section of this budget for a complete discussion of these cost estimates.

[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.

BP-3

**CURRENT SERVICES**

(in millions of dollars)

**CAPITAL TRANSFERS**

**FISCAL YEAR**

| | | 2022 Payment | 2023 Payment | 2024 Payment | 2025 Payment | 2026 Payment | 2027 Payment | 2028 Payment |
|---|---|---|---|---|---|---|---|---|
| | Amortization: | | | | | | | |
| 18 | BPA Bonds | 689 | 470 | 388 | 538 | 571 | 612 | 407 |
| 19 | Reclamation Appropriations | 5 | 3 | 2 | 0 | 19 | 0 | 0 |
| 20 | BPA Appropriations | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | Corps Appropriations | 0 | 261 | 282 | 109 | 70 | 0 | 0 |
| 22 | Lower Snake River Comp Plan Amortization | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 23 | **TOTAL CAPITAL TRANSFERS** | **694** | **736** | **673** | **647** | **660** | **612** | **407** |
| 24 | **FULL-TIME EQUIVALENT (FTE)** | **2,847** | **3,000** | **3,000** | **3,000** | **3,025** | **3,075** | **3,125** |

**PROGRAM & FINANCING SUMMARY**

Current Services

(in millions of dollars)

Identification Code: 89-4045-0-3-271

| | | 2022 | 2023 | est. 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|---|
| Program by activities: | | | | | | | | |
| | Operating expenses: | | | | | | | |
| 0.01 | Power Services | 1,133 | 919 | 948 | 1,014 | 1,040 | 1,065 | 1,091 |
| 0.02 | Residential Exchange Program | 267 | 267 | 267 | 267 | 273 | 280 | 286 |
| | Associated Project Costs: | | | | | | | |
| 0.05 | Bureau of Reclamation | 147 | 153 | 154 | 157 | 161 | 165 | 169 |
| 0.06 | Corps of Engineers | 244 | 253 | 259 | 269 | 276 | 282 | 289 |
| 0.07 | Colville Settlement | 20 | 22 | 22 | 22 | 23 | 23 | 24 |
| 0.08 | Spokane Settlement | 5 | 6 | 6 | 6 | 6 | 6 | 6 |
| 0.19 | U.S. Fish & Wildlife Service | 33 | 29 | 32 | 32 | 33 | 34 | 35 |
| 0.20 | Planning Council | 12 | 12 | 12 | 12 | 12 | 13 | 13 |
| 0.21 | Fish & Wildlife | 235 | 247 | 269 | 268 | 275 | 282 | 288 |
| 0.23 | Transmission Services | 547 | 514 | 577 | 595 | 614 | 633 | 652 |
| 0.24 | Conservation & Energy Efficiency | 122 | 151 | 151 | 152 | 156 | 159 | 163 |
| 0.25 | Interest | 194 | 153 | 145 | 161 | 187 | 196 | 202 |
| 0.26 | Pension and Health Benefits [1/] | 37 | 32 | 38 | 38 | 39 | 40 | 41 |
| 0.91 | **Total operating expenses [2/]** | **2,995** | **2,757** | **2,879** | **2,994** | **3,094** | **3,177** | **3,257** |
| | Capital investment: | | | | | | | |
| 1.01 | Power Services | 190 | 281 | 270 | 276 | 282 | 288 | 295 |
| 1.02 | Transmission Services | 374 | 497 | 594 | 581 | 556 | 537 | 546 |
| 1.04 | Fish & Wildlife | 16 | 43 | 41 | 41 | 29 | 16 | 15 |
| 1.05 | Capital Equipment | 21 | 21 | 24 | 23 | 25 | 23 | 24 |
| 1.06 | Capitalized Bond Premiums | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.07 | **Total Capital Investment [3/]** | **601** | **842** | **929** | **921** | **892** | **864** | **880** |
| 2.01 | Projects Funded in Advance | 121 | 61 | 46 | 55 | 53 | 54 | 55 |
| 10.00 | **Total obligations [4/]** | **3,716** | **3,661** | **3,854** | **3,970** | **4,039** | **4,095** | **4,192** |

**These notes are an integral part of this table.**

[1/] See Interest Expense, Pension and Post-retirement Benefits and Capital Transfers section of this budget for a complete discussion of these cost estimates.

[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 2024 budget includes capital and expense estimates based on final spending proposals from Bonneville's BP-24 IPR process.

