A close-up photograph of a large bundle of green and white cables, likely fiber optic or data cables, fanning out from the bottom center towards the top of the frame. The cables are in sharp focus in the foreground, with some showing labels like "4P-RS 20". The background is dark and blurred, showing more cables and some yellow indicator lights.

# **AGENCY FINANCIAL REPORT FISCAL YEAR 2024**

# About This Report

The mission of the Department of Energy, also referred to as DOE or Department, is to ensure America's security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions. DOE's Fiscal Year (FY) 2024 Agency Financial Report, or AFR, presents key financial and performance information in support of DOE's mission and demonstrates accountability to the American people.

DOE's AFR: <https://www.energy.gov/cfo/listings/agency-financial-reports>

- DOE's AFR is prepared by the [Office of the Chief Financial Officer](#). For more information, please email [afproject@hq.doe.gov](mailto:afproject@hq.doe.gov).
- DOE's AFR is presented in three major sections:
  - Management's Discussion & Analysis provides executive-level information on DOE's history, mission, organization, Secretarial priorities, analysis of financial statements, systems, controls and legal compliance, and other management priorities facing the Department.
  - Financial Results provides DOE's consolidated and combined financial statements and the Auditors' Report.
  - Other Information provides the Inspector General's Statement of Management Challenges and other statutory reporting.
- DOE's audit, inspection, and other reports are available on DOE's Office of Inspector General (OIG) website: <https://www.energy.gov/ig/office-inspector-general>.
- DOE's financial results are included in the annual Financial Report of the United States (U.S.) Government: <https://www.fiscal.treasury.gov/reports-statements/financial-report/>.

DOE's AFR meets the following reporting requirements:

- [Office of Management and Budget \(OMB\) Circular A-136, Financial Reporting Requirements](#)
- [Payment Integrity Information Act of 2019 \(PIIA\)](#)
- [Foundations for Evidence-Based Policymaking Act of 2018 \(Evidence Act\)](#)
- [Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015](#)
- [Digital Accountability and Transparency Act of 2014 \(DATA Act\)](#)
- [Federal Information Security Modernization Act of 2014 \(FISMA\)](#)
- [Government Performance and Results Act Modernization Act of 2010 \(GPRAMA\)](#)
- [Reports Consolidation Act of 2000](#)
- [Federal Financial Management Improvement Act of 1996 \(FFMIA\)](#)
- [Government Management Reform Act of 1994 \(GMRA\)](#)
- [Government Performance and Results Act of 1993 \(GPRA\)](#)
- [Federal Managers' Financial Integrity Act of 1982 \(FMFIA\)](#)
- [Prompt Payment Act of 1982](#)

DOE's Annual Performance Report/Annual Performance Plan (APPR) can be viewed here: <https://www.energy.gov/budget-performance>.

The APPR provides detailed performance information and descriptions of results for each performance measure and performance targets for the current and upcoming fiscal years, including performance measures related to the DOE Management Priorities as required by the GPRAMA.

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# Message from the Secretary of Energy (Unaudited)



## *Department of Energy's Mission*

*Ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions.*

I am pleased to present the United States Department of Energy's (DOE) Fiscal Year (FY) 2024 Agency Financial Report. This report provides DOE's key performance and financial information and demonstrates DOE's commitment to meeting the Administration's priorities including:

1. Driving U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050;
2. Advancing Scientific Discovery;
3. Strengthening and Modernizing our Nation's Nuclear Security;
4. Creating New Jobs and Research Opportunities in the Energy Economy; and
5. Building a Modern, Sustainable Cybersecurity Infrastructure.

The Department has made progress in each priority and remains "America's Solutions Department" through continued investments in scientific research, clean energy, nuclear security, and environmental cleanup while also addressing the impacts of racial and economic inequalities.

In FY 2024, the Department advanced clean energy initiatives while Driving U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050. We have seen critical investments in reaching our Nation's climate goals through the Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA). These landmark laws represent the most significant approach to tackling climate change and investing in American innovation in our Nation's history—ultimately benefiting all citizens and paving the way for a more sustainable, prosperous future. Clean energy solutions continue to advance within the Solar, Wind, Water, Hydrogen, Advanced Nuclear, Carbon Management, Geothermal, and Industrial Decarbonization sectors. The Department formed critical partnerships with private industry and industry has responded by investing several times more than DOE has spent and adding the equivalent of 30 Hoover dams of new clean power to the grid in 2024. Achievements in battery research, manufacturing, processing, and workforce furthered progress towards establishing a national charging network and decarbonizing the transportation sector. Moreover, DOE provided billions of dollars in awards, grants, and loans to states, communities, Tribes, companies, and non-profits for their implementation of clean energy solutions.

The Department generated excitement throughout the scientific community in FY 2024 by Advancing Scientific Discovery. The National Nuclear Security Administration's (NNSA) Inertial Confinement Fusion program achieved ignition (a chain reaction fusion burn in the laboratory that generates more energy than delivered to it) three times. NNSA then successfully met the objectives of three experiments using ignition-class sources. Office of Science (SC) researchers began a new chapter of superheavy element production by producing isotopes of the element livermorium (Lv) in only 22 days, suggesting element 120 is within reach. Research in advanced computing and Artificial Intelligence (AI) continued to push boundaries across the national laboratories with critical research and development of memory technologies, AI-driven autonomous high-resolution scanning microscopy, and groundbreaking quantum algorithms. DOE made major progress in the Exascale Computing Initiative with the completion of the Exascale Computing Project and deployment of the latest supercomputer system "El Capitan."

NNSA's nuclear deterrence mission remains the cornerstone of our Nation's security posture as the Department continued Strengthening and Modernizing the Nation's Nuclear Security. For the 27th consecutive year, NNSA's science-based Stockpile Stewardship Program enabled DOE and the Department of Defense (DOD) to certify to the President the safety, security, and



effectiveness of the U.S. nuclear weapons stockpile without the use of nuclear explosive testing. NNSA's ongoing activities ensure that the U.S. nuclear weapons stockpile continues to meet DOD requirements while enhancing safety and security through stockpile sustainment and modernization programs.

The Department's dedication to Investing in America Created New Jobs and Research Opportunities in the Energy Economy in FY 2024, including a historic increase in clean energy jobs, double the overall job growth rate. From implementing the Battery Workforce Initiative to rebuilding our Grid to establishing a nation-wide Energy Infrastructure Reinvestment program, the Department continued to ensure high quality energy jobs were available for a diverse American workforce across states, Tribal lands, and territories. Furthermore, offices throughout the Department provided millions of dollars in scholarships and grants, as well as fellowship opportunities, to the students and scientists who conduct important research within our national laboratories.

DOE continued Building a Modern, Sustainable Cybersecurity Infrastructure. In FY 2024, the Office of Cybersecurity, Energy Security, and Emergency Response (CESER) moved to full implementation of the Energy Threat Analysis Center, a public-private partnership of experts working to secure critical infrastructure and support the nation's response to energy system threats. In addition, the National Laboratory-led research initiative Securing Solar for the Grid continues to strengthen cybersecurity maturity levels for all solar stakeholders.

The Department accomplished all this while also responding to near-term crises. DOE has helped restore and improve access to electrical power to Americans recovering from natural disasters in Puerto Rico, Hawaii, and across the Southeast U.S. We have also provided equipment, training, and technical expertise to the people of Ukraine as they respond to Russia's unprovoked aggression. We are working with our Ukrainian counterparts to protect their electrical grid from Russian missile and drone attacks and to reduce nuclear and radiological risks across Ukraine.

In FY 2024, the Department was audited by the independent accounting firm, KPMG LLP. Based on the results of that audit, I can provide reasonable assurance that the information in this report reliably and accurately describes the results achieved by the Department. KPMG did issue an opinion qualification on the Portsmouth Paducah Project Office environmental liability and a material weakness for internal controls related to financial reporting over environmental liability estimates. The Department takes the auditor's findings and recommendations very seriously and will work to resolve the issues in the coming fiscal year.

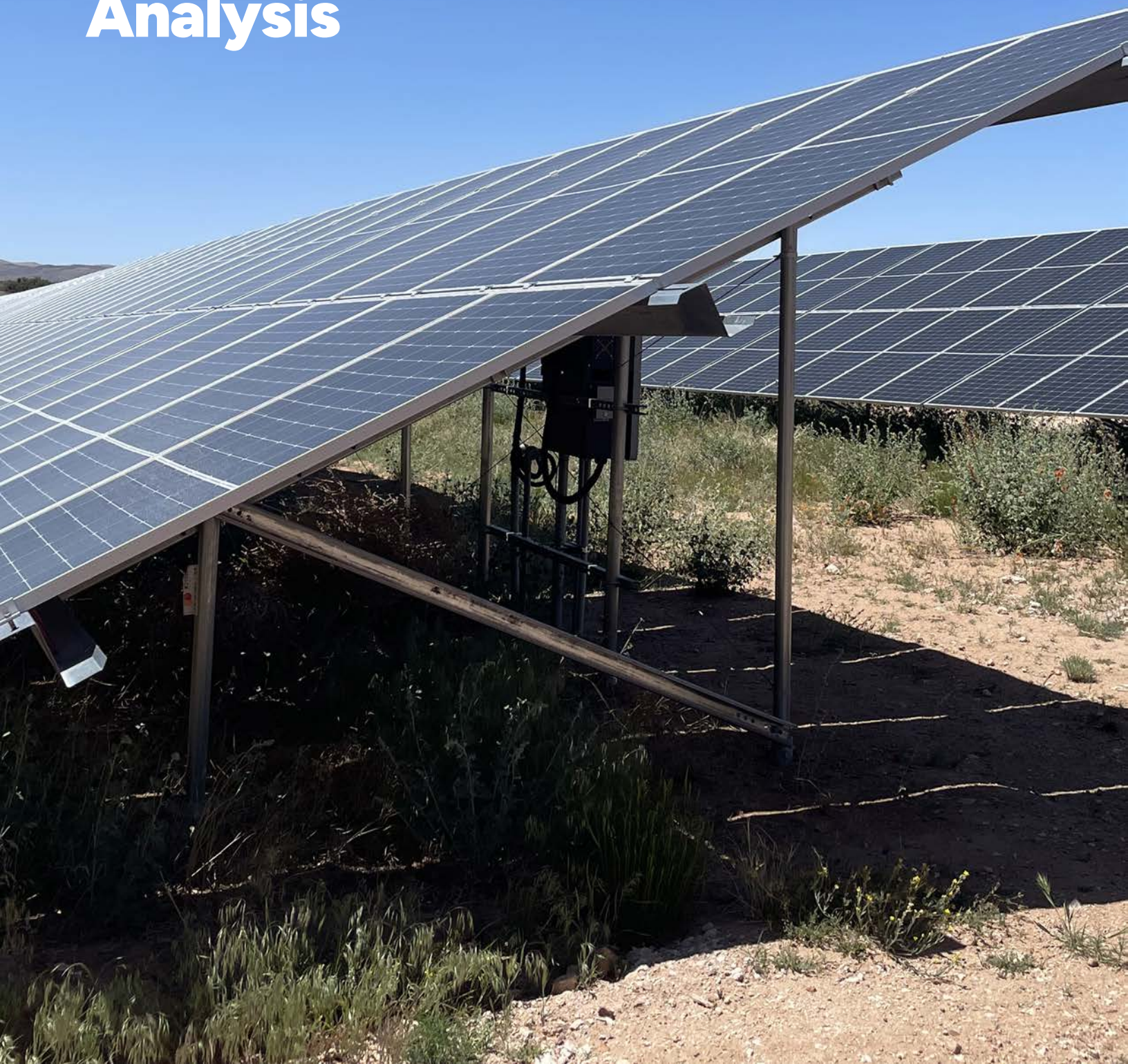
DOE has continued its excellence in operations throughout the enterprise due to the hard work and resilience of its dedicated Federal and contractor workforce. The successes in this report would not have been possible without them.

/Jennifer M. Granholm/

Jennifer M. Granholm  
Secretary of Energy  
December 12, 2024



# Management's Discussion & Analysis





# Agency Highlights (Unaudited)

## Mission

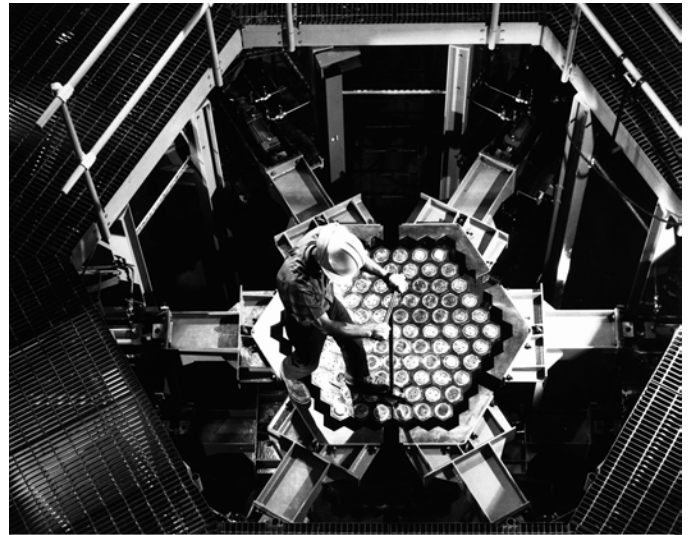
The mission of the Department of Energy is to ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions.

## History

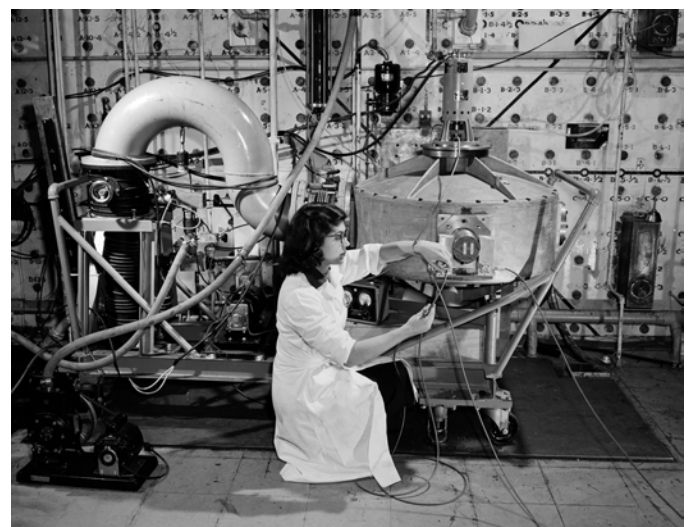
The Department of Energy's lineage can be traced back to the [Manhattan Project](#) and the race to develop the atomic bomb during World War II. Following the war, Congress created the [Atomic Energy Commission](#) in 1946 to oversee the sprawling nuclear scientific and industrial complex supporting the Manhattan Project and maintain civilian government control over atomic research and development (R&D). During the early [Cold War](#) years, the commission focused on designing and producing nuclear weapons and developing nuclear reactors for naval propulsion. The creation of the commission ended the exclusive government use of the atom and began the growth of the commercial nuclear power industry, with the commission having authority to regulate the new industry.

In response to changing needs and an extended energy crisis, Congress passed the Department of Energy Organization Act in 1977, [creating](#) one of the most diverse agencies in the federal government. That legislation brought together for the first time not only most of the government's energy programs but also science and technology programs and defense responsibilities that included the design, construction, and testing of nuclear weapons. The Department provided the framework for a comprehensive and balanced national energy plan by coordinating and administering the energy functions of the federal government. The Department undertook responsibility for long-term, high-risk R&D of energy technology, federal power marketing, energy conservation activities, the nuclear weapons programs, certain energy regulatory programs, and a central energy data collection and analysis program.

Over its [history](#), the Department has shifted its emphasis and focus as the energy and security needs of the nation have changed. During the late 1970s, the Department emphasized energy development and regulation but shifted to nuclear weapons R&D and production during the 1980s. With the end of the Cold War, DOE focused on environmental cleanup of the nuclear weapons complex, as well as nonproliferation and stewardship of the nuclear stockpile. Today, the Department is committed to meeting America's energy, nuclear security, and environmental challenges through science and technology innovation.



A Westinghouse Advanced Development Corporation engineer rotates one of the mock fuel bundles in the Fast Flux Test Facility's Simulated Core Mockup prior to taking measurements with a laser in circa 1971. (Photo courtesy of DOE Flickr)



A researcher works with a piece of equipment known as the "fast neutron chopper" at Brookhaven's Graphite Research Reactor in the 1950s. This reactor operated from 1950 to 1968. (Photo courtesy of DOE Flickr)



# The National Virtual Climate Laboratory

## *Your comprehensive guide to climate science*

By Shannon Brescher Shea

Office of Science, Office of Communications and Public Affairs

Thunderstorms in the American Midwest. Tiny particles in the cloud cover of the Amazon rainforest. Heat waves in Baltimore. What do these very different places have in common? They're all areas where the Department of Energy Office of Science Biological and Environmental Research (BER) program is supporting climate research. You can also find information about all of them on the [National Virtual Climate Laboratory](https://www.nvcl.energy.gov/), or NVCL.

The NVCL is a comprehensive portal for climate science projects supported by the Department of Energy Office of Science. Written in plain language, it assists researchers, students, faculty, and local stakeholders. It provides access to relevant, useful information. Rather than searching through websites to find the project you are looking for, it's all in one searchable place.

The NVCL's opportunities section gathers scientific opportunities in climate science. For undergraduate and graduate students, it highlights our internships and Graduate Student Research Program. For faculty and researchers, it links to our funding opportunities, fellowships, and training. It provides information on how to apply, how to find previous participants, and how to contact program managers. A calendar lists upcoming deadlines so that you don't miss out. Having all of these opportunities in one place helps make them more equitable, inclusive, and accessible.



Photo courtesy of Zhe Feng/Pacific Northwest National Laboratory

The NVCL's research section organizes projects by research topic, from climate-energy modeling to regional ecosystems. There is a brief summary of each project, with information on the lead institution and primary investigator. The site is meant to foster collaborations, especially between the DOE's national laboratories, universities, and relevant stakeholders. The research includes programs led by nine DOE national laboratories. The user facilities section lays out the capabilities of our three user facilities related to climate science: the Atmospheric Radiation Measurement (ARM) user facility, the Environmental Molecular Sciences Laboratory, and the Joint Genome Institute. Each contributes unique, complementary resources to the world of climate science.

A news section, events calendar, and glossary of relevant terms further expand the site's scope.

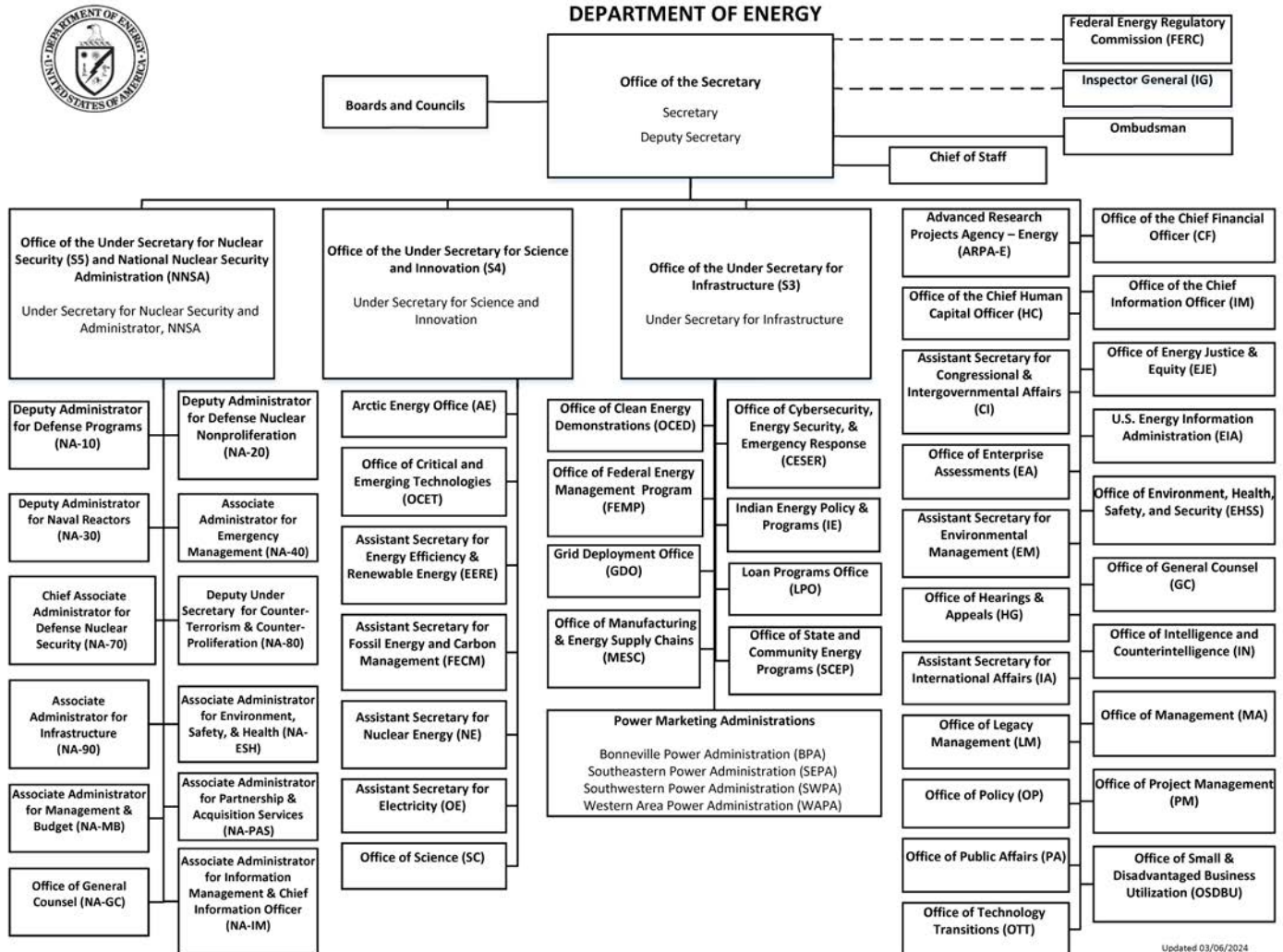


The National Virtual Climate Laboratory web portal provides access to U.S. Department of Energy Climate Science, connecting users at research universities and other interested organizations to a wide range of experts, programs, projects, activities, and user facilities that are engaged in climate research across the national laboratory complex. You can visit the site at [www.nvcl.energy.gov](https://www.nvcl.energy.gov).