For purposes of this table, this FY 2024 budget reflects, for FY 2022, 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)

| | | 2022 | 2023 | est. 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|---|
| Financing: | | | | | | | | |
| 1000 | Unobligated balance available, start of year. [5/] | 10 | 10 | 8 | 0 | 0 | 0 | 0 |
| 1050 | Unobligated balance available, end of year.[5/] | 11 | 8 | 8 | 0 | 0 | 0 | 0 |
| 1200 | Appropriation[6/] | 78 | | | | | | |
| 1236 | Appropriations applied to repay debt[6/] | (78) | | | | | | |
| 1900 | **Budget authority (gross)** | **3,716** | **4,101** | **4,320** | **4,381** | **4,391** | **4,449** | **4,715** |
| Budget Authority: | | | | | | | | |
| 1400 | Permanent Authority: Authority to borrow from Treasury (indefinite) [7/] | 739 | 842 | 929 | 921 | 892 | 864 | 880 |
| 1600 | Contract Authority | 1,270 | | | | | | |
| 1800 | Spending authority from off-setting collections | 4,517 | 3,994 | 4,064 | 4,107 | 4,160 | 4,197 | 4,242 |
| 1825 | Portion applied to debt reduction | (611) | (736) | (673) | (647) | (660) | (612) | (407) |
| 1850 | **Spending authority from offsetting collections (adjusted)** | **1,707** | **3,259** | **3,391** | **3,460** | **3,500** | **3,585** | **3,835** |
| 900 | Total obligations | 3,717 | 3,662 | 3,855 | 3,970 | 4,039 | 4,095 | 4,192 |
| 4110 | Outlays (gross) | 3,717 | 3,662 | 3,855 | 3,970 | 4,039 | 4,095 | 4,192 |
| Adjustments to budget authority and outlays: | | | | | | | | |
| | Deductions for offsetting collections: | | | | | | | |
| 4120 | Federal funds | (56) | (90) | (90) | (90) | (90) | (90) | (90) |
| 4121 | Interest on Federal Securities | (9) | (10) | 0 | | | | |
| 4123 | Non-Federal sources | (4,461) | (3,894) | (3,974) | (4,017) | (4,070) | (4,107) | (4,152) |
| 4130 | Total, offsetting collections | (4,517) | (3,994) | (4,064) | (4,107) | (4,160) | (4,197) | (4,242) |
| 4160 | **Budget authority (net)** | **(984)** | **107** | **256** | **274** | **231** | **252** | **473** |
| 4170 | **Outlays (net) 8[/9/]** | **(806)** | **(332)** | **(209)** | **(137)** | **(121)** | **(102)** | **(50)** |

**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 tax-payer 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.

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 2022 Net Outlays are calculated using Bonneville's FY 2022 EOY Actuals. FY 2023 is based off of rate case and FY 2024 to 2028 Net Outlays are based on BP-

These notes are an integral part of this table.

**BONNEVILLE POWER ADMINISTRATION**
**BPA STATUS of U.S. TREASURY BORROWING**
**CURRENT SERVICES**

BP-4A

Fiscal Year

| | 2022 | | | | 2023 | | | |
|---|---|---|---|---|---|---|---|---|
| | 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 |
| **Start-of-Year: Total** | 4,207 | 3,665 | 5,106 | 5,629 | 4,119 | 3,577 | 5,018 | 5,679 |
| **Plus: Annual Increase** | | | | | | | | |
| Cum.-Annual Treasury Borrowing Treasury Borrowing (Cash) | 601 | 601 | 601 | 739 | 842 | 842 | 842 | 842 |
| **Less:** | | | | | | | | |
| BPA Bond Amortization | 689 | 689 | 689 | 689 | 470 | 470 | 470 | 470 |
| **Net Increase/(Decrease):** | (88) | (88) | (88) | 50 | 373 | 373 | 373 | 373 |
| Cum.-End-of-Year: Total | 4,119 | 3,577 | 5,018 | 5,679 | 4,491 | 3,949 | 5,390 | 6,051 |
| **Total Remaining Treasury Borrowing Amount** | | | | 8,021 | | | | 7,649 |
| **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 2024 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 2022 are $6,600 million.

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

| | 2024 | | | | 2025 | | | |
|---|---|---|---|---|---|---|---|---|
| | 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 |
| **Start-of-Year: Total** | 4,491 | 3,949 | 5,390 | 6,051 | 5,032 | 4,490 | 5,931 | 6,592 |
| **Plus: Annual Increase** | | | | | | | | |
| Cum.-Annual Treasury Borrowing | 929 | 929 | 929 | 929 | 921 | 921 | 921 | 921 |
| Treasury Borrowing (Cash) | | | | | | | | |
| **Less:** | | | | | | | | |
| Total BPA Bond Amortization | 388 | 388 | 388 | 388 | 538 | 538 | 538 | 538 |
| **Net Increase/(Decrease):** | | | | | | | | |
| Total | 541 | 541 | 541 | 541 | 383 | 383 | 383 | 383 |
| Cum.-End-of-Year: Total | 5,032 | 4,490 | 5,931 | 6,592 | 5,415 | 4,873 | 6,314 | 6,975 |
| **Total Remaining Treasury Borrowing Amount** | | | | 7,108 | | | | 6,725 |
| **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 2024 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 2022 are $6,600 million.

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

| | 2026 | | | | 2027 | | | |
|---|---|---|---|---|---|---|---|---|
| | 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 |
| **Start-of-Year: Total** | 5,415 | 4,873 | 6,314 | 6,975 | 5,735 | 5,193 | 6,634 | 7,295 |
| **Plus: Annual Increase** | | | | | | | | |
| Cum.-Annual Treasury Borrowing | 892 | 892 | 892 | 892 | 864 | 864 | 864 | 864 |
| Treasury Borrowing (Cash) | | | | | | | | |
| **Less:** | | | | | | | | |
| Total BPA Bond Amortization | 571 | 571 | 571 | 571 | 612 | 612 | 612 | 612 |
| **Net Increase/(Decrease):** | | | | | | | | |
| Total | 320 | 320 | 320 | 320 | 252 | 252 | 252 | 252 |
| Cum.-End-of-Year: Total | 5,735 | 5,193 | 6,634 | 7,295 | 5,987 | 5,445 | 6,886 | 7,547 |
| **Total Remaining Treasury Borrowing Amount** | | | | 6,405 | | | | 6,153 |
| **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 2024 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 2022 are $6,600 million.

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 2028 | | | |
|---|---|---|---|---|
| | Net Capital Obs | Net Capital Obs Subject to BA | Net Capital Expend. | Bonds Out-Standing |
| **Start-of-Year: Total** | 5,987 | 5,445 | 6,886 | 7,547 |
| **Plus: Annual Increase** | | | | |
| Cum.-Annual Treasury Borrowing | 880 | 880 | 880 | 880 |
| Treasury Borrowing (Cash) | | | | |
| **Less:** | | | | |
| Total BPA Bond Amortization | 407 | 407 | 407 | 407 |
| **Net Increase/(Decrease):** | | | | |
| Total | 473 | 473 | 473 | 473 |
| Cum.-End-of-Year: Total | 6,460 | 5,918 | 7,359 | 8,020 |
| **Total Remaining Treasury Borrowing Amount** | | | | 9,680 |
| **Total Legislated Treasury Borrowing Amount** | | | | 17,700 |

**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 2024 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 2022 are $6,600 million.

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**
**POTENTIAL THIRD PARTY FINANCING TRANSPARENCY**
(in millions of dollars)

**BP-5**

| | | Fiscal Year | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Transmission Services - Capital** | | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** |
| Main Grid | Requirements | 7 | 6 | 38 | 39 | 40 | 36 | 28 |
| Area & Customer Services | | 39 | 72 | 38 | 44 | 40 | 45 | 52 |
| Upgrades & Additions | | 64 | 113 | 151 | 147 | 101 | 54 | 58 |
| System Replacements | | 264 | 306 | 366 | 352 | 375 | 402 | 409 |
| Projects Funded in Advance | | 121 | 61 | 46 | 55 | 53 | 54 | 55 |
| Total, Transmission Services - Capital | | 494 | 558 | 640 | 636 | 609 | 591 | 601 |
| **Associated Project Costs - Capital** | | | | | | | | |
| Associated Project Costs | Requirem | 190 | 281 | 270 | 276 | 282 | 288 | 295 |
| Projects Funded in Advance[1/] | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total, Associated Project Costs - Capital | | 190 | 281 | 270 | 276 | 282 | 288 | 295 |
| **Federal and Non-Federal Funding** | | | | | | | | |
| Projects Funded in Advance | Source | 121 | 61 | 46 | 55 | 53 | 54 | 55 |
| U.S. Treasury Borrowing Authority | | 564 | 778 | 864 | 857 | 838 | 825 | 841 |
| **Scenario** | | | | | | | | |
| Projects Funded in Advance[1/] | Scenario | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Third Party Financing | | 93 | 124 | 148 | 145 | 139 | 134 | 137 |
| Alternate Treasury Borrowing Authority | | NA | 654 | 715 | 711 | 699 | 691 | 704 |

**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 2024 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 2024 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 | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** | **2028** |
| Start-of-Year: Total Bonds Outstanding | 5,629 | 5,679 | 5,927 | 6,320 | 6,557 | 6,738 | 6,856 |
| Plus: | | | | | | | |
| U.S. Treasury Borrowing (Cash) | 739 | 842 | 929 | 921 | 892 | 864 | 880 |
| Less: | | | | | | | |
| **Potential Third Party Financing & PFIA** | 93 | 124 | 148 | 145 | 139 | 134 | 137 |
| BPA Bond Amortization | 689 | 470 | 388 | 538 | 571 | 612 | 407 |
| | | | | | | | |
| Net Increase/(Decrease) Bonds Outstanding: | 50 | 249 | 392 | 237 | 181 | 117 | 336 |
| Cum.-End-of-Year: Total | 5,679 | 5,927 | 6,320 | 6,557 | 6,738 | 6,856 | 7,192 |
| | | | | | | | |
| **Total Remaining U.S. Treasury Borrowing Amount** | 8,021 | 7,773 | 7,380 | 7,143 | 6,962 | 6,844 | 10,508 |
| Total Legislated U.S.Treasury Borrowing Amount | 13,700 | 13,700 | 13,700 | 13,700 | 13,700 | 13,700 | 17,700 |