Visit the National Virtual Climate Laboratory at [nvcl.energy.gov](https://www.nvcl.energy.gov)

# Organizational Structure

Current as of March 2024. For more information, visit <https://www.energy.gov/organization-chart>

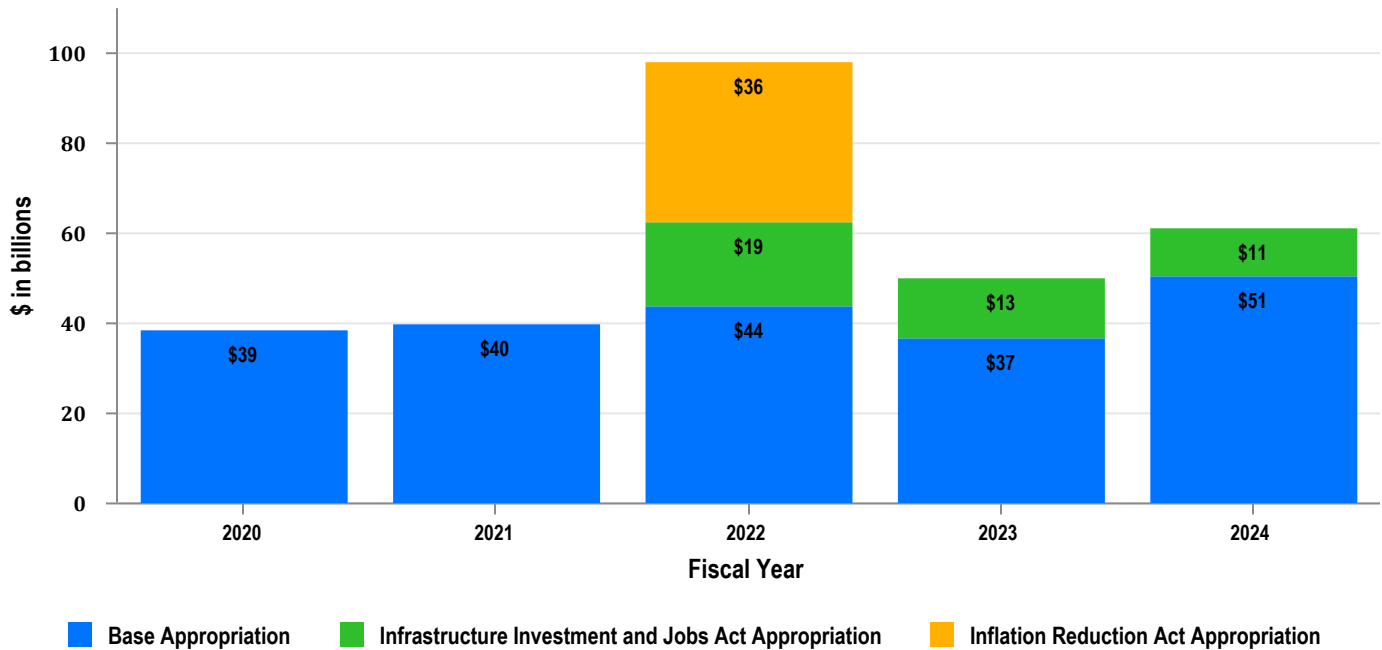


Updated 03/06/2024

# Financial Resources

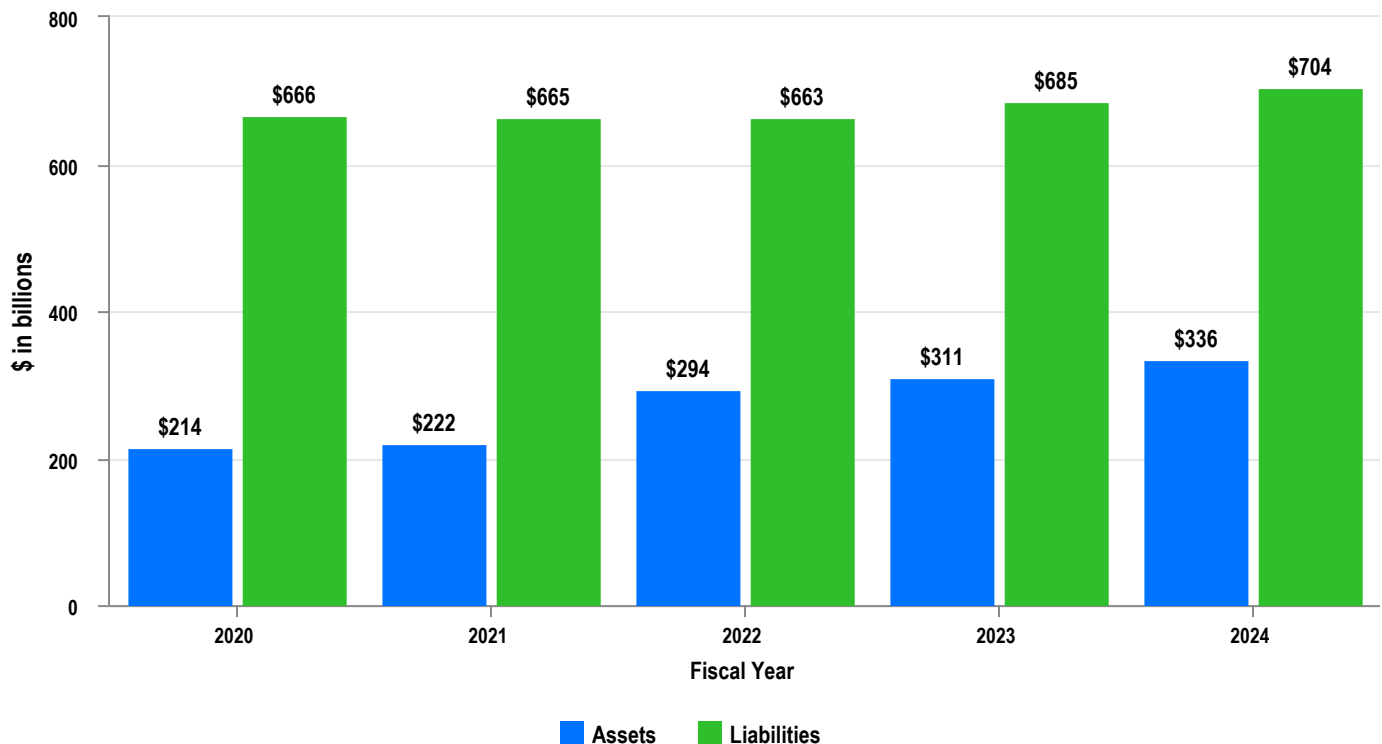
## Appropriations

(Appropriations are defined per the FY 2024 Combined Statements of Budgetary Resources)



Appropriations amounts include appropriated receipts, transfers, reductions, and temporarily not available. The \$61.5 billion of FY 2024 appropriations shown above differs from the Budget in Brief Annualized continuing resolution (CR) amount of \$47.9 billion due to the Budget in Brief amount not including supplemental and rescissions included in the FY 2024 enacted appropriation language.

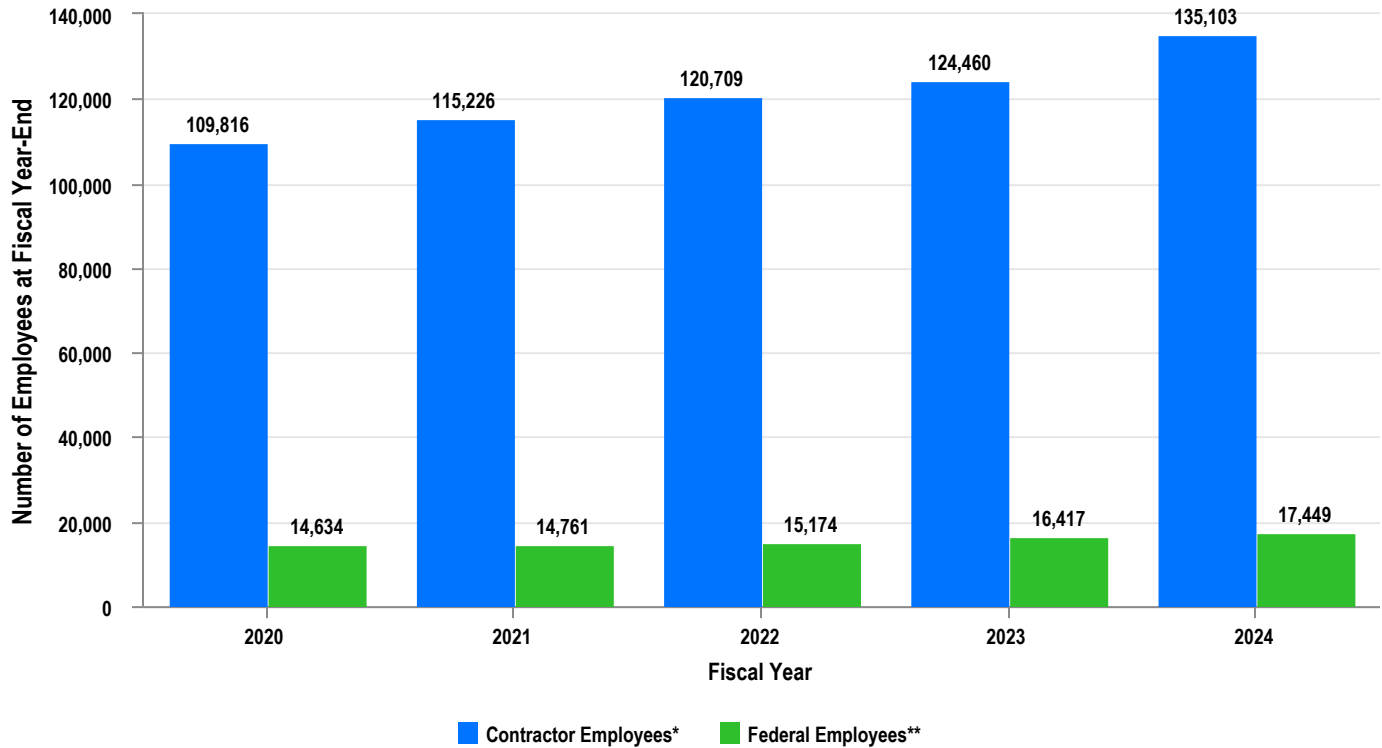
## Assets and Liabilities





# Human Capital Resources

## Federal and Contractor Employees



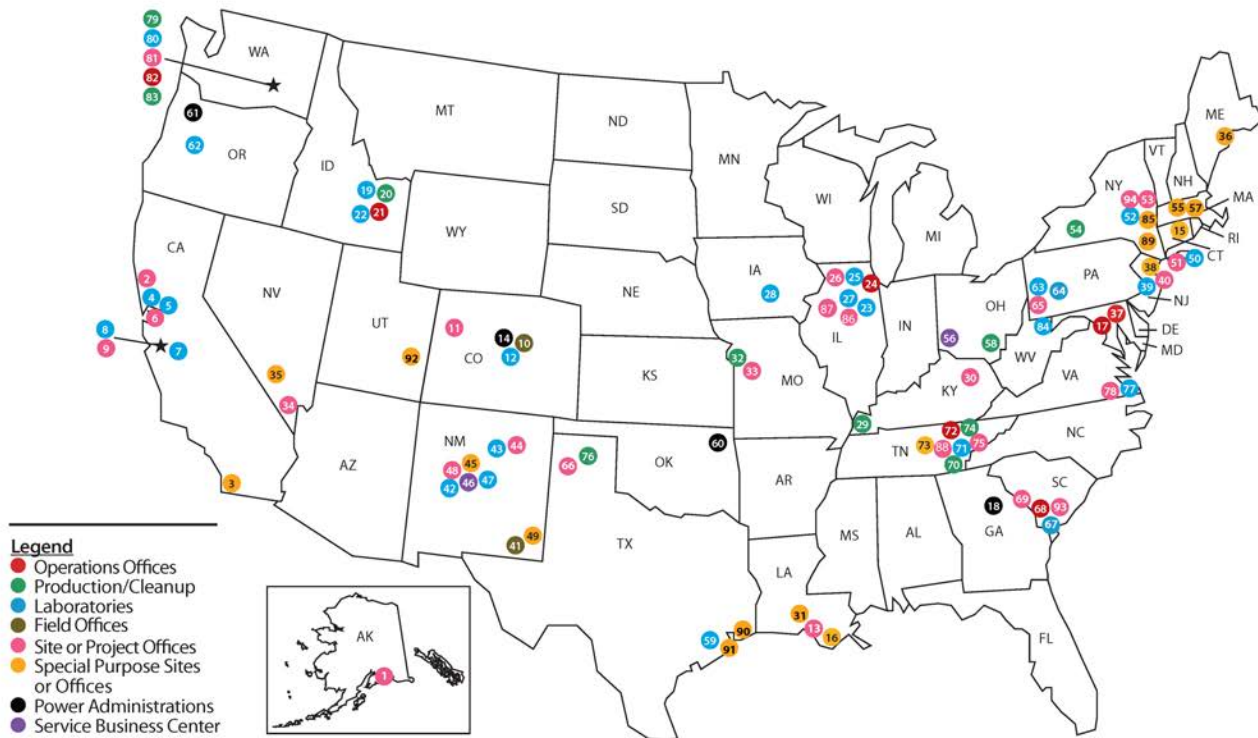
\*Contractor employee information is presented as of the prior Calendar Year

\*\*Federal employee information includes both DOE and FERC employees (DOE 15,857 and FERC 1,592 for FY 2024)

## FY 2024 Financial Management Report Card

COMPLIANCE		REQUIREMENT OR INITIATIVE	SUPPORTING INDICATORS (see page references for more detail)
YES	NO		
✓		Government Management Reform Act of 1994 (GMRA) – Financial Statement Audit	Audit Opinion (see pages 159-171)
✓		Federal Managers' Financial Integrity Act of 1982 (FMFIA) – Internal Controls (Section II) – Financial Systems (Section IV)	One Material Weakness on Internal Controls (Section II) (see pages 53-54 and 173) Financial systems generally conform to (Section IV) requirements (see pages 53-54 and 173)
✓		Appendix A to OMB Circular No. A-123, Management of Reporting and Data Integrity Risk (2018)	No Material Weaknesses identified by the Department during its internal control and risk assessment cycle. (see pages 53-54 and 173)
✓		Federal Financial Management Improvement Act of 1996 (FFMIA)	Substantially comply with federal financial management system requirements (see pages 53-54 and 173)
✓		Federal Information Security Modernization Act of 2014 (FISMA)	Substantially comply with FISMA requirements as evidenced by annual FISMA reporting data (see pages 53-54 and 173)
✓		Payment Integrity Information Act of 2019 (PIIA)	<1% overall Erroneous Payment Rate and not susceptible to significant improper payments (see pages 188-189)

# Major Laboratories and Field Facilities



## Legend

- Operations Offices
- Production/Cleanup
- Laboratories
- Field Offices
- Site or Project Offices
- Special Purpose Sites or Offices
- Power Administrations
- Service Business Center

## Alaska

- 1 Arctic Energy Office

## California

- 2 Berkeley Site Office
- 3 Energy Technology Engineering Center
- 4 Lawrence Berkeley National Laboratory
- 5 Lawrence Livermore National Laboratory
- 6 Livermore Field Office
- 7 Sandia National Laboratories
- 8 SLAC National Accelerator Laboratory
- 9 SLAC Site Office

## Colorado

- 10 Golden Field Office
- 11 Grand Junction Office
- 12 National Renewable Energy Laboratory
- 14 Western Area Power Administration

## Connecticut

- 15 Northeast Home Heating Oil Reserve

## District of Columbia

- 17 Washington D.C. Headquarters

## Georgia

- 18 Southeastern Power Administration

## Idaho

- 19 Idaho National Laboratory
- 20 Idaho Operations Office
- 22 Radiological Environmental Sciences Laboratory

## Illinois

- 27 Ames Site Office
- 23 Argonne National Laboratory
- 86 Argonne Site Office
- 24 Consolidated Service Center (Lemont)
- 25 Fermi National Accelerator Laboratory
- 26 Fermi Site Office
- 27 New Brunswick Laboratory

## Iowa

- 28 Ames Laboratory

## Kentucky

- 29 Paducah Gaseous Diffusion Plant
- 30 Portsmouth/Paducah Project Office

## Louisiana

- 19 Strategic Petroleum Reserve (SPR) Project Management Office
- 16 SPR - West Hackberry Site
- 31 SPR - Bayou Choctaw Site

## Maine

- 36 Northeast Gasoline Supply Reserve

## Maryland

- 37 DOE Headquarters - Germantown Campus

## Massachusetts

- 55 Northeast Gasoline Supply Reserve
- 57 Northeast Home Heating Oil Reserve

## Missouri

- 32 Kansas City National Security Campus
- 33 Kansas City Field Office

## Nevada

- 34 Nevada Field Office
- 35 Nevada National Security Site

## New Jersey

- 38 Northeast Home Heating Oil Reserve
- 39 Princeton Plasma Physics Laboratory
- 40 Princeton Site Office

## New Mexico

- 41 Carlsbad Field Office
- 42 Inhalation Toxicology Research Institute
- 43 Los Alamos National Laboratory
- 44 Los Alamos Field Office
- 45 National Training Center
- 46 NNSA Albuquerque Complex
- 47 Sandia National Laboratories
- 48 Sandia Field Office
- 49 Waste Isolation Pilot Plant

## New York

- 50 Brookhaven National Laboratory
- 51 Brookhaven Site Office
- 52 Knolls Atomic Power Laboratory
- 94 Kenneth A. Kesselring Site
- 53 Naval Reactors Laboratory Field Office - Schenectady
- 54 West Valley Demonstration Project
- 85 Separations Process Research Unit
- 89 Northeast Gasoline Supply Reserve

## Ohio

- 56 EM Consolidated Business Center
- 58 Portsmouth Gaseous Diffusion Plant

## Oklahoma

- 60 Southwestern Power Administration

## Oregon

- 61 Bonneville Power Administration
- 62 National Energy Technology Laboratory - Albany

## Pennsylvania

- 63 Bettis Atomic Power Laboratory
- 64 National Energy Technology Laboratory - Pittsburgh
- 65 Naval Reactors Laboratory Field Office - Pittsburgh

## South Carolina

- 67 Savannah River National Laboratory
- 68 Savannah River Operations Office
- 69 Savannah River Field Office
- 95 Savannah River Site

## Tennessee

- 70 East Tennessee Technology Park
- 71 Oak Ridge National Laboratory
- 68 Oak Ridge National Laboratory Site Office
- 72 Consolidated Service Center (Oak Ridge) Office of Scientific and Technical Information
- 73 Y-12 National Security Complex
- 74 Y-12 Field Office

## Texas

- 76 Pantex Plant
- 66 Pantex Field Office
- 59 National Energy Technology Lab - Sugar Land
- 90 Strategic Petroleum Reserve - Big Hill Site
- 91 Strategic Petroleum Reserve - Bryan Mound Site

## Utah

- 92 Moab UMTRA Project

## Virginia

- 77 Thomas Jefferson National Accelerator Facility
- 78 Thomas Jefferson Site Office

## Washington

- 79 Hanford Site
- 60 Pacific Northwest National Laboratory
- 81 Pacific Northwest Site Office
- 82 Richland Operations Office
- 83 Office of River Protection

## West Virginia

- 84 National Energy Technology Laboratory - Morgantown

# Program Performance

FY 2024 results and outcomes for DOE programs, as aligned with the strategic goals presented in the draft 2022-2026 DOE Strategic Plan, are summarized within this report. A detailed discussion of results for the Department’s performance goals, assessment methodologies, metrics, external reviews, and documentation of performance data are presented in the DOE Annual Performance Report. Additional performance information is available at <http://energy.gov/about-us/budget-performance>.

## Drive U.S. Energy Innovation and Deployment on a Path to Net-Zero Emissions by 2050

PARTICIPATING PROGRAMS	
<ul style="list-style-type: none"><li>• Arctic Energy</li><li>• Clean Energy Demonstrations</li><li>• Electricity</li><li>• Energy Efficiency and Renewable Energy</li><li>• Fossil Energy and Carbon Management</li><li>• Federal Energy Management Program</li><li>• Grid Deployment</li></ul>	<ul style="list-style-type: none"><li>• Loan Programs</li><li>• Manufacturing and Energy Supply Chains</li><li>• National Nuclear Security Administration</li><li>• Nuclear Energy</li><li>• Policy</li><li>• Science</li><li>• State and Community Energy Programs</li><li>• Technology Transitions</li></ul>

The Biden-Harris Administration’s Long-Term Strategy calls for the United States to achieve a clean energy economy with net-zero emissions no later than 2050, with an interim target of reducing greenhouse gas emissions 50-52% below 2005 levels by 2030. To meet this challenge, DOE will facilitate unprecedented advances in scientific research, applied energy R&D, and the deployment and commercialization of clean energy technologies. Throughout the clean energy transition, DOE will work to ensure that all Americans retain access to affordable, reliable energy and benefit from the creation of millions of quality jobs in the clean energy economy. DOE’s collaboration with international partners will further amplify the benefits to American workers and communities as it supports partners in achieving their own clean energy and economic goals. Examples of FY 2024 program accomplishments in these areas include:

### Drive innovation of cost-efficient and affordable clean technologies and solutions through Research, Development, Demonstration, and Deployment (RDD&D)

#### Office of Energy Efficiency and Renewable Energy (EERE)

EERE’s Bioenergy Technologies Office supported a range of industry and national laboratory partners in developing feedstocks and processes to grow [annual sustainable aviation fuel \(SAF\) production](#) from 5 million gallons in 2021 to 29.8 million gallons by the end of FY 2024. EERE’s Hydrogen and Fuel Cell Technologies Office (HFTO) announced over 100 projects in FY 2024, including Small Business Innovation Research (SBIR) initiatives, to tackle key clean hydrogen RDD&D challenges and enable progress toward meeting goals in the national clean hydrogen strategy, the Hydrogen Shot™ program, and near- and long-term technical targets outlined in HFTO’s multi-year program plan.

#### Office of Fossil Energy and Carbon Management (FECM)

FECM completed a comprehensive front-end engineering and design (FEED) study to [redevelop the retired Wabash River integrated gasification combined cycle plant](#) in West Terre Haute, Indiana, into a 14,000 kg/hr clean hydrogen production facility. The FEED included the integrated design of a carbon capture and storage (CCS) system to capture CO<sub>2</sub> from the hydrogen production process and store it deep underground in formations of the Illinois Basin. FECM collaborations and funding provided universities with the resources to create innovative clean technology solutions through RDD&D. This includes Stanford University developing a new technology capable of direct conversion of dilute methane waste gas streams into methanol and other high-value liquid chemicals using a bifunctional catalyst that reacts with normal sunlight, North Carolina State University working on a catalyst technology capable of converting methane waste gas emissions into high-value chemicals, the University of Oklahoma developing and field-validating a natural gas reciprocating compressor and natural gas fueled engine retrofit of technology that eliminates up to 84% of fugitive methane emissions and up to 56% of volatile organic compounds, and Colorado State University expanding the Methane Emissions Technology Evaluation Center. FECM collaborated with various national labs, including National Energy Technology Laboratory (NETL), Los Alamos National Laboratory (LANL), and Lawrence Livermore National Laboratory (LLNL) to advance pipeline and multimodal, transportation design and evaluation tools. FECM started operation of three 0.5 megawatt (MW) carbon capture pilots and completed the 10 MW pilot scale validation for a transformational solvent technology at Technology Center Mongstad in Norway. FECM provided awards to 12 projects for decarbonizing industrial processes and testing carbon capture technologies at industrial facilities. FECM funded six projects to turn CO<sub>2</sub> into various products via algae. FECM selected 13 semifinalists and five finalists for the Direct Air Capture (DAC) Pre-Commercial Energy Program for Innovation Clusters Prize. FECM also selected 10 projects for bench-scale research and development on coupling DAC technologies to renewable methanol production.



## PROGRAM PERFORMANCE (Unaudited)

### Office of Electricity (OE)

As part of DOE's [EVGrid Assist initiative](#), OE published [The Future of Vehicle Grid Integration: Harnessing the Flexibility of EV Charging](#) report, laying out a shared vision for a beneficial, EV-integrated future. The report serves as a guidepost for the vehicle-grid integration transition. OE also published the [Port Electrification Handbook](#), a resource to aid the transition to cleaner energy sources to power maritime and commercial ports. The handbook emphasizes the myriad benefits of using microgrid systems to facilitate port electrification, including pivotal microgrid roles for providing enhanced energy resilience to critical port infrastructure and operations, enabling port decarbonization, and contributing to improved air quality and other community-facing, non-energy benefits.

### Office of Nuclear Energy (NE)

In FY 2024, NE funded \$84.5 million to support 94 research and infrastructure projects at colleges and universities and 127 scholarships and fellowships for students. [Over \\$59 million was announced in April alone](#), which pushed NE over the \$1 billion mark in funding to U.S. colleges and universities since the inception of NE's University Programs. NE's National Reactor Innovation Center began construction of the Demonstration of Microreactor Experiments (DOME) test bed at Idaho National Laboratory (INL) and [awarded \\$3.9 million to three advanced reactor developers to design experiments to test their microreactor experiments in DOME](#).

### National Nuclear Security Administration (NNSA)

In FY 2024, researchers at Sandia National Laboratories (SNL) partnered with the University of New Mexico to develop a bio-based polyurethane composite, which has a 50% lower carbon footprint than traditional concrete, as an alternative to Portland cementitious concrete, the most commonly used construction concrete. Current cement production methods are responsible for about 8% of global CO<sub>2</sub> emissions. NNSA laboratories LANL, LLNL, and SNL are members of the Grid Modernization Lab Consortium, which brings together 14 national laboratories to coordinate and execute cross-cutting research in support of DOE's Grid Modernization Initiative. LLNL worked with the California Energy Commission to develop ways to increase the amounts of wind and solar generation integrated into California's energy grid. LLNL received \$1.75 million from the California Energy Commission to conduct research on using LLNL's high-resolution weather models and high-performance computing to characterize intermittent renewable resources, including wind and solar power.

### Office of Policy (OP)

OP conducted several analyses that help the U.S. government, private sector, and public at large better understand the path toward achieving the administration's clean energy and greenhouse gas emissions reductions goals. Analyses include economy-wide energy modeling, demonstrating that Inflation Reduction Act (IRA) and Infrastructure Investment and Jobs Act (IIJA) legislation have positioned the U.S. to achieve significant emissions reductions, lower electricity costs, accelerated clean energy deployment, and reduced net crude oil imports, and thus a more secure energy future. This modeling was subsequently used in official U.S. communications to the United Nations Framework Convention on Climate Change in the [2023 Voluntary Supplement to the Fifth Biennial Report](#). OP conducted several sector- and technology-specific analyses that support broader efforts to drive innovation, such as outlining solutions to meet increased electricity demand while maintaining or enhancing reliability in [The Future of Resource Adequacy](#) report.

### Office of Science (SC)

Through the Exascale Computing Project, SC revealed how to save both energy and critical materials and delivered a world-leading capability for accelerating the development of technologies to meet net-zero emission goals. Simulations performed at the Oak Ridge Leadership Computing Facility (OLCF) saved time and money by helping researchers digitally customize titanium alloy raw materials. OLCF's predictive simulations shrank a decade of physical testing into two to three years and found the new alloy could cut annual production costs of machining titanium components in half, while saving as much as 2.5 quadrillion British thermal units (Btu) of energy consumption by 2050. While identifying, synthesizing, and testing new battery materials, a team of researchers from Pacific Northwest National Laboratory (PNNL) and Microsoft successfully winnowed an initial list of 32 million candidate systems to 23 within 80 hours. The entire process – from millions of candidates to prototype battery – was completed in nine months. In spring 2024, the Fusion Energy Sciences program completed negotiations with eight private sector teams for the [Fusion Milestone program](#) to deliver, within 18 months, fusion pilot plant preconceptual designs and technology road maps. These eight teams represent a diverse array of approaches to fusion confinement – two tokamaks, two stellarators, two inertial fusion, one mirror, and one Z-pinch.

### Office of Manufacturing and Energy Supply Chains (MESCC)

The MESCC Battery Manufacturing team led the development and execution of the Phase 1 IIJA Battery Manufacturing and Processing funding opportunity to significantly increase domestic production capacity of critical battery materials, such as lithium, nickel, cobalt, and graphite; battery components, cells, and packs; and recycling facilities.

### Federal Energy Management Program (FEMP)

FEMP undertook initiatives to address real-world technical and procurement challenges faced by federal agencies and stakeholders, fostering greater efficiency, innovation, and scalability in their deployment. The result of FY 2024 initiatives included updating 32 product categories, including 29 products covered by other government programs, EnergyStar, and the Electronic Product Environmental Assessment Tool to determine the top 25% of energy efficiency for each product category.

## Office of Technology Transitions (OTT)

OTT coordinated with 25 DOE offices to publish the [Technology Transfer Execution Plan \(TTEP\)](#). Last published in FY 2016, the TTEP outlines a strategic framework to guide Department-wide coordination of technology transfer and commercialization activities, including four priority goals, three cross-cutting approaches, 10 objectives, key activities, and outlooks through FY 2025. The OTT-led Partnership Intermediary Agreement (PIA) outreach capabilities and lower applicant entry barriers in FY 2024 helped reach nontraditional entities new to DOE funding. The Voucher Program, part of the PIA portfolio, provided \$32 million in commercialization support to organizations that have a role in bringing innovative energy technologies to market nationwide. Through the IIJA Technology Commercialization Fund (TCF) Voucher program, OTT, along with Office of Clean Energy Demonstrations (OCED), FECM, and EERE, also announced [111 entities to receive support in the amount of \\$9.8 million](#) for advancing clean energy technologies, with in-kind commercialization support provided by 33 supporting organizations in the form of DOE-funded vouchers. The IIJA TCF Voucher program also awarded \$8.45 million to 38 teams in the Facilities and Strategies tracks of the Manufacture of Advanced Key Energy Infrastructure Technologies (MAKE IT) prize, which launched in FY 2023 to catalyze domestic manufacturing of critical clean energy technology components. OTT led the establishment of the Department's first-ever agency related foundation, the Foundation for Energy Security and Innovation (FESI), as authorized by the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act of 2022. FESI advances the mission of DOE and complements DOE investments in cutting-edge research to bridge gaps across the RDD&D continuum.

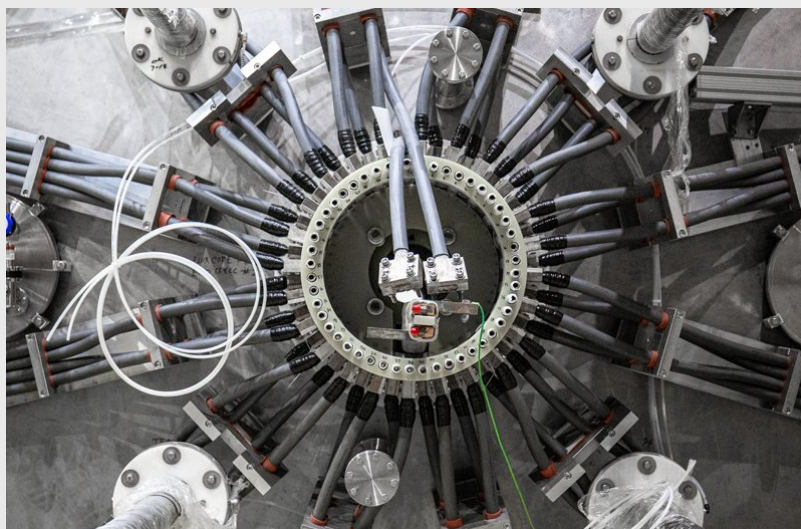


Photo by Michael Livingston/Princeton Plasma Physics Laboratory

## FLARE Brings New Power to Magnetic Reconnection Research

One of the latest tools in the quest to understand magnetic reconnection is the Facility for Laboratory Reconnection Experiment – which has the appropriate acronym of FLARE. It's a bigger, more powerful version of a groundbreaking, previous device called the Magnetic Reconnection Experiment. Read the article [here](#).

## Accelerate deployment of clean technologies at scale and pace

### Office of Clean Energy Demonstrations (OCED)

During FY 2024, OCED supported the Pathway to Commercial Liftoff reports in collaboration with offices across DOE. OCED released its first National Laboratory Call for Proposals and held a workshop to discuss 10 analysis topics. In April, OCED co-led an industrial base workshop with over 75 representatives from across DOE and national laboratories to seek input on growing national lab support for demonstrations and deployment. OCED announced \$6 billion — the largest investment in industrial decarbonization in American history — for 33 projects across 20 states to decarbonize energy-intensive industries, reduce industrial greenhouse gas emissions, support good-paying union jobs, revitalize industrial communities, and strengthen U.S. manufacturing competitiveness. [OCED announced \\$890 million in funding for three projects](#) in California, North Dakota, and Texas to demonstrate technologies designed to capture, transport, and store carbon emissions that would otherwise accelerate climate change and jeopardize public health. [OCED announced additional funding - up to \\$304 million - for four large-scale projects](#) located at power and industrial sites in Kentucky, Mississippi, Texas, and Wyoming to pilot transformational technologies designed to capture CO<sub>2</sub> emissions that would otherwise accelerate climate change and jeopardize public health. OCED announced \$7 billion for Regional Clean Hydrogen Hubs (H2Hubs) and the selection of a consortium to help accelerate commercial liftoff of the clean hydrogen economy and support the launch of the Regional H2Hubs by designing and implementing demand-side support mechanisms for unlocking the market potential of the H2Hubs. As part of the Department's new Voucher Program, OCED collaborated with OTT, FECM, and EERE to select [over 100 small businesses, organizations, and national labs to receive vouchers to accelerate clean energy technology adoption](#).

### Office of Energy Efficiency and Renewable Energy (EERE)

Through the SuperTruck 2 program, EERE partnered with truck manufacturers in the United States to develop significantly more efficient freight vehicles. All participants achieved more than 100% freight efficiency increase relative to 2009 levels, and these improvements are now being incorporated into new vehicles. The Solar Energy Technologies Office and the Wind Energy Technologies Office (WETO) established the Renewable Energy Siting through Technical Engagement and Planning (R-STEP) program to expand decision-making capacity around large-scale renewable energy planning, siting, and permitting. Round 1 of the R-STEP program awarded six state-based collaboratives to develop statewide initiatives that provide expertise, trainings, and technical resources to local governments and communities as they plan for the deployment of large-scale renewable energy projects. EERE's HFTO selected 52 IIJA-funded projects to advance electrolysis, recycling, and manufacturing, which will enable expansion

## PROGRAM PERFORMANCE (Unaudited)

of domestic manufacturing capacity to 10 gigawatts (GW)/year for electrolyzers and 14GW/year for fuel cells. EERE HFTO's support in clean hydrogen production RDD&D has helped to catalyze a 26-fold increase in planned and existing electrolyzer installations across the U.S. since 2021.

### Office of Fossil Energy and Carbon Management (FECM)

FECM initiated four pilot-scale demonstration projects at operating oil and natural gas facilities in North Dakota, Colorado, and Wyoming to validate efficient, cost-effective solutions for eliminating routine flaring of natural gas at the well site. In response to the Utilizing Significant Emissions with Innovative Technologies Act, FECM chartered two [Federal Advisory Committee Act task forces](#) focused on improving the permitting process and regional coordination to promote efficient, orderly, and responsible development of CO<sub>2</sub> capture, utilization, and sequestration projects and CO<sub>2</sub> pipelines. [FECM selected 24 semifinalists to develop detailed off take agreements for Carbon Dioxide Removal credit purchases](#). FECM selected 14 feasibility studies to assess the viability and suitability of a portfolio of DAC technologies coupled with various energy sources and CO<sub>2</sub> disposition approaches. FECM selected five FEED studies to perform detailed planning of DAC facilities and develop qualified applicants for construction and demonstration topic areas. FECM, NETL, and the U.S. Environmental Protection Agency (EPA) [announced up to \\$1.36 billion in IRA-funded financial and technical assistance](#) to improve methane emissions monitoring, detection, measurement, and quantification as well as reduce methane and other greenhouse gas emissions.

### Grid Deployment Office (GDO)

Supported by IIJA, GDO's Transmission Facilitation Program awarded three capacity contracts totaling \$1 billion. Selection of the Microgrid Public-Private Partnership (P3) and round 2 capacity contracts were announced. Supported by IIJA, the Hydroelectric Production Incentive awarded over \$36.8 million to 66 hydro facilities throughout the country. In addition, GDO announced the selection of 46 facilities to receive up to \$71.5 million in Hydroelectric Efficiency Improvement Incentives and 293 hydroelectric projects across 33 states to receive up to \$430 million in Maintaining & Enhancing Hydroelectricity Incentives.

### Office of Electricity (OE)

Lawrence Berkeley National Laboratory (LBNL) released the first version of the [Reconductoring Economic and Financial Analysis Tool](#) in June 2024 to support decision-making around transmission line upgrades, conductor selection, and resultant economic benefit to help meet electrification demands and connect lower-cost energy resources. In July 2024, OE and LBNL launched an interactive website and repository to convey an [Integrated Distribution System Planning](#) framework with links to current and emerging practices. The website provides a holistic planning approach to help state decision-makers and utilities make informed electric-distribution-grid investment decisions necessary to address grid-edge, load-growth, resilience, and decarbonization issues.

### Office of Technology Transitions (OTT)

OTT coordinated three new Pathways to Commercial Liftoff reports on Next-Generation Geothermal, Offshore Wind, and Innovative Grid Deployment, for a total of 11 reports as of the end of FY 2024. Follow-on actions across these topics led to increased public awareness of market opportunities for DOE technologies and specific actions to accelerate commercialization and scale-up of new technologies. Analytical work also started towards updating three of the original Liftoff reports on Clean Hydrogen, Advanced Nuclear, and Carbon Management. Additionally, OTT expanded implementation of the Adoption Readiness Level (ARL) framework across the Department and with external partners to inform \$30 billion in funding opportunities through IIJA and IRA. This work included ARL pilot projects with PNNL and SNL. OTT continued supporting clean energy innovation ecosystems through the Energy Program for Innovation Clusters (EPIC), awarding \$3 million to 23 incubators and accelerators nationwide. Additionally, OTT held EPIC Pitch Competitions in Washington, D.C., Minneapolis, and Anaheim to recognize startups and their incubators for groundbreaking work in carbon management, battery safety, energy efficiency, and other critical clean energy technologies, accelerating commercialization and deployment efforts.

### Office of Manufacturing and Energy Supply Chains (MESC)

MESC launched rebate programs to support the installation of energy-efficient distribution transformers and extended product systems that use equipment with electric motors. MESC also led two cross-DOE batteries and industrial technologies strategy teams, developing a holistic DOE-wide approach to align funding and activities to drive adoption of these necessary solutions to achieve the clean energy transition. MESC's Manufacturing Deployment team partnered with 12 states in Phase1 of the [State Manufacturing Leadership Program](#) to support small- and medium-sized manufacturing firms (SMMs) using and accessing smart manufacturing technologies and high-performance computing (HPC) resources. Applications for [Phase 2](#) closed in September. In September, MESC announced an additional [\\$9 million investment in the Industrial Training Assessment Center \(ITAC\) Implementation Grants program](#) to support 47 SMMs to implement a wide variety of energy and efficiency projects, bringing the total to 162 active projects and about \$26.2 million in federal support. MESC qualified 30 other assessment providers to open eligibility for their clients to also receive implementation grants.

### Federal Energy Management Program (FEMP)

In FY 2024, FEMP provided more than 30 trainings to agencies on topic areas including technology deployment and project financing. In addition, FEMP awarded \$28 million in grants to federal agencies advancing clean energy and load management strategies, supported agencies in awarding over \$480 million in performance contracts/utility service contracts advancing energy savings and clean energy, released the [Climate Smart Buildings Initiative Tool](#), coordinated with the Council on Environmental Quality to assist agencies with their building strategic plans as directed by EO 14057, and opened the first round of IIJA grant funding, advancing Net-Zero Facilities. FEMP also awarded DOE Energy Savings Performance



## PROGRAM PERFORMANCE (Unaudited)

Contracts Indefinite Delivery, Indefinite Quantity Generation 4 contracts to 20 energy services companies, bringing the award total to 446 projects, 13 of which have yet to enter the performance period, with almost \$10.9 billion in investment and over 32.9 trillion Btu in annual energy savings among active projects.

### State and Community Energy Programs (SCEP)

SCEP continued effective implementation of \$15 billion in resources across 14 programs under IIJA and IRA, expanding the deployment and utilization of clean energy technologies. Programs include the Weatherization Assistance Program (WAP); State Energy Program; Home Energy Performance-Based, Whole-House Rebates; High-Efficiency Electric Home Rebate Program; Renew America's Schools; Renew America's Nonprofits; Energy Efficiency and Conservation Block Grants; and various skills training in the areas of building codes, energy auditor, building and home efficiency training for workers and contractors. In FY 2024, over 300 people participated in the [Energy Efficiency and Conservation Block Grant \(EECBG\) Program Blueprints](#), designed to help local and Tribal governments deploy clean energy technology at scale. The program has made over 260 grants to communities across America.

### Office of Policy (OP)

OP coordinated and led efforts across the Department to provide technical expertise to the U.S. Department of the Treasury (Treasury), Internal Revenue Service (IRS), and the White House related to development of public guidance and implementation of the 24 energy-related IRA tax credits. The continued uptake of these tax credits from individuals, families, businesses, nonprofits, Tribes, cities, and states accelerate deployment and domestic manufacturing of clean energy technologies.

### Loan Programs Office (LPO)

As of September 2024, LPO built a pipeline of 211 applications seeking an estimated \$295.8 billion across dozens of clean energy and decarbonization technologies. Over the past year, LPO obligated 12 conditional commitments totaling \$11.1 billion. These conditional commitments support the deployment of critical minerals, advanced vehicles and components, solar manufacturing and storage, emissions monitoring, plastics recycling, hydrogen, nuclear repowering, and Tribal lands clean energy. On top of these conditional commitments, LPO closed three loans totaling about \$2 billion. Throughout this year, LPO shortened the timeline to access commercial debt and capital markets, mitigating risk and creating a "bridge-to-bankability" for more mature technologies and expanded financing-enabled domestic manufacturing and supply chains. Insights from LPO applications contributed to the Pathways to Commercial Liftoff efforts to inform private and public sector decision-making toward accelerated investment in clean energy technologies.

## Engage internationally to achieve global decarbonization and energy security while expanding markets for U.S. clean energy goods and services

### Arctic Energy Office (AE)

AE sponsored international cooperation on the challenges facing indigenous communities as part of the [Arctic Remote Energy Networks Academy](#) (ARENA) program, co-hosted by the United States, Canada, and Iceland. AE played a key role in instituting the U.S.-Iceland Clean Energy Partnership announced by Secretary Granholm in February 2024. AE was also instrumental in restoring U.S. government participation in the 2024 [Arctic Energy Forum](#) held in Iceland.

### Office of Energy Efficiency and Renewable Energy (EERE)

As co-lead of the [Breakthrough Agenda's Hydrogen Sector](#), EERE's HFTO provided technical input and facilitated engagements to help develop and reach agreement on a groundbreaking international declaration announced at the [28th Conference of the Parties \(COP28\) and endorsed by 38 countries](#). The declaration signals the intent for countries to collaborate on hydrogen certification issues and serves as a foundational building block to enable future international trade of clean hydrogen and its derivatives.

### National Nuclear Security Administration (NNSA)

NNSA provided significant equipment, training, and technical advice to Ukrainian partners to decrease the probability of a nuclear emergency in Ukraine and to minimize the consequences of such an event. NNSA personnel monitored radiation sensors deployed around Ukrainian nuclear facilities to ensure early warning of an emergency that might endanger public health. NNSA also enhanced the resilience of Ukraine's nuclear power plants, providing physical and cyber security support, equipment for protective and response forces, and emergency diesel generators and consumables. Additionally, NNSA provided extensive training to Ukrainian personnel on nuclear and radiological safety and security, aerial radiological measuring, countering nuclear smuggling, medical response to radiation emergencies, radiological source recovery, and consequence management.

### Office of Nuclear Energy (NE)

NE established the world's first two Clean Energy Training Centers – one in [Poland](#) and the other in [Ghana](#) – to jump-start foreign civil nuclear energy programs and deploy nuclear technology, shift nations away from coal-fired power plants, and strengthen energy security. NE also held the [second annual U.S.-Africa Nuclear Energy Summit](#), which focused on industry readiness and featured topics such as managing the nuclear supply chain, building workforce capacity, and engaging stakeholders.

## PROGRAM PERFORMANCE (Unaudited)

### Office of Electricity (OE)

OE co-hosted the [U.S.-India Energy Storage Task Force](#) virtual launch in December as well as a delegation of energy ministers and industry leaders from India to showcase cutting-edge practices and the Grid Storage Launchpad (GSL) facility in May. In July, a U.S. delegation presented DOE energy storage initiative successes to about 200 Indian energy storage stakeholders and government officials in Delhi and Pune, highlighting opportunities for U.S.-India collaboration.

### Office of Fossil Energy and Carbon Management (FECM)

FECM co-led the carbon management initiatives in the multilateral Clean Energy Ministerial and Mission Innovation and led bilateral engagements with countries that have more mature carbon management strategies and those with emerging carbon management strategies. FECM also participated in the European Union's Clean Energy Transition Partnership program. With international partners, FECM invested \$10 million from the Carbon Transport and Storage program for three new R&D projects to examine behavior of geologic faulting and geomechanical issues for gigatonne-scale storage clusters and new fiber-optic approaches for monitoring well and seal integrity. In FY 2024, the Subsurface Hydrogen Assessment, Storage, and Technology Acceleration team [culminated three years of ongoing collaboration](#) with the International Energy Agency (IEA)'s Underground Hydrogen Storage Task Group. The study established both the technical basis for using larger capacities available in other non-salt-based subsurface environments for safe, large-volume underground hydrogen storage as well as the ability to reuse parts of existing natural gas storage infrastructure.

## Catalyze clean energy solutions for job creation and economic growth, including with a robust place-based focus

### Office of Energy Efficiency and Renewable Energy (EERE)

In August, EERE announced the [2024 class of Clean Energy Innovator Fellows](#) – the largest and most diverse class to date – with 68 fellows placed at critical energy organizations around the country working to advance their hosts' clean energy solutions that help decarbonize the power system, electrify transportation and industry, and make the U.S. power system more resilient, equitable, and inclusive. The [Battery Workforce Initiative](#) convened a broad group of industry leaders and training experts in manufacturing, labor, education, and government to develop nationally accepted training guidelines to support the rapid development of a globally competitive U.S. advanced manufacturing industry. For the first time, [the Energy Skilled program recognized an equipment manufacturer for developing a curriculum to train workers for meaningful and in-demand job opportunities that align with national clean energy transition goals](#). EERE's HFTO selected 52 IJIA-funded projects to advance electrolysis, recycling and manufacturing, with facilities located in 24 states. These projects catalyze about \$850 million in recipient investment along with more than 1,500 direct jobs and thousands more indirect jobs.

### Office of Clean Energy Demonstrations (OCED)

In February, OCED announced \$366 million for 17 projects across 20 states and 30 Tribal nations and communities to lower energy costs and enhance energy security in rural and remote communities across the U.S. In March, OCED announced \$475 million for five projects in mining communities in Arizona, Kentucky, Nevada, Pennsylvania, and West Virginia to accelerate clean energy deployment. In April, OCED announced \$78 million to further drive down energy costs and enhance energy security in rural and remote communities across America, supporting 19 community-led clean energy projects across 12 states and 13 Tribal nations. OCED announced 25 Phase 1 winners and seven Phase 2 winners of the MAKE IT Prize – Strategies Track, distributing a total of \$2 million to community organizations around the country. Winners developed clean energy road maps in regions with a history of manufacturing. Fifteen teams are located in rural communities. OCED also announced 13 Phase 1 winners and three Phase 2 winners of the MAKE IT Prize – Facilities Track, which distributed a total of \$20 million to companies that demonstrated they are “shovel-ready” to build a manufacturing facility addressing a critical clean energy supply chain component related to clean hydrogen, electric grid upgrades, and long-duration energy storage. OCED launched in the Solutions for Lasting, Viable Energy Infrastructure Technologies (SOLVE IT) Prize in January and the first 28 Phase 1 winners in May. Winners included eight teams involved with Tribal communities.