## U.S. TREASURY PAYMENTS

(in millions of dollars)

| | | FISCAL YEAR | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| **A.** | **INTEREST ON BONDS & APPROPRIATIONS** | | | | | | | |
| | **Bonneville Bond Interest** | | | | | | | |
| 1 | Bonneville Bond Interest (net) | 128 | 114 | 121 | 141 | 168 | 182 | 197 |
| 2 | AFUDC [1/] | 25 | 30 | 31 | 29 | 25 | 22 | 21 |
| | **Appropriations Interest** | | | | | | | |
| 3 | Bonneville | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | Corps of Engineers [2/] | 40 | 40 | 29 | 18 | 15 | 13 | 14 |
| 5 | Lower Snake River Comp. Plan | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | Bureau of Reclamation [3/] | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 7 | Bond Premiums paid/Discounts (not capitalized) | 0 | -2 | -6 | 0 | 3 | 0 | -9 |
| **8** | **Total Bond and Approp. Interest** | **194** | **184** | **176** | **190** | **213** | **218** | **223** |
| **B.** | **ASSOCIATED PROJECT COST** | | | | | | | |
| 9 | Bureau of Reclamation Irrigation Assistance | 17 | 13 | 8 | 14 | 20 | 6 | 11 |
| 10 | Bureau of Rec. O & M [4/] | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Corps of Eng. O & M [4/] | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | L. Snake River Comp. Plan O & M [4/] | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **13** | **Total Assoc. Project Costs** | **18** | **13** | **8** | **14** | **20** | **6** | **11** |
| **C.** | **CAPITAL TRANSFERS** | | | | | | | |
| | **Amortization** | | | | | | | |
| 14 | Bonneville Bonds [6/] | 689 | 470 | 388 | 538 | 571 | 612 | 407 |
| 15 | Bureau of Reclamation Appropriations | 5 | 3 | 2 | 0 | 19 | 0 | 0 |
| 16 | Corps of Engineers Appropriations | 0 | 261 | 282 | 109 | 70 | 0 | 0 |
| 17 | Lower Snake River Comp. Plan | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 18 | Bonneville Appropriations | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **19** | **Total Capital Transfers [/8]** | **694** | **736** | **673** | **647** | **660** | **612** | **407** |
| **D.** | **OTHER PAYMENTS** | | | | | | | |
| 20 | Unfunded Post-Retirement Liability [5/] | 37 | 32 | 38 | 38 | 39 | 40 | 41 |
| **21** | **TOTAL TREASURY PAYMENTS** | **943** | **965** | **895** | **889** | **932** | **877** | **683** |

**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 Corps of Engineers (Corps) Columbia River Fish Mitigation (CRFM).

3/ Includes interest on construction funding for Reclamation's Leavenworth Fish Hatchery at Grand Coulee and smaller appropriated projects.

4/ Costs for power O&M is funded directly by Bonneville as follows (in millions):

| FISCAL YEAR | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|
| Bureau of Reclamation | 147 | 153 | 154 | 157 | 161 | 165 | 169 |
| Corps of Engineers | 244 | 253 | 259 | 269 | 276 | 282 | 289 |
| Subtotal Bureau and Corps | 391 | 406 | 414 | 427 | 437 | 447 | 457 |
| Lower Snake River Comp. Plan | 33 | 29 | 32 | 32 | 33 | 34 | 35 |
| Total | 424 | 435 | 446 | 459 | 470 | 481 | 492 |

5/ See Interest Expense, Pension and Post-retirement Benefits and Capital Transfers section of this budget for a complete discussion of these cost estimates.

6/ In this FY 2024 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 2022 data reflects BPA's FY 2022 EOY Actuals.

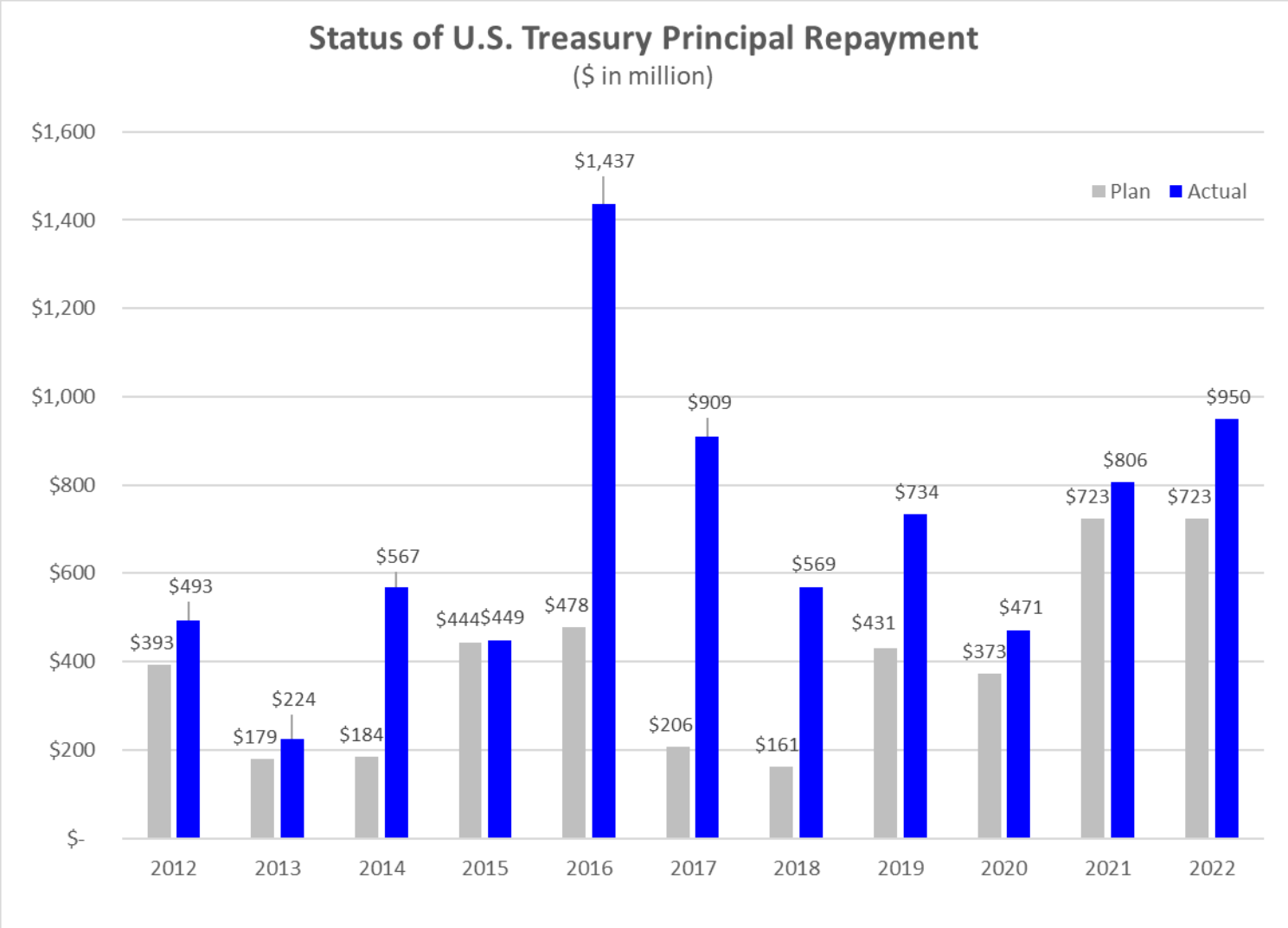



Chart Notes

[1/] This chart displays principal repayment only.

[2/] 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 2022 payment to the U.S. Treasury was approximately $951 million. This was the 39th consecutive year that Bonneville made its scheduled payments to the U.S. Treasury on time and in full. The payment included $694 million in principal, which included $346 million in early retirement of higher interest rate U.S. Treasury debt, $194 million for interest, $17 million in irrigation assistance payments, and $37 million in pension and post-retirement benefits.

[3/] FYs 2002-2012 payments include portions of advance amortization amounts consistent with Bonneville's capital strategy plan and the Bonneville /Energy Northwest debt optimization program.

[4/] Advance amortization due to sale of transmission facilities includes $12.7 million in FY 2003, $5.3 million in FY 2006, $2.0 million in FY 2011, $0.4 million in FY 2013 and $0.4 million in FY 2014, and $0.6 million in FY 2017.

[5/] The cumulative balance of advance amortization payments as of the end of FY 2022 was in excess of $6.6 billion.

[6/] FYs 2014-2022 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)

| | ESTIMATES | | |
|---|---|---|---|
| | **2022** | **2023** | **2024** |
| 11.1 Full-time permanent | 293 | 289 | 304 |
| 11.3 Other than full-time permanent | 2 | 2 | 2 |
| 11.5 Other personnel compensation | 107 | 105 | 111 |
| 11.9 **Total personnel compensation** | **402** | **396** | **417** |
| 12.1 Civilian personnel benefits | 166 | 163 | 172 |
| 13.0 Benefits for former personnel | 0 | 0 | 0 |
| 21.0 Travel and transportation of persons | 3 | 3 | 3 |
| 22.0 Transportation of things | 8 | 8 | 8 |
| 23.1 Rental payments to GSA | 0 | 0 | 0 |
| 23.2 Rents, other | 35 | 34 | 36 |
| 23.3 Communication, utilities & misc. charg | 13 | 13 | 13 |
| 25.1 Consulting Services | 104 | 102 | 108 |
| 25.2 Other Services | 2437 | 2401 | 2527 |
| 25.5 R & D Contracts | 4 | 4 | 4 |
| 26.0 Supplies and materials | 29 | 29 | 30 |
| 31.0 Equipment | 112 | 110 | 116 |
| 32.0 Lands and structures | 88 | 87 | 91 |
| 41.0 Grants, subsidies, contributions | 53 | 52 | 55 |
| 43.0 Interest and dividends | 263 | 259 | 273 |
| **99.0 Total obligations** | **3716** | **3661** | **3854** |