### Office of Fossil Energy and Carbon Management (FECM)

FECM successfully established a [Regional Initiative for Technical Assistance Partnerships](#) program and selected nine projects to accelerate the safe, equitable, and environmentally responsible development of geologic carbon storage facilities associated with CCS projects, DAC, and hydrogen production hubs. FECM announced over \$2 million in federal funding for 22 local governments, nonprofit organizations, and universities to create a roadmap towards repurposing existing energy assets, especially in communities historically supported by coal, oil, and/or natural gas infrastructure. FECM funded the Interagency Working Group (IWG) on Coal and Power Plant Communities and Economic Revitalization (Energy Communities IWG), which hosted 40 in-person and virtual workshops to reduce funding barriers and understand the unique challenges facing energy communities. The Energy Communities IWG helped to launch an [Energy Communities AmeriCorps program](#) to help in adding capacity to support communities and workers. This initiative invested nearly \$8 million from federal agencies and philanthropic sources to support community-centered activities to revitalize low-capacity energy communities. The Energy Communities IWG also created a [Pennsylvania Rapid Response Team](#) (RRT), joining existing RRTs in eastern Kentucky, Appalachian Ohio, Wyoming, the Four Corners region, and the Illinois Coal Basin. RRTs held virtual and in-person meetings with energy communities that experienced recent or approaching fossil fuel facility closure. RRT members worked with community members to identify economic transformation and revitalization goals, determine ways to pursue those goals, and connect to programs across the

## PROGRAM PERFORMANCE (Unaudited)

federal family and up and down levels of government. The IWG helped foster economic diversification by identifying opportunities to improve waterway freight use and economic development in the Ohio, Allegheny, and Monongahela River Corridor.

### Office of Electricity (OE)

Twelve undergraduates and one graduate from historically underrepresented groups in Science, Technology, Engineering, and Mathematics (STEM) embarked on an OE-funded pathway to battery innovation and leadership as the first student cohort of the [Broadening Accessibility & Training to Emerging Researchers for Innovative Energy Storage](#) (BATTERIES) program, a research partnership between LLNL and three California MSIs. Funded through the DOE Reaching a New Energy Sciences Workforce (RENEW) initiative, BATTERIES develops next-generation materials for lithium-sulfur batteries while also fostering inclusive student recruitment.

### Grid Deployment Office (GDO)

Through an IJA investment, GDO announced the [signing of the Civil Nuclear Credit \(CNC\) Program](#), credit award and payment agreement with Pacific Gas and Electric Company. GDO finalized terms for up to \$1.1 billion in credit payments via the CNC Program for the Diablo Canyon Power Plant, located near Avila Beach, California. Units 1 and 2 at the Diablo Canyon Power Plant, which provides 2.2 GW of clean firm generating capacity and supplies 9% of the total California power generation, were previously scheduled to retire in 2024 and 2025. Through an IRA investment, GDO [selected 20 projects across 16 states as part of the Transmission Siting and Economic Development Grant Program to receive up to \\$371 million](#) to accelerate the permitting of high-voltage, interstate transmission projects and support community infrastructure projects along major new and upgraded transmission lines.

### Office of Manufacturing and Energy Supply Chains (MESC)

The MESC Battery Manufacturing team helped establish the initial DOE template for funding opportunity announcements with strong language supporting the administration's Build America Buy America; Workforce and Jobs; Diversity, Equity, Inclusion, and Accessibility (DEIA); and Justice40 priorities. MESC successfully launched \$2 billion in IRA funding for Domestic Manufacturing Conversion Grants for electric vehicles (EV) to provide cost-shared grants supporting the transition of existing vehicle and component manufacturing plants to produce electric drive vehicles and components. MESC also developed a draft playbook to help smaller auto parts manufacturers navigate the EV and clean energy transition.

MESC guided collaboration with the Treasury and IRS to implement the \$10 billion Qualifying Advanced Energy Project Credit (48C) Program. In April 2024, DOE and IRS announced the first allocation round of the § 48C(e) program, which committed \$4 billion of § 48C tax credits, \$1.5 billion of which were allocated to projects located in designated energy communities. Round 2 opened in May 2024. In FY 2024, MESC selected projects totaling \$350 million through the Advanced Energy Manufacturing and Recycling Grant Program for SMMs to produce or recycle advanced energy property — property used to support clean energy supply chains — in communities where coal mines or coal power plants have closed.

### State and Community Energy Programs (SCEP)

The Building Training and Assessment Centers (BTAC) Program awarded \$9 million in grants to institutions of higher education to establish 10 BTACs that prepare a diverse and equitable workforce. These BTACs educate and train students and building performance professionals to deploy modern, energy efficient, building technologies to small businesses and K-12 schools. FY 2024 appropriations from WAP provided approximately 25,000 homes with weatherization services and 8,500 jobs, resulting in benefits to low-income households and local communities. The EECBG Competitive program completed negotiations with 12 communities selected for \$8.8 million in funding to support both energy planning and implementation across a wide variety of eligible uses. The Training for Residential Energy Contractors Program completed negotiations with 36 state energy offices for \$79.7 million so state energy offices can train, test, and certify residential energy efficiency and electrification contractors to make homes healthier and more energy efficient. The Renew America's Schools Program invested \$372.5 million in public school districts across America, supporting capacity-building initiatives for energy management at over two dozen local educational agencies, and funding improvement projects at approximately 410 facilities across 36 states. The Renew America's Nonprofits Program provided nine nonprofit organizations with \$45 million in awards to deliver energy improvements in approximately 300 nonprofit buildings across the country, including 28 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands.

### Office of Nuclear Energy (NE)

NE conducted a technical study and [developed an information guide](#) for communities considering replacing their retired or retiring coal power plants with nuclear power plants. NE found that transitioning from a coal to nuclear plant would create additional higher paying jobs, hundreds of additional jobs locally, and spur millions of dollars in increased revenues and economic activity in the host community. NE also evaluated all 54 operating and 11 recently retired nuclear power plant sites in the United States and found 41 sites have room to host additional reactors, representing between 60 and 95 GWs of new capacity.

### National Nuclear Security Administration (NNSA)

In FY 2024, LANL collaborated on energy transition issues with DOE fuel-cell consortia, New Mexico, states in the Intermountain West, local municipalities, and the Western Interstate Hydrogen Hub. Additionally, the Laboratory led the six-state [I-WEST collaborative](#) to partner with communities in mapping a path to a zero-carbon future with regional prosperity and energy jobs.



## PROGRAM PERFORMANCE (Unaudited)

### Office of Policy (OP)

OP's Office of Energy Jobs released the [2024 U.S. Energy and Employment Report](#) (USEER), a comprehensive summary of national, state, and county-level energy jobs, reporting by industry, technology, and region with data on unionization rates, demographics, and employer perspectives on growth and hiring. USEER's findings were used to create quantitative workforce strategies in energy policy and technology liftoffs across many stakeholders, including federal and state government, energy industry, and labor groups. The Office of Energy Jobs initiated the [Community Workforce Readiness Accelerator for Major Projects](#) initiative to catalyze effective, inclusive workforce strategies to prepare and connect local workers to good jobs on large clean energy infrastructure and supply chain projects funded by the Invest in America suite of laws. The Office of Energy Jobs implemented the [Battery Workforce Initiative](#), in coordination with the Department of Labor (DOL), to ensure the enlarged scale of deployment and domestic manufacturing of key clean energy technologies would be supported by a productive, skilled, and valued workforce. The Office of Energy Jobs assisted in the centralization of [Davis-Bacon Compliance monitoring](#) through the centralization of reporting through LCPTTracker to track wages and other required metrics for reporting from funding recipients. OP facilitated multi-stakeholder partnerships to identify skills and training needs based on evolving industry needs and technology requirements.

### Loan Programs Office (LPO)

LPO FY 2024 loans will catalyze an estimated 10,000 jobs. In particular, the first loans from the Energy Infrastructure Reinvestment (EIR) Program will support a place-based focus on repowering energy infrastructure in communities where jobs have departed, supporting economic growth. LPO worked extensively on the new, Department-wide Community Benefits Plans (CBP) initiative in order to ensure LPO funds are supporting sustainable jobs that pay a living wage.

### Arctic Energy Office (AE)

AE invested in the [Renewable Energy Alaska Project People in Power initiative](#), supporting capacity and training needs at low and moderately performing rural, small, independent electric utilities. This work developed sustainable frameworks to deliver training resources customized to local community needs. AE issued seed funds to the National Renewable Energy Laboratory (NREL) and the University of Alaska Fairbanks to test equipment and document best practices for optimizing larger DOE investments in solar photovoltaics and heat pump deployments.

# Strengthen the Nation's Energy Security, Resiliency, Affordability, and Reliability

## PARTICIPATING PROGRAMS

- Cybersecurity, Energy Security, and Emergency Response
- Electricity
- Energy Efficiency and Renewable Energy
- Fossil Energy and Carbon Management
- Grid Deployment
- Manufacturing and Energy Supply Chains
- National Nuclear Security Administration
- Nuclear Energy
- Policy

The U.S. energy system faces an unprecedented and evolving threat landscape. Energy infrastructure and the digital supply chain are a key target for cyber compromise. Communities nationwide are experiencing the impacts of a changing climate and increasing natural hazards, such as wildfires and hurricanes. Pandemics and other biological threats, cyberattacks, climate shocks and extreme weather events, physical attacks, geopolitical and economic competition, and other conditions can reduce critical manufacturing capacity and the availability and integrity of critical goods, products, and services. The Biden administration has taken swift and extensive action to manage these rising and dynamic threats. DOE will harden infrastructure through technical assistance and grant programs, advance cybersecurity research, enhance threat modeling and detection capabilities, test the cybersecurity of products and technologies intended for use in the energy sector, and increase supply chain resilience. Examples of FY 2024 program accomplishments in these areas include:

### Develop and deploy innovative solutions to harden energy infrastructure against physical threats including climate change

#### Office of Cybersecurity, Energy Security, and Emergency Response (CESER)

In FY 2024, CESER developed cyber technical assistance capabilities to address the complexities of cyber incident response to operational technology deployed across the energy sector. The capability is designed to complement federal interagency partners, focused on providing unique tools and subject matter expertise for the energy sector. FY 2024 developments to EAGLE-I™, DOE's situational awareness platform, now provide near real-time situational awareness across the energy sector, included integrated remote-sensing situational awareness and energy infrastructure damage assessments from unmanned aerial systems, updated data processing hardware, and continued refinement of interdependency modeling of impacts across lifeline sectors. CESER provided resources for states to use in the development and strengthening of their State Energy Security Plans, including "[Risk Assessment Essentials for State Energy Security Plans](#)," and Risk Mitigation Approach Guidebook for States. As the Sector Risk Management Agency for the Energy Sector, CESER started work in support of [National Security Memorandum 22 \(NSM\) – Critical Infrastructure Security and Resilience](#), noting that the deliverables for this NSM will be completed in FY 2025 (per NSM deadlines). In FY 2024, to support the FY 2025 products, CESER held five sessions with stakeholders to gain insights directly from industry subject matter experts on climate, workforce resilience, supply chain availability, wildfires, and emerging technologies, with each session attended by over 50 subject matter experts from across the energy sector. In FY 2024, CESER also published an [assessment on the Risks and Benefits of using Artificial Intelligence \(AI\) in the Energy Sector](#) as a response to requirements within [EO 14110 - Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence](#).

CESER's Office of Petroleum Reserves sold nearly 1 million barrels in the Northeast Gasoline Supply Reserve (NGSR) to commercial entities and fully divested the government of gasoline product reserve, with \$98 million in revenue from the sale deposited in the Treasury. Additionally, nearly 50 million barrels of oil for the Strategic Petroleum Reserve (SPR) were purchased at a record low average of under \$77.

#### Office of Electricity (OE)

As part of work to address power transformer vulnerabilities to seismic events, INL completed large-scale simulation data collection, mitigation design requirements, conceptual design, and pre-prototype construction and testing to enable the upcoming shake table test with a full-scale power transformer. Sentinel FD3, developed by Delphire Inc. under an OE Phase II SBIR award, was highlighted in [PG&E's Near-Term, Risk-Informed Wildfire Mitigation Strategies Guidebook for Utilities](#) for preventing wildfire damage by providing electrical utilities and communities with a real-time, AI-based detection system to report fires in their earliest stages and providing ongoing monitoring of the area to identify key risk factors that can be mitigated for future prevention. In FY 2024, OE's [North American Energy Resilience Model](#) ran a contingency analysis to identify weak parts of the natural gas system in response to a request by the North American Electric Reliability Corporation (NERC) to identify single points of failure associated with natural gas. A natural gas and electricity infrastructure co-simulation identified potential electric power system impacts from the vulnerabilities. The results allowed NERC members and stakeholders to start taking corrective actions to mitigate potential outages based on system vulnerabilities.

#### Grid Deployment Office (GDO)

In FY 2024, GDO announced [additional selections under the second funding opportunity of a \\$2.2 billion investment](#) in the nation's grid for eight projects across 18 states through the IJA-authorized Grid Resilience and Innovation Partnerships Program. The FY 2024 [Grid Resilience State and Tribal Formula Grant Administrative and Legal Requirements Document](#) provided an additional \$562 million to states, Tribes, and territories as part

## PROGRAM PERFORMANCE (Unaudited)

of the IJIA-authorized Grid Resilience State and Tribal Formula Grants program. Through FY 2024, this program funded 311 state, territory, and Tribal entities with awards totaling approximately \$1.29 billion. Investments through Grid Resilience authorizations protect against growing threats of extreme weather events, lower costs for communities, and catalyze additional grid capacity.

### Office of Fossil Energy and Carbon Management (FECM)

As part of the Undocumented Orphan Wells Program, FECM, at the request of the White House and Department of the Interior (DOI), worked on developing techniques for a defensible, cost-effective, easy-to-use means to estimate methane flow rate from orphaned wells through Gaussian plume models.

### Office of Manufacturing and Energy Supply Chains (MESC)

MESC chaired the Federal Consortium for Advanced Batteries, fostering strategic alignment across 18 agencies and over 100 offices to accelerate a domestic battery materials and technology supply chain serving commercial and military applications. MESC collaborated with the Departments of Commerce, Defense, and State to assess the current domestic and international supply chain landscape, engaged with key industry stakeholders, and supported key U.S. government policy initiatives to protect, enhance, and grow domestic development and production of Li battery technologies with a robust battery supply chain. In collaboration with EERE, MESC co-led the Li-Bridge Alliance, supporting a resilient U.S. high-capacity battery supply chain by engaging over 600 companies across the battery ecosystem through three U.S.-based trade associations.

## Advance adoption of solutions to prevent and respond to cyber vulnerabilities and incidents

### Office of Cybersecurity, Energy Security, and Emergency Response (CESER)

In FY 2024, CESER concluded the pilot of the [Energy Threat Analysis Center](#) (ETAC) to become an enduring CESER capability. ETAC published several independent advisories, chief among them the Mitigation Checklist and a Hunt Guide for mitigating and detecting Volt Typhoon intrusions in energy systems, a Chinese-affiliated cyber actor. ETAC also contributed to numerous government reports by providing energy sector-specific insight and expertise concerning specialized Industrial Control System technologies. ETAC collaborated with industry to provide better insight into risks facing the energy sector and simultaneously establish a more effective information feedback loop between government and industry to mitigate cyber risks. CESER established six university-based electric power cybersecurity centers to foster collaboration, research, and education, addressing critical cybersecurity gaps in the energy sector. Additionally, CESER released a set of cybersecurity baselines for electric distribution systems and distributed energy resources, developed in partnership with the National Association of Regulatory Utility Commissioners and energy sector stakeholders. CESER hosted a state Risk Cohort for a one-day intensive workshop to enhance state risk assessment and mitigation capabilities. Workshop participants joined in a cyber and physical security game, immersing themselves in a fictional scenario, role-playing as an adversary attempting to attack critical energy infrastructure, then switching roles to play a grid defender.

### Office of Electricity (OE)

OE selected [Southern Company Services to lead a \\$2.4 million project](#) focusing on the RD&D of advanced distribution communication and control technologies to enhance security of the electric distribution system. OE organized and led the Orchestrating the Modern Energy Sector track at the [DOE Cybersecurity and Technology Innovation Conference](#) in Dallas, Texas. The track explored best practices for protecting energy grid information and data as well as the role of government and industry in ensuring energy grid security.

### Office of Energy Efficiency and Renewable Energy (EERE)

The Advanced Materials and Manufacturing Technologies Office, in collaboration with the Cybersecurity Manufacturing Innovation Institute, announced the selection of 10 projects with a combined total of \$4.8 million in research and development funding to enhance the cybersecurity landscape within American manufacturing.

## Secure the supply chain for a robust clean energy transition

### Office of Manufacturing and Energy Supply Chains (MESC)

In September 2024, MESC [announced \\$3.2 billion for 25 selected projects across 14 states](#) to boost domestic production of advanced batteries and battery materials nationwide. The selections continue to build a domestic supply chain and look to address existing and future supply chain challenges, including through recycling of critical materials. MESC also announced [\\$14 million to increase consumer battery recycling and create a more sustainable domestic battery supply chain](#) by providing over 1,000 collection points across the country for spent batteries from consumer products, allowing consumers easy and free access to turn in old batteries and battery-containing devices and reduce e-waste. With continued support from OTT, MESC's Modeling, Mapping, and Analysis Consortium leveraged manufacturing and supply chain expertise across Argonne National Laboratory (ANL), INEL, and NREL to develop deep mapping tools. In June, the Consortium convened industry leaders through the Industrial Supply Chain Analysis Network to preview and react to national lab analytical activities and insights, including the new Supply Chain Readiness Level metric.



## PROGRAM PERFORMANCE (Unaudited)

### Office of Cybersecurity, Energy Security, and Emergency Response (CESER)

The Cyber Testing for Resilient Industrial Control Systems (CyTRICS™) collaborated with Westinghouse Electric Company to identify and mitigate potential cybersecurity vulnerabilities in their nuclear power plant instrumentation and control systems. CESER released numerous documents to educate and inform the energy sector, industry, and government entities regarding supply chain cybersecurity, to include new [Supply Chain Cybersecurity Principles](#), which provided a framework for manufacturers and end users to strengthen the security of energy infrastructure technologies. Additionally, CESER released open-source tooling to enable asset owners to apply Cyber Informed Engineering (CIE) to microgrids and developed a curriculum guide and supporting materials to help universities integrate CIE into their engineering programs. CESER hosted a dynamic [Energy Transition Summit](#) with a diverse audience of more than 400 participants, including industry, government, academia, and state, local, Tribal, and territorial partners, who learned about opportunities to engage with DOE-led efforts to modernize the future power grid and enable a more resilient, secure, and equitable energy transition. In FY 2024, the Clean Energy Cybersecurity Accelerator™ program, supported by CESER and NREL, published a report focused on the efficacy of a tool intended to help thwart cyber incidents against the energy sector.

### Office of Electricity (OE)

In August, OE documented how multiple non-lithium technologies could achieve low-cost long duration storage in the [Achieving the Promise of Low-Cost Long Duration Energy Storage report](#). The report summarizes a series of [Long Duration Storage Shot Technology Strategy Assessments](#) that describe how discrete R&D investments contribute to specific technology performance improvements and cost reductions. These findings have since been cited by media, [industry stakeholders](#), and the [IEA](#). The assessments were also used as a contributing basis for funding opportunities across multiple DOE offices. In addition, NREL produced the [Distribution Transformer Needs study](#) to help inform near-term and long-term actions and investments to increase U.S. production capacity of distribution transformers to mitigate supply chain challenges for this critical grid equipment. OE also facilitated discussions with utility members and manufacturers to develop options to promote greater standardization and interchangeability of distribution transformers.

### Office of Energy Efficiency and Renewable Energy (EERE)

EERE's Geothermal Technologies Office (GTO), in collaboration with LBNL, conducted the nation's first ever characterization and quantification of lithium resources from geothermal brines in the Salton Sea area of Southern California. EERE's Vehicles Technologies Office (VTO) supports R&D for next-generation battery technology that would create a robust set of battery chemistries and allow flexibility to market dynamics. Battery R&D focused on reducing or eliminating nickel, cobalt, graphite, and lithium where possible. Through IJJA, HFTO launched the "Circular Recycling for the H2 Economy (H2CIRC)" consortium of national laboratories and industry, which helps advance electrolyzer and fuel cell domestic recovery and recycling capabilities.

### Office of Nuclear Energy (NE)

In November, the American Centrifuge Project [produced the nation's first high-assay low-enriched uranium \(HALEU\)](#), and has produced close to 300 kilograms as of September 2024. The HALEU produced through this effort will be used to help fuel the initial cores of two demonstration reactors awarded under DOE's Advanced Reactor Demonstration Program. INL produced commercial-grade HALEU fuel pellets to support testing of General Electric's accident-tolerant fuel concept and demonstrate the lab's unique ability to provide customized fuel for industry and government partners. Two Accident Tolerant Fuel Program supported projects produced new fuels to boost performance and safety of nuclear plants in FY 2024. ANL researchers [modeled and evaluated](#) nuclear-driven synthetic jet and diesel fuels production via the Fischer-Tropsch process in the scale of 100-1,000 MW electric.

## Support an effective emergency response capability in the federal government for responding to critical energy events

### Office of Cybersecurity, Energy Security, and Emergency Response (CESER)

CESER managed the Sector Risk Management Agency role and Emergency Support Function (ESF) #12 deployments for National Special Security Events (NSSE), Special Event Assessment Rating, and activations by the Department of Homeland Security incidents impacting energy systems. The ESF #12 team activated for a total of 124 days and responded to 15 national disasters and NSSEs in FY 2024 and provided restoration support and planning for the post-emergency devastation related to the 2023 Maui Fires and Typhoon Mawar. Additionally, CESER performed and successfully completed the Regional Expansion pilot with full-time federal staff located in each Federal Emergency Management Agency region and developed critical partnerships with the American Samoa, Guam, and Hawaii. CESER conducted emergency responder recruitment and training across the DOE enterprise, adding 30 new trained responders, resulting in a total of 130 ESF #12 trained members. CESER conducted five in-person refresher trainings, developed and implemented Personnel Qualification Standards and hands-on Mentor/Mentee training program, and led or supported over 40 preparedness exercises spanning multiple hazards and threat scenarios. CESER held the 11th and 12th iterations of its [Clear Path Exercise Series](#), which focused on boosting energy resilience, cross-sector interdependence, and impacts from cyberattacks and natural hazards in Hawaii and Michigan. CESER also hosted over 250 participants from utilities, the national guard, national labs, and federal personnel for the [Liberty Eclipse Full-Scale Exercise](#).

## PROGRAM PERFORMANCE (Unaudited)

### **National Nuclear Security Administration (NNSA)**

NNSA coordinated the Department's comprehensive and integrated approach to all-hazards emergency management and continuity of operations. NNSA provided real-time, dynamic situational awareness on a daily basis that included critical energy event data for the Department. In FY 2024, this included support for CESER in monitoring and responding to domestic energy events.