**Estimate of Receipts**
(in millions of dollars)

| | Fiscal Year | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| Reclamation Interest | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| Reclamation Amortization | 5 | 3 | 2 | 0 | 19 | 0 | 0 |
| Reclamation O&M | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reclamation Irrig. Assist. | 17 | 13 | 8 | 14 | 20 | 6 | 11 |
| Revenues Collected by Reclamation | -17 | -7 | -5 | -7 | -7 | -1 | -6 |
| Distributed in Treasury Account (credit) | | | | | | | |
| Colville Settlement (credit) | -5 | -5 | -5 | -5 | -5 | -5 | -5 |
| **Total 1/ Reclamation Fund** | **1** | **5** | **1** | **3** | **29** | **1** | **1** |
| Corps O&M | 0 | | | | | | |
| COE Approp. CRFM Studies Expense | 8 | | | | | | |
| CSRS | 37 | 32 | 38 | 38 | 39 | 40 | 41 |
| **Total 2/ Repayments on miscellaneous costs** | **45** | **32** | **38** | **38** | **39** | **40** | **41** |

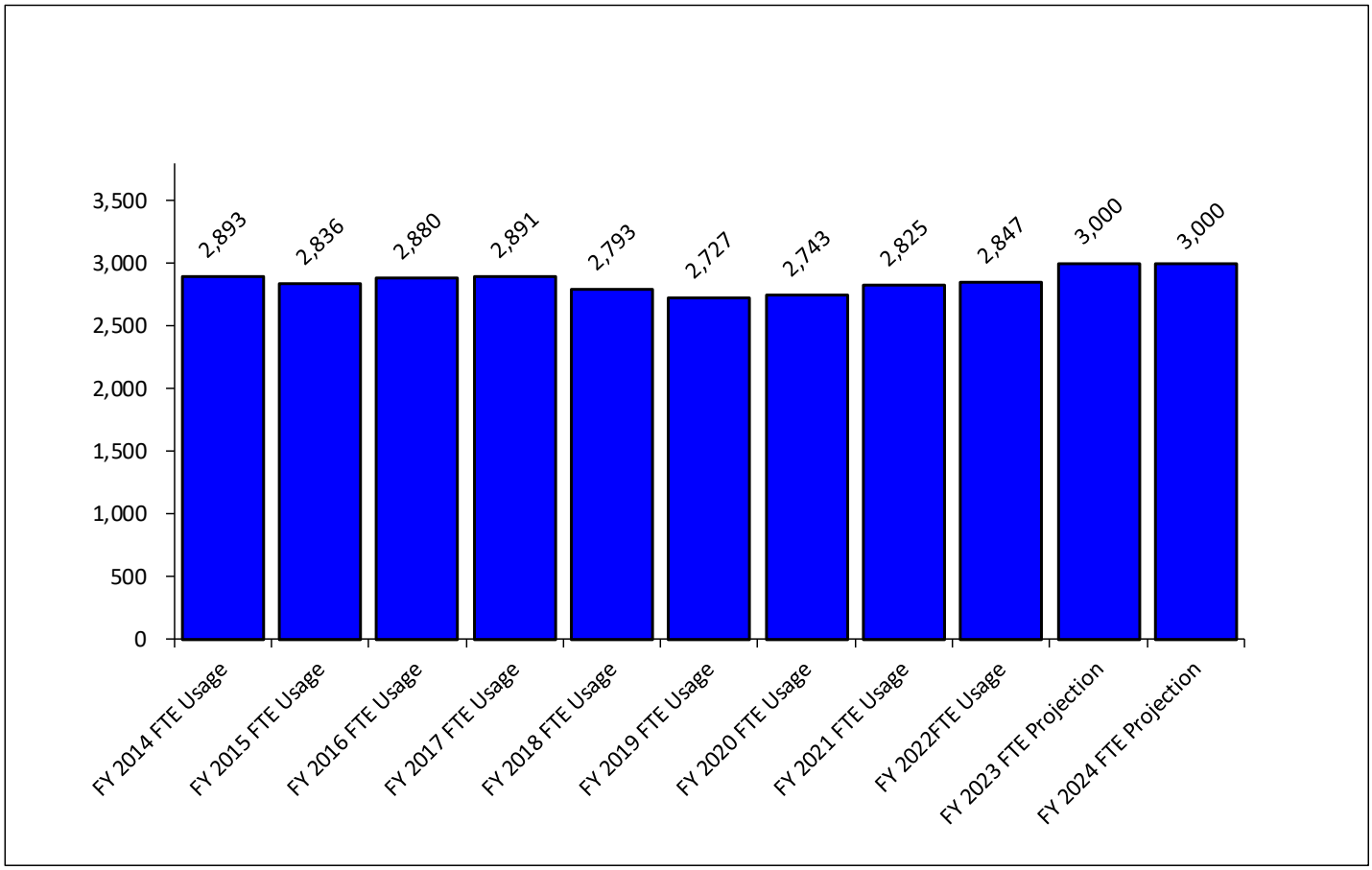
1/ Includes amortization of appropriations and irrigation assistance, and interest costs for Reclamation. The cost of power O&M for Reclamation is no longer included in Proprietary Receipts due to Direct Funding by Bonneville. Represents transfer to Account #895000.26

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).

| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
|---|---|---|---|---|---|---|---|
| Bureau of Reclamation | 147 | 153 | 154 | 157 | 161 | 165 | 169 |
| Corps of Engineers | 244 | 253 | 259 | 269 | 276 | 282 | 289 |
| Lower Snake River Comp. Plan | 33 | 29 | 32 | 32 | 33 | 34 | 35 |
| **Total** | **424** | **435** | **446** | **459** | **470** | **481** | **492** |

See Interest Expense, Pension and Post-retirement Benefits and Capital Transfers section of this budget for a complete discussion of these cost estimates.

## BONNEVILLE FTE




**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 while, at the same time, many of its employees are eligible to retire in the near future. It is important that Bonneville 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 10 Oct 2022 DOE HR staff has reported FY 2022 BPA's FTE Usage at 2,847.

## Total Cost of BPA Fish & Wildlife Actions

| COST ELEMENT | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|---|---|
| **CAPITAL INVESTMENTS** [1/] | | | | | | | | | | |
| BPA FISH AND WILDLIFE | 52.1 | 37.4 | 21.4 | 16.0 | 5.4 | 30.7 | 22.3 | 40.2 | 41.9 | 16.1 |
| BPA SOFTWARE DEVELOPMENT COSTS | 0.0 | 0.1 | 1.4 | 1.2 | 1.4 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| ASSOCIATED PROJECTS (FEDERAL HYDRO) | 103.6 | 101.7 | 81.4 | 34.1 | 58.9 | 51.8 | 55.5 | 106.6 | 66.7 | 10.4 |
| **TOTAL CAPITAL INVESTMENTS** | **155.7** | **139.2** | **104.1** | **51.4** | **65.7** | **83.2** | **77.9** | **146.7** | **108.6** | **26.5** |
| **PROGRAM EXPENSES** | | | | | | | | | | |
| **BPA DIRECT FISH AND WILDLIFE PROGRAM** | 239.0 | 231.8 | 258.2 | 258.1 | 254.7 | 258.7 | 240.4 | 238.1 | 253.6 | 249.4 |
| **FISH & WILDLIFE SOFTWARE EXPENSE COSTS** | 0.2 | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 |
| **SUPPLEMENTAL MITIGATION PROGRAM EXPENSES** [2/] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **REIMBURSABLE/DIRECT-FUNDED PROJECTS** [3/] | | | | | | | | | | |
| O & M LOWER SNAKE RIVER HATCHERIES | 28.7 | 31.0 | 30.9 | 28.6 | 26.0 | 31.4 | 26.7 | 31.9 | 30.7 | 33.0 |
| O & M CORPS OF ENGINEERS | 39.2 | 47.8 | 46.4 | 48.2 | 46.8 | 47.5 | 48.9 | 46.3 | 48.3 | 47.4 |
| O & M BUREAU OF RECLAMATION | 5.6 | 6.6 | 2.6 | 6.0 | 7.0 | 5.5 | 8.7 | 5.8 | 6.5 | 7.2 |
| NW POWER AND CONSERVATION COUNCIL ALLOCATED @ 50% | 5.0 | 4.9 | 4.9 | 5.4 | 5.4 | 5.5 | 5.6 | 5.6 | 5.5 | 6.0 |
| SUBTOTAL (REIMB/DIRECT-FUNDED) | 78.5 | 90.3 | 84.9 | 88.2 | 85.2 | 89.9 | 89.9 | 89.6 | 91.0 | 93.6 |
| **TOTAL OPERATING EXPENSES** | **317.70** | **322.40** | **343.17** | **346.34** | **339.90** | **348.65** | **330.30** | **327.66** | **344.60** | **343.23** |
| **PROGRAM RELATED FIXED EXPENSES** [4/] | | | | | | | | | | |
| INTEREST EXPENSE | 89.1 | 83.4 | 89.2 | 85.6 | 58.6 | 41.0 | 39.7 | 32.5 | 29.3 | 29.4 |
| AMORTIZATION EXPENSE | 35.7 | 38.7 | 41.3 | 42.5 | 42.5 | 43.4 | 45.1 | 46.7 | 47.4 | 47.6 |
| DEPRECIATION EXPENSE | 18.6 | 19.2 | 20.1 | 20.1 | 20.3 | 20.8 | 21.0 | 21.1 | 22.0 | 22.0 |
| **TOTAL FIXED EXPENSES** | **143.4** | **141.3** | **150.6** | **148.2** | **121.4** | **105.1** | **105.8** | **100.3** | **98.7** | **99.0** |
| **GRAND TOTAL PROGRAM EXPENSES** | **461.1** | **463.7** | **493.7** | **494.6** | **461.3** | **453.7** | **436.1** | **428.0** | **443.3** | **442.2** |
| **FORGONE REVENUES AND POWER PURCHASES** | | | | | | | | | | |
| **FOREGONE REVENUES** | 135.5 | 122.7 | 195.8 | 76.6 | 9.6 | 2.9 | 174.4 | 33.4 | 190.6 | 251.9 |
| **BPA POWER PURCH. FOR FISH ENHANCEMENT** | 85.8 | 196.2 | 67.5 | 50.3 | (20.5) | 24.3 | 177.6 | 150.0 | 110.6 | 237.9 |
| **TOTAL FOREGONE REVENUES AND POWER PURCHASES** | **221.3** | **318.9** | **263.3** | **126.9** | **(10.9)** | **27.2** | **352.0** | **183.4** | **301.2** | **489.8** |
| **TOTAL PROGRAM EXPENSES, FOREGONE REVENUES, & POWER PURCHASES** | **682.4** | **782.6** | **757.0** | **621.5** | **450.4** | **480.9** | **788.1** | **611.5** | **744.5** | **932.1** |
| **CREDITS** | | | | | | | | | | |
| 4(h)(10)(C) | (84.1) | (103.9) | (77.7) | (72.6) | (53.7) | (70.1) | (98.2) | (95.5) | (90.6) | (112.3) |
| FISH COST CONTINGENCY FUND | - | - | - | - | - | - | - | - | | - |
| **TOTAL CREDITS** | **(84.1)** | **(103.9)** | **(77.7)** | **(72.6)** | **(53.7)** | **(70.1)** | **(98.2)** | **(95.5)** | **(90.6)** | **(112.3)** |