### **Implement consolidated interim storage for the Nation's nuclear waste**

#### **Office of Nuclear Energy (NE)**

The Association of American Railroads [certified the Atlas railcar system to operate on all major freight railroads](#) in the United States. Atlas is one of two railcars NE is developing to transport spent nuclear fuel. Fabrication efforts are now underway on the 8-axle Fortis railcar that will be used to handle lighter loads once in operation. In addition, NE reached Critical Decision-0 for the Federal Consolidated Interim Storage Facility (CISF) project in FY 2024.

## Advance Science Discovery and National Laboratory Innovation

PARTICIPATING PROGRAMS	
<ul style="list-style-type: none"> <li>Electricity</li> <li>Fossil Energy and Carbon Management</li> <li>Manufacturing and Energy Supply Chains</li> </ul>	<ul style="list-style-type: none"> <li>National Nuclear Security Administration</li> <li>Nuclear Energy</li> <li>Science</li> <li>Technology Transitions</li> </ul>

Leadership in science and innovation is critical to America's security and prosperity. DOE will advance the Nation's preeminence in scientific discovery and technology innovation through support for cutting-edge basic research, global leadership in emerging technology areas, and partnership with the private sector and partner countries to transition new discoveries to deployable technologies in fields of strategic importance. Examples of FY 2024 program accomplishments in these areas include:

### Advance basic scientific understanding and identify new methods and tools to further discovery

#### Office of Science (SC)

An international team led by LBNL set the stage to expand the periodic table of elements. Using a particle accelerator with beams of titanium ions and a radioactive plutonium target, the researchers produced isotopes of the element livermorium (Lv), which has 116 protons, in only 22 days. This rate suggested the beginning of a new chapter of superheavy element production and research, putting element 120, the first element placed in row 8 of the periodic table, within reach. A collaboration between DOE scientific user facilities led to the development of a software toolkit for AI-driven autonomous high-resolution scanning microscopy that demonstrated a 70% reduction in the data and dose required to yield a representative scanning X-ray microscopy image. The new toolkit, which incorporates AI and edge computing at the beamline, gives users the ability to make smarter scans focused on areas of interest in a sample, mitigating future expected challenges. In 2024, SC completed the underground caverns for the Deep Underground Neutrino Experiment (DUNE) in Lead, South Dakota, at the Sanford Underground Research Facility. Over 800,000 tons of rock were excavated and moved from underground to create space for the giant DUNE detectors that will add unmatched capabilities to deliver scientific discoveries. Finally, SC completed the Exascale Computing Project on time and under budget after delivering on all of the Department's promises and meeting or exceeding all technical milestones.

#### National Nuclear Security Administration (NNSA)

In FY 2024, NNSA's Inertial Confinement Fusion (ICF) program thrice achieved a chain reaction fusion burn in the laboratory that generated more energy than delivered to it (referred to as ignition), including the current record output of 5.2 megajoules. Ignition at the National Ignition Facility (NIF) provides access to extreme regimes of physics previously inaccessible through other techniques, enabling both new scientific understanding and novel science-based stockpile stewardship applications. Three weapon survivability experiments using ignition-class sources were performed and met their objectives successfully. In FY 2024, the Z Facility at SNL increased the amount of tritium it was authorized to use in experiments and subsequently set three consecutive records for neutron yields. Increased neutron yields and doping deuterium fuel with krypton have enabled novel diagnostic techniques that greatly improve researchers' ability to study and measure the burning plasma. This achievement advances the understanding of stagnation in ICF target implosions using magnetic direct drive, and new measurements will improve the design of Magnetized Liner Inertial Fusion targets. NNSA also advanced basic science in the field of energetic materials by funding projects focused on new energetic materials and pushing the fundamental/essential elements of material characteristics and processing technologies. Examples of these projects include development of new energetic materials that improve performance and increase safety characteristics, increase predictive modeling tools for the synthesis and formulation of insensitive high explosives, increase in situ monitoring to improve process capability, and develop technology capturing the fundamentals of detonator initiation to accurately determine margins of performance.

#### Office of Nuclear Energy (NE)

Research funded through the Advanced Sensors and Instrumentation program demonstrated gallium nitride semiconductors can successfully withstand the harsh environment near a nuclear reactor core. The discovery may make it possible to place electronic components closer to sensors in an operating reactor, leading to more precise and accurate measurements and more compact designs. These findings could lead to the use of wireless sensors within nuclear reactors, including advanced small modular and microreactor designs currently under development.



**Lead globally in key innovation and national security areas including clean energy technologies, artificial intelligence, quantum information sciences, microelectronics, advanced computing, particle accelerator technologies, and next generation biology and biosecurity**

**Office of Science (SC)**

The Advanced Photon Source (APS) Upgrade project completed installation of the upgraded electron storage ring and achieved first light in June 2024, delivering X-rays to the resonant inelastic X-ray scattering beamline, one of multiple beamlines upgraded as part of the project. This milestone follows a near yearlong installation and commissioning of the new storage ring. Following this milestone, APS resumed its user program, giving the scientific community its first opportunities to use the world's brightest hard X-ray light source for scientific discovery.

A hybrid chemical-biological approach was used to upcycle mixed plastic waste with reduced cost and carbon footprint. Depolymerization of mixed plastic types into one biodegradable type was demonstrated in a joint effort by the Joint BioEnergy Institute and the Advanced Biofuels Process Demonstration Unit. Doppler lidar data from five ARM user facility sites in Oklahoma were used to study rapid changes in wind speed, known as ramp events, leading to improved prediction of wind energy production. A newly developed process by Oak Ridge National Laboratory (ORNL) isotope research scientists transforms large, irregular chunks of metal elements into uniform spherical particles that act like tiny ball bearings rolling past one another. This allows solid metals to be handled like liquids. Additive manufacturing, or 3D printing, can fuse particles that flow like liquid into complex shapes that are hard to machine, forge, or assemble from sheets, rods, or ingots of material. The ability to convert pieces of almost any metallic element or alloy into a spherical powder that flows and can be pumped like a liquid or propelled by a gas opens new realms of possibilities for a variety of applications in isotopes and other fields.

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*“Artificial intelligence can help crack the code on our toughest challenges from combating the climate crisis to uncovering cures for cancer.”*

— DOE Secretary  
Jennifer M. Granholm

*“DOE Announces New Actions to Enhance America's Global Leadership in Artificial Intelligence”*

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The Department's Exascale capabilities, combined with the Department's other scientific user facilities, enabled novel uses and enhanced capabilities. ORNL researchers developed a scalable transformer neural network that used the Lab's Frontier exascale supercomputer to guide the real-time steering of neutron diffraction experiments at the Spallation Neutron Source. The technique reduced the over-counting beam time by around 30%, while achieving similar data quality. The ability to synchronize neutron diffraction experiments, data analysis, and the steering of experiments demonstrated the outstanding scalability of the transformer-based approach. These results also showcased the Integrated Research Infrastructure concept of seamlessly combining multiple scientific user facilities to accelerate scientific discovery and innovation.

**National Nuclear Security Administration (NNSA)**

In FY 2024, the Los Alamos Neutron Science Center conducted experiments to prepare for proton radiography plutonium experiments. The capability to conduct explosively driven dynamic plutonium experiments is critical to ensure high explosives and energetic materials of the stockpile will function as designed for stockpile certification. The Advanced Diagnostics program completed studies on future detectors and imaging technology for light source experiments, multi-modal radiography, neutron imaging with a dense plasma focus, and thermochemical measurement suite for dynamic experiments. In the Enhanced Capabilities for Subcritical Experiments portfolio, the Scorpius linear induction accelerator completed component testing of the injector, started assembly of the accelerator inductive voltage adder cells, the solid-state pulsed power units, and the Integrated Test Stand. Additionally, the Z-Pinch Experimental Underground System reactivity diagnostic was tested and is ready for installation underground. Well-diagnosed subcritical experiments are the most integrated weapons experiments available in the stockpile stewardship era and are critical to certification and assessment of current and future stockpile systems.

In FY 2024, the Advanced Simulation and Computing (ASC) program deployed [NNSA's first exascale system, named El Capitan, at LLNL](#). The system will operate at more than 2 exaFLOP/S (floating-point operations per second) of peak performance, and support the design, analysis, and understanding of nuclear weapon systems and processes for the nation's stockpile stewardship mission. ASC continued funding its Advanced Memory Technologies program for co-design partnerships between the NNSA national laboratories and leading U.S. vendors with the goal of developing future generations of computer systems that will deliver more than 40 times the application performance over what is currently achieved. Physicists from SNL explored potential applications of a quantum computer in high-energy-density science. They were met with groundbreaking success when they produced a quantum algorithm to calculate electronic stopping powers in extreme conditions, an area of study with relevance to nuclear physics. NNSA laboratory researchers completed the first ASC milestones, demonstrating the ability to train machine learning models on stockpile stewardship relevant data, helping to ensure ASC's prototype AI software environments are functional for larger projects in the future. ASC also designed and developed, with industry partners, neuromorphic chips that achieved a factor of two improvement in calculation speed and a 100-fold improvement in energy efficiency compared to commercial graphical processing units.

### Office of Fossil Energy and Carbon Management (FECM)

FECM's Energy Data eXchange® (EDX) is the first office-wide platform to curate federally funded R&D data products; connect researchers to advanced computational capabilities; and enable next-generation, AI data-driven technology innovation. Throughout 2024, the EDX platform expanded available tools such as the Carbon Storage Planning Inquiry Tool and Carbon Storage Site Mapping Inquiry Tool. EDX published data sets in FY 2024 such as the [Catalog of U.S. Prospective Subsurface Storage Reservoir Sealing Formation](#). NETL researchers drove next-generation computing using Wafer-Scale Engine innovations for Scientific Computing. Furthermore, a new NETL-patented catalyst outperformed others and achieved unprecedented kilogram-scale hydrogen production through catalytic methane pyrolysis, a natural gas conversion process. NETL published two models estimating the costs of building new pure hydrogen pipelines or reusing existing natural gas pipelines for transporting natural gas-hydrogen blends. FECM publicly released the National Energy Water Treatment and Speciation Database and the Constituent Data Replacement Tool, which enhance prediction accuracy for critical material recovery from fossil energy waste waters. NETL then worked with universities to improve these tools through AI and machine learning. FECM and U.S. Geological Survey also launched the Microbial DNA Database to catalog DNA sequences linked to metadata and geochemistry, which can reduce the required time to acquire and compile data for synthetic biology, bioremediation strategies, and other biotechnology solutions. FECM kicked off studies to investigate international to U.S. CO<sub>2</sub> shipping feasibility and applied research to further understanding the impacts CO<sub>2</sub> impurities may have on material selection, fluid flow, and overall transportation infrastructure design and operations.

### Office of Electricity (OE)

[OE joined PNNL in opening the 93,000-square-foot GSL in FY 2024](#). GSL supports OE's efforts to develop grid-scale energy storage technology by enabling testing and validation of next-generation materials and systems under realistic grid operating conditions. OE funded a project and conducted workshops with EERE, national laboratories, academia, and domestic and international industries to identify the gaps and deficiencies of the Electromagnetic Transient Simulator (developed in the 1960s) in order to develop future-focused road maps and guidelines for research communities, national labs, and industry.

## Commercialize innovations to improve the lives of Americans and the world

### Office of Technology Transitions (OTT)

OTT established a partnership with the National Academy of Inventors (NAI) in April 2024 to recognize and encourage inventors and provide training and mentorship resources to bolster their role within the innovation ecosystem. Through this partnership, OTT established the OTT-NAI Innovator of the Year award aimed at recognizing and highlighting the achievements and invaluable contributions of DOE lab researchers. OTT presented the inaugural award to [Dr. Jason Zhang](#) from PNNL for his leadership in battery technology and manufacturing. In FY 2024, OTT continued the technology-specific partnership projects in the OTT-led TCF Base Core Laboratory Infrastructure for Market Readiness lab call, focusing on moving specific lab-developed technologies to market. TCF Base funded 41 projects with contributions from 14 program/technical offices - an increase of 16 projects and seven additional offices since FY 2023. Additionally, nine projects spanning 17 national labs and sites were selected to improve internal lab processes for commercialization, pilot new technology transfer programs, and develop new methods to bring in new external partnerships. OTT expanded the Energy I-Corps (EIC) funding opportunity to support the next step in commercializing DOE technologies that have gone through either an EIC training cohort or the National Science Foundation (NSF)'s national I-Corps™ program. Through IRA TCF, OTT, in collaboration with OCED and with support from the Industrial Efficiency and Decarbonization Office and MESC, announced the Collaborative Alignment for Critical Technology Industries Industrial Decarbonization Lab Call. This call boosts collaboration, addresses challenges that result when similar industrial decarbonization strategies are worked on in isolation, and promotes best practices in three sectors: chemicals and refining, concrete and cement, and metals.

### Office of Science (SC)

The DOE Isotope Program and QSA Global Inc. announced a joint product development agreement to initiate domestic production of iridium-192 (Ir-192), a critical isotope for industrial gamma ray radiography, to mitigate U.S. dependence on foreign sources. Industrial gamma radiography plays a crucial role in ensuring quality manufacturing processes, particularly in sectors such as shipbuilding, auto manufacturing, and aerospace. In November 2023, SC implemented a new SBIR [partnering website](#) to assist applicants and awardees find partners for technology development and commercialization. Over 400 small business and 300 partners signed up within the first nine months.

### Office of Electricity (OE)

Through the EERE Lab Embedded Entrepreneurship Program (LEEP), OE supported two startups: EarthEn to commercialize a thermo-mechanical sCO<sub>2</sub> Long Duration Energy Storage system at ORNL's Innovation Crossroads, and Mana Battery to advance validation of a transformative sodium-ion cell platform at the NREL's West Gate. A Sandia team created new polymer-based structures that overcome previous shortcomings of lifetime durability and round-trip efficiency of toxic perfluorinated aliphatic substances (PFAS) membranes. The result is a lower-cost, environmentally friendly membrane architecture that could advance long-duration zinc hybrid and aqueous flow battery chemistries. Of the three U.S. patents issued based on this work, one has already been selected for a license by a cell component company.

### Office of Fossil Energy and Carbon Management (FECM)

FECM and NETL approved the first vendor, Celanese, for Carbon Utilization Procurement Grants (UPGrants), after the satisfactory life cycle assessment of their product. Established through an IJA provision, UPGrants allow eligible entities to procure products made from carbon oxides

## PROGRAM PERFORMANCE (Unaudited)

from approved vendors. FECM also funded new projects through SBIR and Small Business Technology Transfer awards to focus on advanced remediation of produced water.

### Office of Nuclear Energy (NE)

[Blue Wave AI Labs successfully deployed machine learning tools at two nuclear power plants](#), helping to improve operational efficiency and prevent costly remedial actions. The project was part of a \$6 million effort supported by NE to help lower the operating costs of nuclear power plants using the latest artificial intelligence and machine learning technologies. ANL and Brookhaven National Laboratory (BNL) contributed to the project. The effort also leveraged 158,000 core hours across NE's Nuclear Science User Facilities high-performance computing systems. Researchers performed a series of [high-temperature post-irradiation safety tests and destructive exams of fuel specimens](#) to further qualify tri-structural isotropic fuel. Advanced reactor developers will use the data to license high-temperature reactor designs, which can be used to create electricity or decarbonize a variety of heavy industry applications.

### Office of Manufacturing and Energy Supply Chains (MESC)

MESC provided \$250 million to accelerate electric heat pump manufacturing in America to increase electric heat pump use. Current selectees represent a range of heat pumps and heat pump components and will allow for an annual increase in domestic manufacturing of 825,000 residential heat pumps, 27,000 commercial and industrial heat pumps, 2 million heat pump compressors, and 1.4 kMT (kilo metric tons) of heat pump refrigerant.



## Ensure America's Nuclear Security by Harnessing Unparalleled Science and Technology Capabilities

### PARTICIPATING PROGRAMS

- National Nuclear Security Administration
- Nuclear Energy

The United States is at the forefront of global efforts to address risks to global nuclear security. Underpinning these efforts is the unparalleled scientific and technological capabilities resident in the NNSA, a semi-autonomous agency within the Department. World-class science, technology, manufacturing, and engineering capabilities, including people, infrastructure, and tools, make it possible for the Nation to lead the way in reducing nuclear dangers, however they emerge. Examples of FY 2024 program accomplishments in these areas include:

### Design, deliver, and maintain a safe, secure, reliable, and effective nuclear stockpile in support of the Nation's integrated deterrent

#### National Nuclear Security Administration (NNSA)

**Stockpile Management:** In FY 2024, the B61-12 Life Extension Program (LEP) maintained 100% on-time deliveries to the U.S. Air Force. The LEP addresses multiple components that are nearing end of life, in addition to addressing military requirements for reliability, service life, field maintenance, safety, and use control. With the addition of an Air Force-procured tail-kit assembly, the B61-12 LEP will consolidate and replace the B61-3, -4, -7, and -10 bomb variants. B61-12 LEP production will continue through FY 2026. In FY 2024, the W88 Alteration (Alt) 370 Program maintained 100% on-time deliveries to the U.S. Navy. The W88 Alt 370 modernizes the arming, fuzing, and firing subsystem; improves surety; replaces the conventional high explosive and associated materials; and incorporates a lightning arrestor connector, trainers, flight test assemblies, and associated handling gear. W88 Alt 370 production will continue through FY 2026.

**Secure Transportation Asset (STA):** In FY 2024, STA continued its record of 100% safe and secure shipments without compromise, component loss, or radioactive material release. This record is enabled by the core components of the STA security concept of specialized vehicles, secure trailers, highly trained federal agents, and leading-edge communication systems. Additionally, STA held three Federal Agent Candidate Training courses, onboarded 34 new federal agents, and completed construction of a Vehicle Maintenance Facility at Agent Operations Western Command, in Albuquerque, New Mexico, as well as a running track at Agent Operations Eastern Command in Oak Ridge, Tennessee.

**Stockpile Research, Technology, and Engineering (SRT&E):** In FY 2024, the Office of Experimental Sciences (OES) provided experimental facilities and resources to support studies of weapon survivability in hostile environments, development and testing of special materials, assessment of plutonium aging, and opportunities for improvements in pit producibility. These tools supported the future nuclear stockpile including the successful execution of the Toads 2 hydrodynamic test in support of the W93 program, Arthur hydrodynamic test and Series 7 Part 1 static experiment to support validation of the new Neutron Diagnosed Subcritical Experiment reactivity measurements, the Flex 1 Hydrodynamic experiment demonstrating the value of low-cost, simplified weapon science platforms, and the Twin Peaks subcritical experiment to inform future certification decisions. Additionally, OES demonstrated the ability to obtain new radiochemical data from historic samples and made significant contributions to the certification of new high explosives and binder certification. The Office of Engineering and Technology Maturation continued integrating the design, engineering, manufacturing, and testing of safer, more secure, and more reliable current and future stockpile technologies, thus deriving critical performance parameters for establishing the basis for annual stockpile assessments and future stockpile requirements. Development of a novel insensitive high explosives class of materials expanded into large-scale testing in FY 2024. Novel chemical synthesis methods were used to produce safer and better performing materials than what is in use in the stockpile today. New microelectronics components were identified as viable for use in weapons systems, enabling the development of smaller, lighter microelectronics with a more robust supply chain. Novel production processes were demonstrated at a small scale to produce relevant parts in a more time- and cost-efficient way. New technologies for enabling the emerging stockpile-to-target sequence needs were tested at relevant scales. Large-scale demonstrator tests with military service partners are underway to advance technology and to define the changes to environments associated with non-ballistic delivery trajectories. The ASC program deployed and supported capabilities to help qualify and certify the W80-4 warhead; and developed and matured capabilities to support design, qualification, and certification for the W87-1 and the W93 Programs. ASC continued to advance nuclear performance assessment codes for boost and secondary performance; safety codes to address multi-point safety issues; and engineering assessment codes for hostile, normal, and abnormal environments, as well as secure transportation and production facility processes. The program accepted and transitioned the Crossroads platform at LANL for classified service to address stockpile stewardship issues and support advanced weapons-relevant predictive science.

**Production Modernization:** In FY 2024, pit production modernization activities continued at LANL and the Savannah River Site (SRS) to fulfill the requirement to produce no fewer than 80 pits per year. LLNL commenced certification testing on the LANL-produced Certification build 05 as part of production to achieve a First Production Unit (FPU) of the W87-1 pit. LLNL issued Qualification Engineering Releases at both LANL and Kansas City National Security Campus (KCNSC) for FPU. LANL made progress on production with manufacturing FPU pit build candidates. LANL actively

supported the knowledge transfer program for the future SRS pit production mission with subject matter expertise. SRS continued to support LANL pit production operations as part of the Mutual Support Program with activities at both LANL and LLNL. SRS matured the design of the Savannah River Plutonium Processing Facility (SRPPF) and began execution of long lead procurements and site preparation. A new and innovative cooperative agreement was developed to meet the demands of glove boxes for pit production modernization to support facility expansion and equipment modernization of U.S. commercial facilities. The Uranium Processing Facility (UPF) is 66% complete overall. In FY 2024, the project installed additional cable for Low Voltage Power Systems in the Main Processing Building and Salvage and Accountability Building, delivered 97% of all procurements for the project, and tested and commissioned the Process Support Facility subproject. NNSA continued to increase tritium production in FY 2024 and made significant strides toward extending critical commercial contracts and increased production and transportation capacity via government and commercial partners to maintain a reliable, resilient, flexible, and cost-effective supply chain. In FY 2024, NNSA successfully installed and brought online a new Production Vacuum Arc Remelter furnace at the Y-12 National Security Complex (Y-12). This is a major step toward reestablishing the baseline process for binary ingot production that will enable radiation case production. Y-12 saw significant breakthroughs with ongoing research and development efforts, achieving Technology Readiness Level (TRL)-7 with Direct Casting of binary components. NNSA's engagement with 3M led to a critical contract award to secure an inventory of binder material used in high-explosive production for several of the modernization programs prior to 3M's corporate decision to cease production after 2025. NNSA partnered with the Department of Defense (DOD) for additional upgrades at Holston Army Ammunition Plant to improve existing process control capabilities for formulating triaminotrinitrobenzene (TATB), an insensitive high explosive. These upgrades enhance measuring capabilities to allow better data collection during TATB production. Additionally, in partnership with the Naval Surface Warfare Center, Indian Head Division, NNSA initiated procurement of process equipment for a prototype high-explosive manufacturing capability. NNSA continued to move forward with the KC Short-Term Expansion Program (KCSTEP) and the Kansas City Non-Nuclear Expansion Transformation (KCNEXT). Both efforts will increase the production capacity and capabilities at KCNSC and ensure its ability to support the nuclear security complex.

**Forge and deliver cutting-edge solutions to shape and enable future arms control and nonproliferation regimes, increase strategic stability, counter nuclear terrorism, disrupt emerging threats, and advance the safe, secure, and peaceful use of nuclear energy**

**National Nuclear Security Administration (NNSA)**

**Global Material Security (GMS):** In FY 2024, NNSA supported nuclear security upgrades at nine sites, supported implementation of the Amended Convention on Physical Protection of Nuclear Materials through regulatory development with six partners, and deepened engagement with all 11 partner sites of the nuclear power plant sabotage mitigation initiative for energy security through technical engagements and upgrades. NNSA eliminated 85 high-risk radioactive devices in the United States and abroad, including 52 under the Cesium Irradiator Replacement Project. NNSA also met the FY 2024 target of 78% of partner agencies demonstrating operational capability of counter-nuclear smuggling systems.

**Defense Nuclear Nonproliferation R&D (DNN R&D):** In FY 2024, NNSA conducted an integrated field experiment in its low-yield nuclear monitoring campaign that used data from a 16-ton chemical high-explosive source and radiotracers to validate subsurface explosion models and detection algorithms. NNSA also executed the Trans-Am High Explosive Hydrodynamic Testing Campaign to better understand potential signatures of foreign hydrodynamic tests. NNSA successfully executed two field campaigns, with interagency partners, testing technologies developed to improve U.S. capabilities to detect and monitor foreign production of highly enriched uranium (HEU), and conducted collection campaigns at the Metropolis Plant Works uranium conversion facility to develop and evaluate signatures of uranium conversion activities. An NNSA-funded safeguards project was awarded the prestigious R&D 100 Award in August 2024, and NNSA successfully launched Alexandria, a data management architecture that will provide on-demand access to data produced by the DNN R&D community, which will allow data discovery and accelerate future R&D. Furthermore, NNSA completed the Low Earth Orbiting Nanosatellite Integrated Defense Autonomous System space demonstration-validation experiment on the International Space Station to gain experience testing and qualifying new electronics in space on compressed timescales. Finally, NNSA completed facility upgrades at ORNL's Uranium Science and Technology Center (USTC), which is a modern laboratory facility that provides a science and technology environment focused on uranium chemistry to address certain gaps in this key nonproliferation competency.

**Material Management and Minimization (M3):** As of 2024, NNSA sustained work to minimize the use of HEU in civilian applications by removing HEU and plutonium from sites around the world and converting research reactors from HEU to HALEU. NNSA advanced new and innovative work to prepare for the HEU and plutonium minimization challenges of the future, including the qualification of new HALEU fuels, execution of domestic and international exercises of the Mobile Packaging program capabilities, preparing the Mobile Melt-Consolidate system for deployment to Norway in FY 2025, and evolution of the Proliferation Resistance Optimization program. During FY 2024, NNSA issued a Record of Decision for the Final Environmental Impact Statement for the Surplus Plutonium Disposition Program to permanently dispose of 34 metric tons of surplus plutonium using the dilute and dispose strategy. NNSA also completed 36 shipments of down-blended surplus plutonium to the Waste Isolation Pilot Plant (WIPP) in support of removing material from South Carolina and meeting domestic and international nonproliferation objectives.

**Nonproliferation and Arms Control (NPAC):** During 2024, NNSA completed approximately 7,000 technical reviews of U.S. export licenses for nuclear and dual-use commodities and more than 2,000 technical analyses for interdiction cases and unique analytical products regarding proliferation trends. In addition, NNSA opened a unique multilateral nonproliferation enrichment testing and training center at the Urenco Capenhurst site in the United Kingdom. This center will result in a first-of-a-kind operational nuclear facility specifically dedicated to strengthening the

International Atomic Energy Agency (IAEA) safeguards system. This center will develop, test, and validate next-generation safeguards technologies and train IAEA inspectors and analysts to detect and deter nuclear proliferation occurring through undeclared enrichment and enrichment-related activities. NNSA continued implementation of the Arms Control Advancement Initiative (ACAI) to bolster the expertise and technology critical to sustaining DOE/NNSA's arms control mission and accelerate the development of new technologies and approaches. Detailed planning to establish an arms control research and evaluation user facility at the Pantex Plant was largely completed, with facility rehabilitation to begin in FY 2025 or 2026.

**Counterterrorism and Counterproliferation (CTCP):** NNSA's Nuclear Emergency Support Team (NEST) supported 75 national-level security events and 19 unscheduled radiological or nuclear emergencies, tested and fielded new tools for the Federal Bureau of Investigation (FBI) counter-weapons of mass destruction (WMD) teams as part of the "Capability Forward" initiative, as well as provided continuous support to Ukraine in response to Russia's full-scale invasion. NNSA increased its assessment capabilities in support of the broader U.S. government's counter-weapons of mass destruction device mission by successfully executing a planned series of foundational science material characterization experiments, developing and delivering specialized training to the nation's WMD device response forces, and established the capability to conduct assessments of AI models to understand the potential impact on the nuclear terrorism and nuclear proliferation risk landscape. NNSA participated in multiple bilateral and P3 trilateral technical exchanges with the United Kingdom and France under the Nuclear Threat Reduction framework to improve its mission capabilities and bolster national security priorities. NNSA conducted 14 nuclear forensics operational exercises and training events that demonstrated expertise and capability to respond to pre-detonation and post-detonation nuclear incidents. The NNSA nuclear forensics material analysis capability expanded its international accreditation standards to include comprehensive Quality Management systems, elevating its technical credibility and international standing, as well as serving as a role model for other programs. Finally, NNSA advanced U.S. emergency preparedness and response policy and capacity-building objectives through engagements with domestic and international partners, conducting over 70 virtual or in-person events focused on nuclear security, strategic and crisis communications, bilateral and multilateral technical exchanges, and nuclear incident response.

#### **Office of Nuclear Energy (NE)**

Researchers in the NE Molten Salt Reactor Program developed generic approaches to material control and accounting for molten salt reactor (MSR) and pebble bed reactor (PBR) deployments. This work provides methods that PBR and MSR operators will use to control and monitor the quantities of special nuclear material and detect loss of material if it occurs.

### **Harness the atom to safely, reliably, and affordably power a global fleet that enables unrivaled responsiveness, endurance, stealth, and warfighting capability**

#### **National Nuclear Security Administration (NNSA)**

The Spent Fuel Handling Recapitalization Project (SFHP) neared completion of the heavily reinforced concrete foundations and continued to erect structural steel for the main process building. SFHP also planned for and began constructing other concrete features such as the large equipment pits and the spent fuel pools. The new facility will increase the reliability, capability, and capacity of naval spent nuclear fuel handling activities, resulting in an increase to the Navy's responsiveness and agility to fulfill military missions worldwide. The COLUMBIA Class remains the U.S. Navy No. 1 Acquisition Program. The U.S.S. District of Columbia (SSBN 826), the lead ship of the COLUMBIA class, is under construction with the reactor plant design 95% complete. NNSA furthered AUKUS, a security partnership between Australia, the United Kingdom, and the United States, through expanded cooperative exchange, continued to increase staffing to enable Australia in designing their naval nuclear propulsion enterprise, helped deliver the comprehensive uplift plan for Australian naval nuclear propulsion technical capability, and continues to support the White House and interagency partners in ensuring a first-of-a-kind trilateral Atomic Energy Act agreement completes Congressional review.

## Promote Equity and Energy Justice

PARTICIPATING PROGRAMS	
<ul style="list-style-type: none"> <li>• Arctic Energy</li> <li>• Chief Information Officer</li> <li>• Clean Energy Demonstrations</li> <li>• Electricity</li> <li>• Energy Efficiency and Renewable Energy</li> <li>• Energy Information Administration</li> <li>• Energy Justice and Equity</li> <li>• Environmental Management</li> <li>• Federal Energy Management Program</li> <li>• Fossil Energy and Carbon Management</li> <li>• Grid Deployment</li> <li>• Human Capital</li> </ul>	<ul style="list-style-type: none"> <li>• Indian Energy</li> <li>• Legacy Management</li> <li>• Loan Programs</li> <li>• Management</li> <li>• Manufacturing and Energy Supply Chains</li> <li>• National Nuclear Security Administration</li> <li>• Nuclear Energy</li> <li>• Policy</li> <li>• Science</li> <li>• Small and Disadvantaged Business Utilization</li> <li>• State and Community Energy Programs</li> <li>• Technology Transitions</li> </ul>

DOE is committed to the successful implementation of initiatives that support underrepresented groups, disadvantaged communities, and the DOE Federal workforce to ensure that equity is enduringly embedded into the Department's policies and activities. The successful implementation of these priorities across the DOE enterprise requires embedding equity in the agency's hiring, procurement, financial assistance, RDD&D activities, as well as cross-agency investment in the foregoing workstreams. Implementation further requires the development of ample metrics to baseline the agency's current activities and create milestones for subsequent achievement. Examples of FY 2024 program accomplishments in these areas include:

### Advance equity in DOE's procurement, funding, R&D, and D&D processes and activities

#### Office of Energy Justice and Equity (EJE)

EJE hosted DOE's second annual [Minority Business Enterprise \(MBE\) Summit](#), drawing over 550 participants from diverse sectors. This event successfully connected MBEs with DOE and other stakeholders to address policy barriers and enhance access to federal funding opportunities. The summit highlighted DOE's dedication to advancing equity in the energy sector, with discussions centering on the \$400 billion in contract opportunities available to MBEs and disadvantaged businesses. EJE advanced equity in DOE's procurement, funding, and RDD&D processes through initiatives like the [Minority Serving Institutions \(MSI\) Contract Readiness Prize](#). This program enhances competition for DOE contracts by Historically Black Colleges and Universities (HBCU), Tribal Colleges and Universities (TCUs), and other MSIs while fostering long-term institutional support.

DOE also made significant strides in advancing CBPs as a critical part of its funding operations and commitment to the Justice40 Initiative. Recognizing the complexity of CBP development and the need for consistency and clarity, DOE introduced a series of public resources designed to support applicants for DOE funding in aligning their project goals with DOE's broader mission to benefit communities and reduce project risks, including three CBP templates aimed at guiding applicants on how to structure their CBPs effectively for RDD&D funding announcements.

#### Office of Policy (OP)

OP collaborated with EJE and IE to develop and implement CBP requirements for nearly all IJIA and IRA FOAs and loan applications. OP worked with other DOE offices to develop the template language and other guidance materials for CBP requirements, which encourage funding applicants to engage communities and labor; invest in America's workers through quality jobs; advance DEIA through recruitment and training; and implement the Justice40 Initiative. OP collaborated with offices engaging disadvantaged and rural communities and implementing programs. This included sharing best practices and new learnings regarding innovative financing mechanisms, how to reduce administrative burden for communities applying to DOE programs, opportunities to stack new incentives with grants, and the best ways to engage communities. Efforts improved program implementation throughout the Department and DOE's ability to increase access to affordable, sustainable, and reliable energy. OP also supported the DOI's [2024 Territorial Climate and Infrastructure Workshop](#), which heard directly from people in the territories about their energy and infrastructure needs and provided information regarding the availability of the variety of relevant programs.

#### Office of Management (MA)

To advance the goals of [EO 14091, Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government](#), MA developed provisions for use in assistance agreements that encourage companies, universities, and nonprofit organizations receiving federal funds to develop robust policies to increase subawards to underserved communities. Recipients were also required to work with the local community to increase benefits to the surrounding area. DOE worked with contracting offices and programs to address barriers that restrict historically underserved groups from full and equal participation in the federal marketplace. MA issued guidance and held discussions on best practices for contracting and subcontracting activities. DOE worked to increase federal contracting opportunities for Americans with Disabilities under the AbilityOne Program. Results published in FY 2024 showed obligations to AbilityOne increased \$3.6 million, or 13%, from \$27.6 million in FY 2022 to \$31.2 million in FY 2023. DOE also implemented a strategy with DOE Management and Operating and Major Site and Facility contractors designed to increase subcontracting opportunities within the AbilityOne Program.



### Office of Science (SC)

In FY 2024, SC built upon the RENEW initiative to support institutions historically underrepresented in the SC research portfolio by providing \$50 million in awards for internships, training programs, and mentor opportunities at MSIs and Emerging Research Institutions (ERIs). Awards focus on basic research in the physical sciences, including physics, chemistry, materials science, applied mathematics, computer science, biology, and Earth and environmental sciences. SC also provided \$35 million in awards to MSIs, ERIs, and collaborating institutions through the Funding for Accelerated, Inclusive Research initiative. The number of applications received from HBCUs and Hispanic Serving Institutions (HSIs), the number of new and renewal awards to HBCUs and HSIs, and the total funding to HBCUs and HSIs all increased every year since FY 2021.

### National Nuclear Security Administration (NNSA)

NNSA's Minority Serving Institution Partnership Program (MSIPP) works closely with MSI partners and the laboratory, plant, and site collaborators to increase networking opportunities for underrepresented populations by implementing outreach plans to broaden networks. In FY 2024, MSIPP published the first Notice of Funding Opportunity with a rolling application submission timeline and held four information sessions to share awareness with interested MSIs and external partners. As a result of these sessions and targeted outreach to 882 eligible MSIs, application submissions increased by over 140%. MSIPP continues to evaluate current procedures to ensure a streamlined user-friendly process to support on-going and future collaborations.

### Office of Nuclear Energy (NE)

In FY 2024, NE's university programs awarded funding to research and infrastructure projects at 16 MSIs and funded 29 scholarships and fellowships to students at MSIs. NE also provided \$2 million in funding and technical assistance for the second cohort of DOE's Communities Local Energy Action Program (LEAP). NE now provides technical assistance to five projects that include nuclear energy through the Gateway for Accelerated Innovation in Nuclear.

### Office of Energy Efficiency and Renewable Energy (EERE)

EERE awarded \$12 million to four communities to promote a more convenient, optimized public transit system by researching and demonstrating new technologies, including AI, automation, and advanced vehicle communication, that work in partnership with traditional transit to provide better, cleaner transit services for the whole community. [EERE's HFTO funded a \\$3 million effort to improve engagement with communities](#) for more equitable project development and delivery and helped launch (with EJE) Harnessing Hydrogen, an innovative forum for engaging with communities on hydrogen installations and CBP development.

### Office of Fossil Energy and Carbon Management (FECM)

Through the University Training and Research program, FECM selected 19 projects valuing \$17.7 million to facilitate training 157 students from 29 different institutions, including 21 MSIs. The FY 2024 Mickey Leland Energy Fellowship, supported by FECM, provided 50 undergraduate and graduate students a 10-week summer research experience at the DOE's headquarters or national labs. These students represented 45 academic institutions across 20 states, Puerto Rico, and Washington, D.C., and 38% of whom attend an MSI. FECM also funded R&D projects with CBP commitments supporting the Justice40 Initiative, such as establishing partnerships with universities and MSIs to develop curriculum that expand workforce development opportunities. Several projects also committed to developing community advisory boards and formal community benefit agreements.

### Office of Federal Energy Management Program (FEMP)

In FY 2024, FEMP released the DOE Energy Savings Performance Contract, Generation 4 Indefinite Delivery Indefinite Quantity (IDIQ) contract to increase the small business requirement to 45% of total subcontract awarded value with specific goals for socioeconomic activity. FEMP's incorporation of socioeconomic goals into its contracting activity broadly supports DOE's energy justice priorities of increasing clean energy jobs, contracting, and enterprise creation in disadvantaged communities.

### Office of Technology Transitions (OTT)

OTT's FY 2024 Technology Commercialization Internship Program successfully trained an intern class of 13, where about 30% of the students currently attend or previously attended an MSI. OTT's Energy Technology University Prize launched a faculty track in addition to the student competition. Twenty-one percent of the schools represented in the student track and 27% of the schools represented in the faculty track were from MSIs. OTT continued to formally engage with EJE for strategic integration in current programming activities to increase diversity and equity.

### Office of Small and Disadvantaged Business Utilization (OSDBU)

OSDBU reenergized the DOE enterprise-wide Mentor-Protégé Program Working Group to improve and expand the incubator program, diversifying the DOE partner base and strengthening supply chain resiliency. The Working Group included over 20 Small Business Program Manager volunteers representing many DOE program offices. OSDBU leveraged partnerships across DOE and NNSA to collaborate with small and disadvantaged business programs, increasing the frequency and magnitude of educational outreach engagement and specialized technical trainings to ensure maximum practicable opportunities were provided to small and disadvantaged businesses, including small, disadvantaged, woman-owned, veteran-owned, and historically underutilized business zone small businesses. OSDBU co-hosted or participated in over 65 outreach engagements, directly connecting with over 2,900 distinct small and disadvantaged businesses, and conducted matchmaking sessions with industry entities across 19 states. In addition, OSDBU led more than 300 one-on-one small and disadvantaged business consultations on doing business with the Department.

## Increase access to affordable, sustainable, and reliable energy for disadvantaged communities

### Office of Energy Justice and Equity (EJE)

EJE launched three new forum-based tools for engaging community groups in learning about hydrogen-based systems, the extraction and use of critical minerals, and CBPs. [The forums](#) are open-source and free to the public. EJE also launched the [Regional Energy Democracy Initiative \(REDI\)](#), an inaugural program aimed at empowering communities in the U.S. Gulf South region. With a commitment of \$5 million, the REDI pilot is designed to provide capacity building and technical assistance for communities in the region to maximize the benefits derived from DOE's clean energy investments.

### Office of Energy Efficiency and Renewable Energy (EERE)

DOE welcomed 25 new coastal, remote, and island communities to the [Energy Transitions Initiative Partnership Project](#) (ETIPP) to receive technical assistance and direct funding in support of their clean energy and resilience projects. This marks the largest and most diverse ETIPP cohort, nearly double the total number of communities that have participated in the program since it launched. DOE awarded the first recipients of the [Community Energy Innovation Prize](#) which, through three competition tracks, awards \$7.5 million in total to college students and organizations supporting innovation, entrepreneurship, capacity building, and economic development in disadvantaged communities.

### Office of Electricity (OE)

Together New Orleans, a recipient of OE's Energy Storage for Social Equity program, opened nine community lighthouses (solar and storage resilience hubs at churches and community centers) across southern Louisiana and began construction on an additional five lighthouses. In September 2024, after Hurricane Francine left hundreds of thousands in southern Louisiana without power, these community lighthouses remained operational and provided food, water, cooling, and charging.

### Grid Deployment Office (GDO)

GDO continued to execute the [Puerto Rico Energy Resilience Fund](#) (PR-ERF) to support Puerto Rico's grid resilience efforts. PR-ERF selected and awarded two solar companies and three nonprofits to receive up to \$417 million to help vulnerable households in Puerto Rico obtain residential solar and battery storage installations and also selected and awarded two organizations to receive up to \$10 million for consumer protection and education resources to PR-ERF beneficiaries. DOE also selected 16 community organizations to take part in the PR-ERF's \$3.85 million Solar Ambassador Prize. DOE commenced the [first rooftop solar and storage installations under the program](#) and announced a [\\$325 million funding opportunity for the new Programa de Comunidades Resilientes](#), which funds solar and battery storage installations for community healthcare facilities as well as community centers and common areas within subsidized multifamily housing properties.

### Loan Programs Office (LPO)

LPO made a conditional commitment to a loan to Clean Flexible Energy on Project Marahu for up to \$861.3 million to bring solar photovoltaic and battery storage to Puerto Rico, building the island communities' resilience and energy independence. Additionally, LPO made the first-ever loan guarantee from the Tribal Energy Financing Program of up to \$72.8 million to finance the development of a solar-plus long-duration energy storage microgrid on the Tribal lands of the Viejas Band of the Kumeyaay Indians.

### U.S. Energy Information Administration (EIA)

In FY 2024, EIA continued efforts to provide new insight into energy trends and their community-level impacts, including data that could help inform the broader policy discussion around energy insecurity. For example, EIA conducted a pilot data collection of natural gas and electric service providers to determine the feasibility of an ongoing survey to collect information on final notices, disconnections, and reconnections for bill nonpayment across residential customers. Based on its findings, EIA prepared and executed a Federal Register Notice detailing plans for a survey to collect and publish monthly data on an annual basis.

### Arctic Energy Office (AE)

AE enabled disadvantaged communities greater access to DOE programs through outreach, webinars, travel to rural villages, and information sessions in disadvantaged communities and at-large statewide events throughout FY 2024. These events included the [Alaska Sustainable Energy Conference](#), [Alaska Power Association Conference](#), and [Alaska Federation of Natives Convention](#). AE continued to actively participate in the Alaska Rural Energy Federal Coordination group, led by the Denali Commission, and the annual [Alaska Rural Energy Conference](#). AE also conducted analysis on clean energy potential across multiple technology lanes for the state of Alaska and presented findings at the [2024 Alaska Sustainable Energy Conference in May](#), hosted by Alaska Governor Mike Dunleavy. AE has since presented this work at several conferences, including the [Alaska Defense Forum](#), Representative Mary Peltola's Out Migration Conference, and as a book chapter on the topic to the University of Saskatchewan. AE also spearheaded publication of the [Alaska Hydrogen Opportunities Report](#) through its leadership of the Alaska Hydrogen Working Group. This publication complemented the DOE National Hydrogen Roadmap by highlighting Arctic hydrogen potential.

### State and Community Energy Programs (SCEP)

WAP supported approximately 8,500 jobs across 700 place-based local weatherization providers and completed 25,000 home energy retrofits from annual appropriations. The program continued advances in workforce training, quality standards, and worker certification in FY 2024. The Energy Future Grants program announced [\\$27 million in awards for 40 local, state, and Tribal government-led partnership efforts](#) to help scale local strategies that increase resiliency and improve access to affordable clean energy. The Local Government Energy Program's Communities Sparking Investment in Transformative Energy funding opportunity announced [\\$31 million in awards for 12 local and Tribal governments](#) representing small and medium-sized jurisdictions, energy transition communities, and disadvantaged communities to implement clean energy projects that spark additional investments and bring community benefits.

## Ensure 40% of the overall benefits of relevant federal investments are delivered to disadvantaged communities

### Office of Energy Justice and Equity (EJE)

EJE continued to lead the implementation of Justice40 on behalf of the Department. To track progress and key Justice40 accomplishments, DOE participated in the OMB and the Council on Environmental Quality's Phase Two Environmental Justice (EJ) Scorecard. DOE collected responses from 37 offices which are summarized on the White House's new [environmental justice website](#). EJE staff helped support the development and implementation of CBPs, a new section of applications for all IJA and IRA FOAs, and loan applications based on a set of four core policy priorities: investing in America's workforce, engaging communities and labor, advancing DEIA; and implementing Justice40. EJE released both internal and external resources to facilitate the review and implementation of CBPs.

### Loan Programs Office (LPO)

LPO worked with applicants and borrowers across all LPO programs to develop CBPs for all loans closing beginning in FY 2024. The CBP must include applicant engagement, current and future, with stakeholders affected by the proposed project: community, labor, Tribal, and union engagement, job quality and workforce continuity, DEIA, and contributing to the Justice40 initiative.

### State and Community Energy Programs (SCEP)

The Communities LEAP pilot provided deep technical assistance to 24 low-income and energy-burdened communities that are also either a disadvantaged community or an energy community to advance their community's clean energy vision. In FY 2024, 30 additional communities were selected to participate in [Communities LEAP Cohort 2](#). The EECBG Technical Assistance (TA) program launched the [EECBG Blueprint Cohorts](#). Blueprints are model projects and programs design to help local governments and Tribes achieve high-impact results with their EECBG funding. The EECBG TA program also launched the [Community Energy Fellows program](#), which provides a DOE-funded clean energy professional to select host communities through a competitive selection process. Fellows are prioritized for disadvantaged communities or those using their funds in disadvantaged communities.

### Office of the Chief Information Officer (OCIO)

OCIO partnered with GDO to develop technology to support the application process for residential solar and battery storage for up to 30,000 homes across the 16 communities in Puerto Rico. OCIO's innovations allow for a web-based application process, notifications, approvals, tracking, and monitoring the entire life cycle of the application submission. Post application, OCIO's technology will assist in overseeing all phases of the Puerto Rico Solar project deployment, streamlining administrative procedures and improving overall efficiency when requesting and installing solar systems in home.