**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—DEPARTMENT OF ENERGY**

SEC. 301.

(a) No appropriation, funds, or authority made available by this title for the Department of Energy shall be used to initiate or resume any program, project, or activity or to prepare or initiate Requests For Proposals or similar arrangements (including Requests for Quotations, Requests for Information, and Funding Opportunity Announcements) for a program, project, or activity if the program, project, or activity has not been funded by Congress.

(b)

(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 $1,000,000 or more;

(B) make a discretionary contract award or Other Transaction Agreement totaling $1,000,000 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 $1,000,000 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.

(c) 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.

(d) Except as provided in subsections (e), (f), and (g), the amounts made available by this title shall be expended as authorized by law for the programs, projects, and activities specified in the "Final Bill" column in the "Department of Energy" table included under the heading "Title III—Department of Energy" in the explanatory statement described in section 4 (in the matter preceding division A of this consolidated Act).

(e) 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 $5,000,000 or 10 percent, whichever is less, during the time period covered by this Act.

(f) None of the funds provided in this title shall be available for obligation or expenditure through a reprogramming of funds that—

(1) creates, initiates, or eliminates a program, project, or activity;

(2) increases funds or personnel for any program, project, or activity for which funds are denied or restricted by this Act; or

(3) reduces funds that are directed to be used for a specific program, project, or activity by this Act.

(g)

(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.

(h) 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.

SEC. 302. Funds appropriated by this or any other Act, or made available by the transfer of funds in this Act, for intelligence activities are deemed to be specifically authorized by the Congress for purposes of section 504 of the National Security Act of 1947 (50 U.S.C. 3094) during fiscal year *2024* until the enactment of the Intelligence Authorization Act for fiscal year 2023.

SEC. 303. 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. 304. 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. 305. Notwithstanding section 161 of the Energy Policy and Conservation Act (42 U.S.C. 6241), upon a determination by the President in this fiscal year that a regional supply shortage of refined petroleum product of significant scope and duration exists, that a severe increase in the price of refined petroleum product will likely result from such shortage, and that a draw down and sale of refined petroleum product would assist directly and significantly in reducing the adverse impact of such shortage, the Secretary of Energy may draw down and sell refined petroleum product from the Strategic Petroleum Reserve. Proceeds from a sale under this section shall be deposited into the SPR Petroleum Account established in section 167 of the Energy Policy and Conservation Act (42 U.S.C. 6247), and such amounts shall be available for obligation, without fiscal year limitation, consistent with that section.

SEC. 306. 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. 307. 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.

## 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. None of the funds made available by this Act may be used in contravention of Executive Order No. 12898 of February 11, 1994 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations).

SEC. 503. (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.