### Office of Environmental Management (EM)

In 2024, EM continued to interact with communities on the Justice40 Initiative at various EM sites through presentations, listening sessions, conference calls, and in-person or virtual meetings. The [White House's Phase 2 Environmental Justice Scorecard](#) highlighted EM's efforts regarding the Rattlesnake Mountain Sacred Site Tribal Consultation, Environmental Management Site-Specific Advisory Board, and removal of 1.3 million pounds of hazardous refrigerant from the Paducah, Kentucky, cleanup site. In March, EM's MSI Partnership Program awarded \$24.7 million in financial assistance grants to MSIs in Florida, New Jersey, Nevada, New Mexico, and Texas. The awards enhance MSI programs to help foster a sustainable and diverse EM STEM workforce pipeline.

### Office of Management (MA)

In FY 2024, MA developed provisions for use in assistance agreements that encourage companies, universities, and nonprofit organizations receiving federal funds to develop robust policies to increase subawards to entities from underserved communities. MA worked with EJE and OSDDBU to provide guidance to Management and Operating (M&O) contractors, encouraging subcontracts to companies from underserved communities and removed barriers for members of these communities. M&O contractors increased subcontract awards in all small business socioeconomic categories. MA also helped provide monthly procurement data sets for a public-facing Energy Justice Dashboard tool in support of [EO 14091, Further Advancing Racial Equity and Support for Underserved Communities Through the Federal Government](#), and [EO 14008, Tackling the Climate Crisis at Home and Abroad](#). This visualization tool displays DOE-specific investments in communities across the country experiencing disproportionately high and adverse economic, human health, climate-related, environmental, and other cumulative impacts.

**Office of Small and Disadvantaged Business Utilization (OSDBU)**

OSDBU collaborated with internal DOE program offices and other federal agencies, including the Small Business Administration and external partners, to promote meaningful small and disadvantaged business acquisition opportunities across America. This work supported clean energy enterprise creation and resulted in contracting opportunities that translated into jobs for marginalized workers in disadvantaged communities. These Justice40 investments simultaneously strengthened America's workforce by advancing DEIA while bolstering energy resilience and supply chain stability.

**Office of Legacy Management (LM)**

LM continued to protect human health and the environment by administering Long Term Stewardship (LTS) solutions at over 100 World War II and Cold War-era closed sites where the federal government operated, researched, produced, and tested nuclear weapons or conducted scientific and engineering research. In FY 2024, LM conducted Long-Term Surveillance and Maintenance (LTS&M) at 13 sites on or near Tribal communities. LM began the acceleration of repairs to the alternative water supply system at the Riverton site in Riverton, Wyoming, near the Northern Arapaho Tribe. In FY 2024, LM inventoried and assessed 46 defense-related uranium mines on or adjacent to Tribal communities. LM supported the execution of several outreach activities with the focus of providing disadvantaged communities with the resources, training, and required awareness of human health and environmental impacts. Those outreach events included a [Community Leaders Institute Environmental Justice session in Anchorage, Alaska](#) to Unangax' Region Community Leaders, a Technical Assistance Workshop in Ladson, South Carolina, and a Youth Leadership Institute in Charleston, South Carolina.

**Arctic Energy Office (AE)**

More than 40% of AE's FY 2024 efforts in Alaska were directed toward disadvantaged communities through site visits and assisting disadvantaged communities with access to DOE and other federal funding. AE facilitated with other DOE programs to send supporting funds for outreach to disadvantaged communities in Alaska through an interagency agreement with the Denali Commission.

**National Nuclear Security Administration (NNSA)**

The NNSA LTS Program ensures all legacy environmental cleanup remedies remain in compliance with environmental regulations to protect human health and the environment. The LTS Program benefits communities adjacent to NNSA LTS sites, including disadvantaged communities, by preventing inappropriate exposure to legacy pollution. For example, the LTS Program operates and maintains groundwater and surface water pump and treatment systems; maintains extensive groundwater monitoring networks through thousands of wells; operates and maintains soil corrective action systems; and conducts inspections, sampling, laboratory analysis, data validation, and regulatory reviews. Absent a viable LTS program, communities surrounding NNSA LTS sites, including disadvantaged communities, would be exposed to legacy pollution. As such, 100% of the funds allocated to the following four LTS sites near disadvantaged communities are included in Justice40 reporting: SNL near Albuquerque, New Mexico, and Isleta Pueblo, Y-12 Plant in Oak Ridge, Tennessee, Pantex Plant near Amarillo, Texas, and Kansas City Bannister Federal Complex in Missouri.

**Office of Science (SC)**

SC supported [\\$10 million dollars for 10 new awards to establish Climate Resilience Centers](#) (CRCs). The University-led CRCs leverage world-class modeling, data, and research capabilities from DOE national laboratories customized for their local regions with a focus on climate prediction of weather hazard risks to better prepare communities. Each CRC is led by MSIs and ERIs. Research projects predict and protect communities from coastal flooding and extreme storms; analyze impacts of drought on Tribal and agricultural communities; and improve water quality.

**Office of Electricity (OE)**

OE announced selections made under the [Underserved and Indigenous Community Microgrids FOA in May 2024](#). This funding brings replicable microgrid solutions to underserved and Indigenous communities in remote, rural, and islanded regions throughout the United States.

**Office of Federal Energy Management Program (FEMP)**

FEMP's workforce training program is accessible to the public and used by people living in disadvantaged communities. FEMP tracks the location of people accessing trainings by zip code and works to match zip codes to J40 census tracts. The workforce training program also included funding for FEMP's annual Energy Exchange conference with scholarships for attendees from local disadvantaged communities.

**Office of Clean Energy Demonstrations (OCED)**

In FY 2024, OCED executed terms and conditions that include a requirement for awardees to create and implement a CBP based on a set of four core interdependent policy priorities: engaging communities and labor; investing in America's workforce, advancing DEIA; and implementing the Justice40 Initiative. OCED held around 60 in-person and virtual events with selectees and awardees, including listening sessions, community dialogues, workshops, and webinars to inform communities on CBP goals and opportunities.

**Office of Fossil Energy and Carbon Management (FECM)**

FECM expanded its environmental and jobs benefits assessment capacity with deployment forecasting models and chemical dispersion modeling to better quantify direct benefits and impacts from FECM technologies and more accurately track benefits of RD&D activities to disadvantaged communities.



### Office of Technology Transitions (OTT)

OTT's Justice40-covered programs were active in FY 2024. Round 1 of EPIC continued to be actively managed; EPIC Round 2 awarded \$650,000 out of \$2.2 million as a multi-stage prize competition to incubators located in disadvantaged communities. In FY 2024, 28 student teams from 23 schools across 16 states won over \$450,000 in EnergyTech University Prize awards for energy technology business plans — six of which were developed at the national laboratories. Thirteen faculty members from 13 different schools and states won a total of \$100,000 in prize money for their proposals to integrate energy technology commercialization curricula at their home institutions. The summerlong Technology Commercialization Internship Program successfully trained 13 students who interned at national laboratories, assisting technology commercialization professionals with their efforts to commercialize critical energy technologies by applying their learnings from the program's formal Energy I-Corps training. Four out of the 15 student interns attended MSIs or reside in a disadvantaged community. OTT launched the [Solutions for Lasting, Viable Energy Infrastructure Technologies \(SOLVE IT\) Prize](#) in January, aimed to support communities identify and implement innovative clean energy solutions in ways that address unique needs and challenges. In May, OTT announced the [28 winners of the Embark Phase](#), the first of the SOLVE IT Prize's three phases.

## Support economic development, including through clean economy opportunities for workers in communities and industries in transition

### Office of Policy (OP)

OP released informational resources to drive redevelopment and reinvestment opportunities in fossil energy communities across America. OP collaborated with DOE offices, Energy Communities IWG, and national labs to release four coal power plant redevelopment fact sheets that guide developers and community members on the process of selecting and redeveloping a plant site for a particular end-use, including solar, wind, storage, nuclear, and EV manufacturing. OP managed a newly formed federal advisory committee, the [21st Century Energy Workforce Advisory Board](#) (EWAB), charged with a developing comprehensive, forward-looking strategy for the Department to broaden and sharpen ways it supports developing the energy workforce. The EWAB's [first report containing recommendations](#) for the Department was released in September 2024.

### Arctic Energy Office (AE)

AE supported economic development for transitioning industries and communities through multiple efforts in FY 2024, including leading the Alaska Hydrogen Working Group, hosting workshops in Alaska on potential opportunities for converting legacy natural gas infrastructure into CO<sub>2</sub> storage, and hosting a workshop on enhancing safe recovery of critical minerals in the Alaska mining industry. The Arctic Council ARENA program worked with the Arctic Energy Ambassador program to provide awareness about clean energy opportunities in Alaska.

### Office of Small and Disadvantaged Business Utilization (OSDBU)

OSDBU maximized opportunities for small and disadvantaged businesses that impacted workers in communities and industries as they transition to DOE's clean energy mission. By cultivating productive relationships with DOE's national labs and internal program offices such as EERE and OTT, OSDBU contributed to the success of SBIR and Small Business Technology Transfer (STTR) programs. OSDBU's outreach played a significant role in economic development through acquisitions and competitively awarded grants to small businesses that support scientific excellence and technological innovation.

### Office of Manufacturing and Energy Supply Chains (MESC)

In addition to increasing domestic manufacturing capacity, MESC focused on security of the domestic talent pipeline through its Workforce Deployment team and created opportunities for workers to be ready for this transition. With IIJA support, MESC expanded the ITAC network by 33 new centers, bringing the total to 59 ITACs, including community colleges, union programs and trade schools that will train roughly 9,000 students in energy efficiency, sustainability, and critical manufacturing skills over the next three years while providing on-site technical assistance and other benefits to SMMS.

### Loan Programs Office (LPO)

LPO made the first-ever conditional commitment through the new 1706 EIR Program for up to \$1.35 billion to Holtec to repower the Palisades Nuclear Plant, which will bring jobs and economic development back to the region in transition. In addition, LPO has announced two other EIR conditional commitments in FY 2024, totaling \$2.4 billion in cumulative financing. LPO also built an extensive pipeline of projects for the 1706 EIR program, with over 35 deals projects totaling over \$100 billion in various stages of the application process to reinvest in communities and industries in transition. LPO coordinated extensively across DOE and with the IWG on Coal and Power Plant Communities and Economic Revitalization to design and implement the program, as well as conducted extensive community engagement with local and private sector entities, and state and local governments.

## Enhance engagement and energy economic development opportunities in Tribal communities

### Office of Indian Energy Policy and Programs (IE)

IE provided guidance and acted as an advisor to DOE to enhance engagement with Indian Tribes, including Alaska Native regional and village corporations. To strengthen government-to-government relationships, IE hosted the [DOE Tribal Clean Energy Summit](#), themed "Tribes Leading the Way in Clean Energy," in February 2024. The summit featured keynote speeches from the U.S. Secretary of Energy Jennifer Granholm and IE

## PROGRAM PERFORMANCE (Unaudited)

Director Wahleah Johns with breakout sessions highlighting Tribal energy projects and Tribal perspectives on energy sovereignty and climate resilience. IE also highlighted key DOE programs and funding opportunities to more than 700 attendees. In March, IE announced \$50 million to install clean energy technology in underserved American Indian and Alaska Native communities. The [annual IE Program Review](#) featured 39 Tribal energy project presentations and was attended by nearly 230 people. IE provided this opportunity for Tribes to meet, learn from other Tribes pursuing energy self-sufficiency, and share in each other's successes. IE engaged with 1,020 Tribes and other interested parties through four webinars focused on funding and financing, workforce development, and clean energy development and reached an additional 1,200 users after posting the webinar materials online. Furthermore, IE engaged 23,000 active website users, 18,300 newsletter subscribers, and 1,400 social media followers.

### Arctic Energy Office (AE)

AE's FY 2024 Alaska activities benefited Tribal communities, including Alaska Native Village Corporations (ANVC) and Alaska Native Corporations (ANC). AE shared Tribal outreach efforts with IE, engaged ANCs and Tribal organizations, led tailored webinars to reach ANCs and ANVCs about DOE programs, and facilitated meetings in Alaska with DOE officials on Tribal issues. AE provided a dozen liaisons for primarily Tribal and rural communities through the new [Arctic Energy Ambassador program](#).

### Office of Energy Justice and Equity (EJE)

EJE, along with other DOE offices, hosted the [Alaska Economic Forum](#) where community members, MSIs, Tribal leaders, and area businesses came together to discuss the resource opportunities offered by DOE and community businesses. The forum also provided remote communities with updates on access to clean energy, DOE employment, and guidance on how to access these resources.

### Office of Policy (OP)

OP served in key roles to facilitate both intra- and interagency collaboration to achieve the first-ever procurement of carbon pollution-free electricity (CFE) from Tribal majority owned businesses in support of the [Indian Energy Purchase Preference](#). OP also led DOE implementation of [EO 14112, Reforming Federal Funding and Support for Tribal Nations to Better Embrace Our Trust Responsibilities and Promote the Next Era of Tribal Self-Determination](#), across the agency, including coordinating an internal team to establish more accessible, flexible, and equitable policies and processes for federal funding and support programs available to Tribes.

### Grid Deployment Office (GDO)

In FY 2024, GDO hosted an informational webinar for Tribal Nations, provided general education resources, and supported Tribal Nation participation in Offshore Wind events with 17 participants from eight Tribes as part of the fledgling [Tribal Nation Offshore Wind](#) Transmission Technical Assistance Program.

### Office of Manufacturing and Energy Supply Chains (MESC)

In FY 2024, MESC hired its first Tribal Affairs Liaison as a part of efforts to substantially enhance Tribal outreach and impacts. Through this position, MESC engaged with a significant number of Tribes from across the country, including organizing and participating in discussions at several conferences, workshops, and panels and eliciting new Tribal participation in programs and funding opportunities. MESC co-hosted a nationwide Tribal consultation for the Tribal Critical Minerals Initiative with representatives from the DOI, EPA, the Department of Commerce, and the U.S. Army Corps of Engineers (USACE). MESC organized two events at the [2024 Reservation Economic Summit](#) and organized a panel at the [2024 Tribal Clean Energy Summit](#).

### Office of Fossil Energy and Carbon Management (FECM)

FECM worked with Tribes committed to developing and using their natural resources in a sustainable way to establish the Western Tribal Working Group to facilitate workflow, ongoing dialogue, and help promote initiatives with Tribal partners.

### National Nuclear Security Administration (NNSA)

The NNSA's Tribal Education Partnership Program funded eight TCUs through six federal grant awards focusing on providing student engagement programs, joint research efforts, and experiential opportunities. Funds supported the national laboratories, plants, and site facilities to develop engagement initiatives and outreach activities to increase partnerships. Sponsored by IE, SNL led five technical assistance workshops including project management and proposal development with Navajo Nation project teams to support the nation's transition to a clean energy future and optimize a portfolio of energy resilience projects. Forty strategic projects with the highest potential for federal funding were identified. Furthermore, SNL representatives visited various TCUs to introduce collaboration ambassadors focused on maintaining key connections between the laboratories and the institutions. Discussions included NNSA and laboratory, plant, and site facility pathways for internships and professional employment. As a result of these outreach visits, SNL hosted nine Tribal students for summer internships. LANL participated in the Nambe Pueblo College and Career Fair and presented about collaborative work to the four Accord Pueblos Governors. LANL also visited Tribal schools and colleges to promote internship opportunities through outreach and publications. LLNL participated in conferences and engaged with American Indian Centers at surrounding school districts, universities, and through state and community colleges. ANL developed outreach materials to advertise its thermal imaging facility at Tribal colleges and universities. INL provided internship opportunities to Tribal students from Navajo Technical University. KCNSC attended multiple Tribal outreach events, hosted TCU students for development opportunities, and provided internship opportunities to Tribal Students.

### Office of Nuclear Energy (NE)

DOE worked collaboratively with the Shoshone-Bannock Tribes (SBT) on revegetation of culturally sensitive areas. The revegetation included 100 sagebrush seedlings and four junipers. The seedlings were grown from seeds collected on the INL site and junipers were harvested from four districts on the Fort Hall Reservation. This action completes the restoration of native vegetation to this site to provide a more stable condition for the area pre-contact archeological artifacts. DOE and the Fort Hall Business Council Chairman signed a memorandum of agreement governing SBT access to sacred and traditional use areas on the INL site. DOE initiated the SBT ethnohistory study in collaboration with SBT and University of Utah American West Center. As of FY 2024, 49 Tribal elders have been interviewed to collect oral histories of their peoples.

### Loan Programs Office (LPO)

LPO made the first-ever loan guarantee from the Tribal Energy Financing Program to finance the development of a solar-plus long-duration energy storage microgrid on the Tribal lands of the Viejas Band of the Kumeyaay Indians. Additionally, LPO successfully built a pipeline of deals for the Tribal Energy Finance Program, with over \$4 billion worth of applications in the pipeline for loans and loan guarantees. The team also expanded its outreach to Tribes through a strong external engagement plan and in-person meetings and site visits throughout FY 2024.

### Office of Legacy Management (LM)

In the execution of its mission to protect human health and the environment by administering LTS solutions at over 100 World War II- and Cold War-era closed sites, LM regularly engaged with Tribal communities to inform Tribal leaders of stewardship activities. In FY 2024, LM had several engagements with Tribal communities that included over 15 in-person and virtual meetings, and roughly 40 telephone and correspondence engagements. LM conducted community information sessions regarding site management and major projects such as a May 2024 meeting with impacted Tribes regarding repairs to the alternative water supply system at the Riverton site in Riverton, Wyoming. LM participated and support more than 15 STEM-related events in the Tribal communities on or adjacent to its sites. In addition to executing engagement with Tribal communities, LM staff participated in a series of virtual workshops on the Navajo Language & Culture Resources Program as well as received training to increase Tribal engagement capabilities.

### State and Community Energy Programs (SCEP)

SCEP continued implementation of the \$225 million Tribal Home Electrification and Appliance Rebates programs. These grants provide up to \$14,000 per eligible Tribal household for energy efficiency and electrification home upgrades. Twelve selections made under a recent \$31 million Local Government Energy Program FOA included three Native American Tribes focused on implementing clean energy projects. Four of the 30 communities selected to participate [Communities LEAP Cohort 2](#) were Tribal entities.

## Support diversity and equity among researchers, projects, entrepreneurs, and the National Laboratories

### Office of Energy Justice and Equity (EJE)

EJE along with NREL and EERE, launched the [Faculty-Applied Clean Energy Sciences Program](#). This groundbreaking initiative, designed for STEM faculty from MSIs, TCUs, and HBCUs, fosters diversity and inclusion in the energy sector. The 10-week program at NREL facilities bridges the gap between DOE laboratories and the academic community, enhances STEM education, and promotes clean energy careers. EJE hosted 15 targeted, capacity-focused technical assistance sessions aimed at increasing MSI participation in DOE programs. These sessions engaged both two-year and four-year MSIs. In addition, EJE hosted the annual ["DOE to the People" conference](#), which served as a platform to consolidate and highlight DOE program office and lab efforts in supporting MSIs. EJE cross collaborated with internal program offices and external entities to gain access to talent from across all aspects of America.

### Office of the Chief Human Capital Officer (HC)

In FY 2024, HC collaborated with EJE and other entities to improve candidate sourcing methods for underrepresented groups. Throughout this fiscal year, HC hosted or attended 52 recruitment and outreach events: 28 events for veterans and military spouses, seven events for people with disabilities, and 17 events focused on diversity and STEM-related populations. These efforts resulted in nearly 52% of DOE STEM positions being filled by members of underrepresented populations. In addition, HC continued marketing DOE events and vacancy announcements to diverse populations using job boards geared toward colleges and universities, veterans and military spouses, diversity-focused professional associations, underserved communities, and disability employment partners.

### Office of Science (SC)

In FY 2024, SC launched a series of Program Office Hours — over 50 sessions — for faculty, researchers, research administrators, and educators to broaden awareness of sponsored opportunities, connect to program managers, and answer funding opportunity application questions. In addition, SC senior managers and staff partnered with DOE national laboratory senior managers to engage in a series of visits to HBCUs, TCUs, and other MSIs across the country to learn about faculty and student research and career interests, share information about sponsored opportunities, and identify areas where faculty can partner with the DOE labs. SC hosted at least two public application assistance webinars for each solicitation for applications to undergraduate, graduate, and faculty research opportunities at the DOE national labs with nearly 20 webinars total. SC continued to host public webinars coinciding with FOAs to provide overviews and answer questions. SC also engaged students, faculty, and professionals at the

major annual meetings of scientific professional societies, hosting information sessions and participating in career fairs. These meetings included: the Society for the Advancement of Chicano/Hispanics and Native Americans in Science, the National Association for the Professional Advancement of Black Chemists and Chemical Engineers, the National Society of Black Engineers, the National Society of Black Physicists, Out in STEM, and the Society of Hispanic Professional Engineers.

#### **National Nuclear Security Administration (NNSA)**

LANL and SNL participate in the [New Mexico LEEP](#) which pairs deep tech entrepreneurs with the unique talent and technology of Los Alamos and Sandia national laboratories. Incoming fellows interact with an experienced network of mentors and business resources, including Los Alamos Commerce & Development Corporation, and participate in a curriculum tailored to support high-tech business growth. Fellows are also paired with Laboratory scientists in a Cooperative R&D project to accelerate demonstration of a viable product. In FY 2024, NNSA's MSIPP program aligned investments in university capacity and workforce development by supporting 959 national laboratory, plant, and site-based student internships and institution-based research opportunities in critical STEM topics and other disciplines. MSIPP also supported research and infrastructure capabilities at 54 MSIs through 35 federal grant awards and 14 DOE/NNSA national laboratories, plants, and site facilities through contract funding. NNSA's [MSIPP](#) offers students from minority serving institutions are offered internship positions within the nuclear security enterprise. MSIPP has supported 334 participants from 106 universities, supporting 18 national laboratories, plants, and site offices, since FY 2022.

#### **Office of Policy (OP)**

OP provided critical coordination and support to successfully implement the [Indian Energy Purchase Preference](#), serving in key roles to facilitate both intra- and interagency collaboration to achieve the first-ever procurement of CFE from Tribal majority owned businesses. OP also led DOE implementation of EO 14112 across the agency, including coordinating an internal team to establish policies and processes to develop reforms for federal funding and support programs available to Tribes, to be more accessible, flexible, and equitable.

#### **Office of Fossil Energy and Carbon Management (FECM)**

In FY 2024, NETL created and filled the position of Chief Diversity Officer, onboarded a new Equal Employment Opportunity (EEO) manager, chartered an executive DEIA committee, and created a dedicated DEIA program at the laboratory. FECM/NETL made more than 40 recruitment and outreach visits to MSIs and other organizations dedicated to supporting diversity in STEM. NETL hosted more than 75 students, 13 postdoctoral fellows, and 23 faculty research associates for internships and fellowships. Coordinated recruitment and outreach efforts resulted in a 10% overall increase in the racial diversity of these groups from FY 2023.

#### **Office of Energy Efficiency and Renewable Energy (EERE)**

In FY 2024, EERE continued implementing Phase 2 of both the HBCU Clean Energy Education Prize Inspire and Partnerships Tracks. These programs inspire students to learn about clean energy through HBCU-hosted summer programs and support new partnerships between HBCUs, national laboratories, government agencies, and other universities to build new cross-university curricula. During FY 2024, EERE initiated its first faculty cohort for the groundbreaking Faculty-Applied Clean Energy Sciences Program. The program, with a focus on providing real-world clean energy research opportunities, supports faculty from MSIs in visiting faculty summer appointments where they can research with world-class scientists from NREL. The faculty also produce customized educational modules that are added to their curriculum upon returning to campus. These modules are shared with universities across the country through an open-source database in order to help other faculty expand clean energy curriculum for as many students as possible. EERE also recently successfully completed its second cohort of GEM Fellowship interns through its partnership with the National GEM Consortium. The program recruits high-quality underrepresented students in STEM looking to pursue master's and doctoral degrees in applied science and engineering.

#### **Office of Technology Transitions (OTT)**

The first round of MSI Connect, a multi-laboratory project focused on building partnerships between national laboratories and MSIs, [selected 39 fellows](#) to participate in the program in 2024. Fellows will learn more about technology commercialization at the national labs and begin the process of creating a commercialization plan for lab technologies. Funding is also provided through FECM, NE, and EERE.

#### **Office of Small and Disadvantaged Business Utilization (OSDBU)**

OSDBU and its agency-wide roster of Small Business Program Managers served together as advocates supporting diversity and equity among researchers, projects, entrepreneurs, and the national laboratories and their relevant partners by maximizing opportunities for engagement with acquisition personnel and resources. This work supported DOE's strategic plan and the administration's priority initiatives.

#### **Office of Manufacturing and Energy Supply Chains (MESC)**

MESC launched a competitive readiness technical assistance program. The program provided technical assistance to 14 SMMs in 14 different states, 50% of which were minority-owned, with support in project viability and supply chain analyses, regulatory and procurement support, budgeting and financing, project impact modeling, and CBPs development. Furthermore, at least 40 MSIs now participate in MESC's ITAC network as prime recipients or funded subrecipients.



## Advance Clean-Up of Radioactive and Chemical Waste

### PARTICIPATING PROGRAMS

- Environmental Management
- Legacy Management
- National Nuclear Security Administration

The Department is responsible for one of the largest environmental remediation efforts in the world. Decades of nuclear weapons development and government-sponsored nuclear energy research resulted in substantial environmental contamination at 107 sites across the country, mostly located in remote and rural areas of the United States. Examples of FY 2024 program accomplishments in these areas include:

### Support environmental remediation

#### Office of Environmental Management (EM)

**Hanford:** EM is on track to treat over 800,000 gallons of tank waste before the treated waste is needed for Direct Feed Low Activity Waste (DFLAW) operations.

**Savannah River Site (SRS):** EM successfully treated approximately 9.95 million gallons of tank waste through the SRS Salt Waste Processing Facility (SWPF). SRS continues initiatives to increase SWPF's processing rate, as well as implement a risk reduction strategy to enable processing of more curies than originally planned. Saltstone disposal unit (SDU) 9 was completed and turned over to Operations. SRS completed cell construction and began shotcrete and prestress activities for SDU 10. Both the design and site preparation phases for SDUs 11 and 12 were completed.

**Idaho:** The Integrated Waste Treatment Unit (IWTU) processed approximately 115,000 gallons of sodium-bearing waste since start-up in April 2023.

**Los Alamos:** EM successfully completed 22 shipments of transuranic (TRU) waste to WIPP.

**Paducah:** EM is scheduled to complete the disposition of 8.5 million pounds of R-114 refrigerant by the end-FY 2027. By the end of FY 2024, 68% (approximately 5.8 million pounds) have been disposed.

**Lawrence Livermore National Laboratory (LLNL):** EM completed the Legacy Slab 377 Slab/Soil Removal Project; commenced the LS 175 Slab/Soil Removal Project and the Building 251 Demolition Project, continued the Legacy Slab 412 Slab/Soil removal project, and continued Building 280 and Building 281 demolition related activities.

**Oak Ridge:** EM is actively addressing numerous excess and contaminated facilities at ORNL and Y-12 to prepare them for near-term demolition. At ORNL, EM completed demolition and waste haul removal of the Low Intensity Test Reactor and completed removal of Building 3042 Oak Ridge Research Reactor Core. Demolition of the Alpha-2 Complex at Y-12 is underway.

**Moab:** EM successfully completed the excavation, transportation, and disposal of over 1 million tons of uranium mill tailings in FY 2024.

#### Office of Legacy Management (LM)

LM conducted LTS&M activities at 103 sites to monitor the environmental remedies in accordance with legal agreements. LM completed LTS&M activities by employing sound program and project management, engineering, and science-based solutions. The sites within LM's responsibility include those remediated under various regulatory frameworks, including the Formerly Utilized Sites Remedial Action Program; Defense Decontamination and Decommissioning Program; Comprehensive Environmental Response, Compensation, and Liability Act of 1978; Resource



Photo courtesy of U.S. Department of Energy

#### Hanford Plant Pours First Glass From Second Melter

Crews at the Hanford Site's Waste Treatment and Immobilization Plant (WTP) have poured the first test glass from a second melter, shown above, into a stainless steel container in the plant's Low-Activity Waste Facility.

Personnel heating up melters and pouring test glass are an important part of commissioning the facility to prepare for [vitrifying](#), or immobilizing in glass, millions of gallons of radioactive and chemical waste from Hanford's large underground tanks. Read the full article [here](#).

## PROGRAM PERFORMANCE (Unaudited)

Conservation and Recovery Act of 1976; and Uranium Mill Tailings Radiation Control Act of 1978. In 2024, LM's Defense-Related Uranium Mine (DRUM) Program continued inventorying, reclaiming, and safeguarding hazardous mine features on public, Tribal, and private lands. LM conducted 184 inventories — 84 on public lands, 46 on Tribal lands, and 54 on private lands — and safeguarded 230 hazardous mine features. Cumulatively, LM inventoried 2,479 mines and safeguarded 1,100 hazard features. In June 2024, the [EPA awarded LM the National Federal Facility in Site Reuse Award](#) for groundwater remediation and infrastructure at the Tuba City Disposal Site in Arizona. The award recognizes exceptional work of remediating sites for beneficial reuse.

### **National Nuclear Security Administration (NNSA)**

NNSA's LTS Program addresses environmental post-closure care requirements associated with remedial actions that are subject to the Resource Conservation and Recovery Act (RCRA) or cleanup requirements under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at the Kansas City Plant, LLNL, Pantex, SNL, and Y-12. LTS treated contaminated groundwater; monitored surface water, groundwater, and soils; maintained landfill remedies; performed CERCLA and RCRA five-year remedy performance reviews of selected cleanup remedies; and addressed emergent contamination remedial activities, i.e., per- and polyfluoroalkyl substances, vapor intrusion mitigation, etc. LTS worked with EPA regions, federal agencies, states, Tribes, and affected stakeholders in executing its activities consistent with end states.

## Operational Excellence

### PARTICIPATING PROGRAMS

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Chief Financial Officer</li> <li>• Chief Human Capital Officer</li> <li>• Chief Information Officer</li> </ul> | <ul style="list-style-type: none"> <li>• Energy Justice and Equity</li> <li>• Enterprise Assessments</li> <li>• Environment, Health, Safety, and Security</li> <li>• Manufacturing and Energy Supply Chains</li> </ul> |
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Attaining mission success requires a sustained commitment to performance-based management and expectations of excellence from DOE headquarters to every site office, service center, laboratory, and production facility. At the center of this goal is a highly qualified, capable, diverse, and flexible Federal workforce who can execute the mission in a safe, secure, efficient, and sustainable manner. With a focus on achieving an inclusive and engaged work culture where individual differences and perspectives are recognized and celebrated as critical inputs to innovation, DOE cultivates a performance-based system that links work to meeting agency and Administration goals and achieving results. Management of RDD&D involves executing those activities with the greatest potential and likelihood for impact. Examples of FY 2024 program accomplishments in these areas include:

### Attract, manage, train, and retain the best federal workforce to meet future mission needs

#### Office of the Chief Human Capital Officer (HC)

DOE onboarded 1,615 employees (1,045 external and 573 internal) in FY 2024, with an average time-to-hire (T2H) rate of 83.2 days. HC leveraged approved staffing plans for all Departmental Elements (DE) to codify position numbers, which resulted in an increased accuracy of tracking and reporting personnel, position status, and remote worker status. HC leveraged technology to provide actionable information spanning the entire employee life cycle, which is crucial to the Department's customers' success. Data dashboards were developed in coordination with internal HC stakeholders to compile robust information regarding key performance metrics, such as T2H, selection rates, and vacancy rates. By providing up-to-date information on employee and position status, the new Position Management Dashboard improved vacancy forecasting. DOE implemented and completed the hiring of over 1,000 Clean Energy Corps (CEC) jobs and ensured timely hiring of the CEC workforce with record T2H across federal agencies. With 80% of hiring completed, DOE allowed the "sunset" of the Applicant Portal and Lever support systems and shifted to the U.S. Office of Personnel Management (OPM)'s new Agency Talent Portal to identify talent for remaining CEC positions. DOE managed a recruitment pipeline of over 100,000 applicants for the DOE CEC, including hiring over 1,200 employees. Additionally, DOE expanded utilization of the applicant tracking system to reach specific groups for positions with government-wide direct hire authority. DOE deployed engagement strategies to support HC leaders in developing and fostering a diverse, inclusive, and engaged HC workforce. For FY 2024, DOE achieved and sustained 96% capacity/fill of all HC positions.

During FY 2024, HC Office of Talent Management reported that 3,266 DOE employees participated in 110 HC-sponsored professional skills courses focused on enhancing knowledge, skills, and abilities within the workforce. Additionally, HC developed the functionality of the DOE Learning Management System (LMS) to promote the continuous upskilling and reskilling of the DOE workforce through the release of competency-based curriculums. To assist employees in determining appropriate courses, HC continued developing career road maps and succession plans to assist employees in clearly identifying pathways toward career advancement. HC designed and delivered an Employee Engagement Curriculum that provides development around 10 engagement drivers including diversity and inclusion. HC also continued to revise the Internal Coaching Network and developed several competency models and skills assessments to identify future training and development opportunities. Employee and Labor Relations implemented a robust customer training program to provide supervisors and managers with necessary skills to manage personnel and accomplish their mission more effectively. As a result of improvements in the Employee Engagement Curriculum, the Department realized increases in all Federal Employee Viewpoint Survey (FEVS) indices, including a 2% increase in the Department's Leaders Lead and a 9% increase in the Leaders Lead score over the past four years. [DOE ranked 6th](#) in the Partnership for Public Service's 2023 Best Places to Work in the Federal Government, Midsize Agencies, published May 2024.

#### Office of Energy Justice and Equity (EJE)

EJE partnered with HC to recruit for the CEC, which welcomed over 1,000 new employees to DOE. EJE released a DEIA Supervisors Training Course designed to equip managers and leaders with the skill set needed to lead and support a diverse cohort of individuals. EJE created 10 employee resource groups (ERG) to help promoting learning, mentoring, professional development, and belonging among DOE staff.

### Use taxpayer funds efficiently and improve visibility into how funds are being used

#### Office of the Chief Financial Officer (OCFO)

OCFO implemented a lifecycle spending dashboard to provide enhanced data and visualization management of funding opportunities, awards, and performance metrics associated with IIJA and IRA for DOE leadership and stakeholders. OCFO also successfully migrated the Payment Integrity and

## PROGRAM PERFORMANCE (Unaudited)

the Comprehensive Field Financial Review programs to the Financial Reporting Auxiliary System (FRAS), a cloud-based platform for centralized reporting to improve collaboration, access, and efficiency while reducing duplication and other unnecessary efforts. OCFO expanded collaborative capabilities within FRAS to improve automation and preserve information integrity within the AFR.

### Office of the Chief Information Officer (OCIO)

OCIO increased visibility of Department procurement of operational technology and Internet of Things (IoT) technology by enabling more efficient tracking of devices used to control equipment, monitor building systems, or perform other tasks by upgrading the automated Federal Information Technology Acquisition Reform Act (FITARA) approval workflow process. This innovative effort streamlined the identification, approval, and waiver determination processes for IoT. Through these updates, DOE has greater visibility of over 700 IT-related acquisitions totaling \$9.7 billion. As of August 2024, DOE identified \$71.33 million in cost savings and/or avoidance for FY 2024, of which \$43.56 million was directly associated with Enterprise-Wide Agreements (EWA). OCIO has pursued EWAs for widely used commercially available products and services on behalf of the Department to streamline the acquisition process for IT procurements and decrease unit costs. OCIO also decreased the number of man hours for repetitive tasks, realizing \$80,000 in cost avoidance by implementing automated processes within IT Portfolio Management workflows. OCIO improved customer experience and enabled employees to focus on higher priority work. OCIO continued to mature Technical Review Board and Opportunity Management processes, ensuring requirements and solutions are governed and align with strategic goals. Over 67 new IT requirements and solutions were reviewed. Finally, OCIO improved IT portfolio transparency and data validation through one-on-one engagements with 10 DE covering 23.7% of the IT portfolio.

### Monitor Departmental performance to ensure that program activities are executed in a safe and secure manner consistent with departmental direction

### Office of the Chief Financial Officer (OCFO)

OCFO completed an Azure vNet Peering migration, which saves \$1 million in annual cloud hosting costs. The Corporate Human Resources Information System (CHRIS) Team, in partnership with the HC, successfully implemented a years-long initiative to upgrade to CHRIS in production. OCFO also implemented multi-factor authentication (MFA) for nearly all corporate systems as required by EO14028. OCFO continued to expand and improve robotic process automation (RPA) capabilities through staff training and contractor support, leading to five new RPAs (20 total). RPA updates included improvements to the Governmentwide Treasury Account Symbol Adjusted Trial Balance System (GTAS) reporting. To better serve customers and stakeholders, OCFO created a new Corporate Business Systems page on the internal Energy Hub website, which contains system links and informational resources for the most widely used corporate systems.

### Office of Environment, Health, Safety, and Security (EHSS)

EHSS continues to refine the suite of machine learning tools that enable the Department to monitor and improve the visibility of secure and safe performance metrics. This extends to continued work developing advanced computer tools to identify classified information. EHSS is working with the Office of Intelligence and Counterintelligence (IN) and partner Program Offices to strengthen DOE's Insider Threat Program (ITP) and bring it into full compliance with the National Insider Threat Task Force Minimum Standards for Executive Branch ITPs. EHSS hosted numerous Department-wide workshops for subject matter experts, to include personnel security, classification, worker health and safety, analytical services, nuclear facilities safety, and human reliability performance, to share best practices, identify areas of policy improvement, and assist in policy implementation.

### Office of Enterprise Assessments (EA)

EA completed over 70 independent assessments in the areas of cybersecurity, safeguards and security, nuclear safety, worker safety and health, and emergency management. EA also managed DOE's safety and security enforcement program to promote contractor compliance with the Department's nuclear safety, worker safety and health, and classified information security requirements and issued 15 enforcement outcomes in FY 2024, including eight Notices of Violation, two consent orders, and five Enforcement Letters. EA's National Training Center (NTC) issued over 70,000 completion certificates representing more than 250,000 student hours in the areas of security and safety-related training as well as professional development programs for the DOE federal and contractor workforce.

### Office of Manufacturing and Energy Supply Chains (MESC)

In FY 2024, MESC developed the Project Management Exchange to provide data and visualization management of funding opportunities, awards, and performance metrics for DOE leadership and stakeholders.

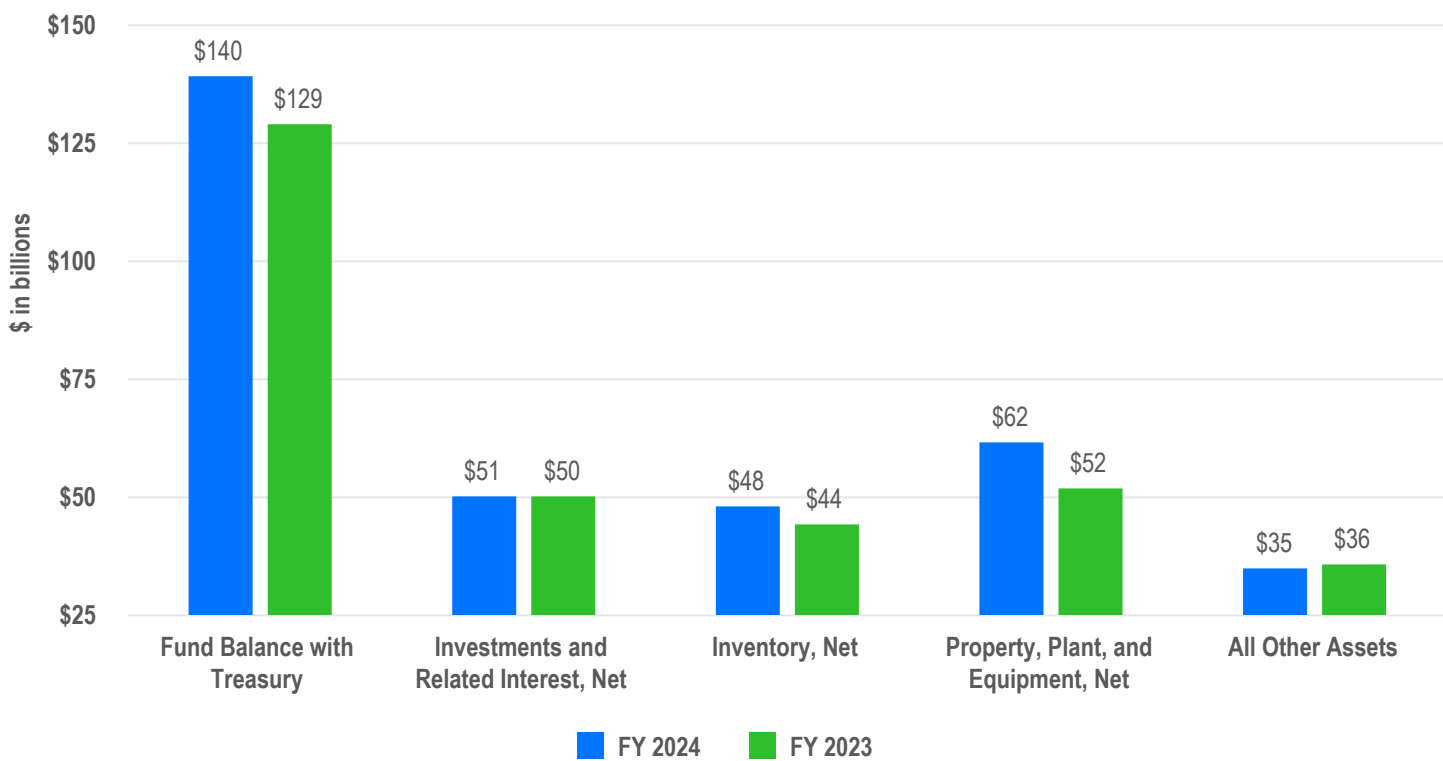


# Management’s Analysis, Assurances, and Priorities

## Analysis of Financial Statements

The financial statements are prepared to report the financial position, financial condition, and results of operations, consistent with the requirements of 31 U.S.C. § 3515(b). The statements are prepared from records of federal entities in accordance with federal generally accepted accounting principles (GAAP) and the formats prescribed by OMB. Reports used to monitor and control budgetary resources are prepared from the same records. Users of the statements are advised that the statements are for a component of the U.S. government.

### Analysis of Assets

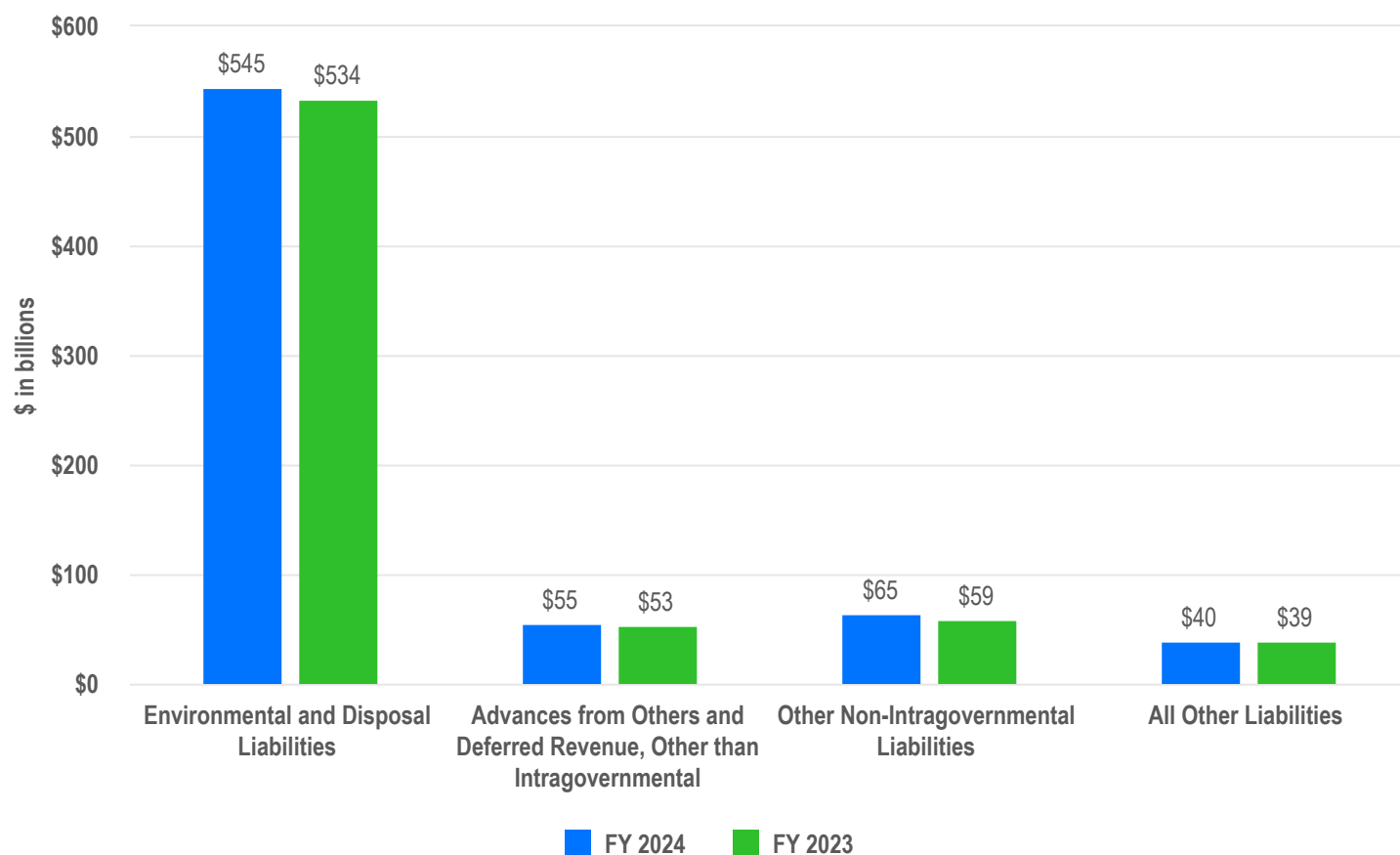


Total assets for FY 2024 were \$336 billion, compared to \$311 billion for FY 2023, an increase of \$25 billion, or 8%.

ASSETS (\$ IN BILLIONS)	FY 2024	FY 2023	CHANGE	% CHANGE
Fund Balance with Treasury	\$140	\$129	\$11	9%
Investments and Related Interest, Net	51	50	1	2%
Inventory, Net:	48	44	4	9%
Property, Plant, and Equipment, Net	62	52	10	19%
All Other Assets	35	36	(1)	(3)%
Total Assets	\$336	\$311	\$25	8%

Total assets increased mainly due to (1) appropriations for IIJA, which increased Fund Balance with Treasury (FBWT) and (2) multiple acquisition projects, and \$3 billion related to the conversion of the Mixed Oxide Fuel Fabrication Facility from a legacy waste asset to a construction in progress asset for SRPPF which increased Property, Plant, and Equipment.

## Analysis of Liabilities

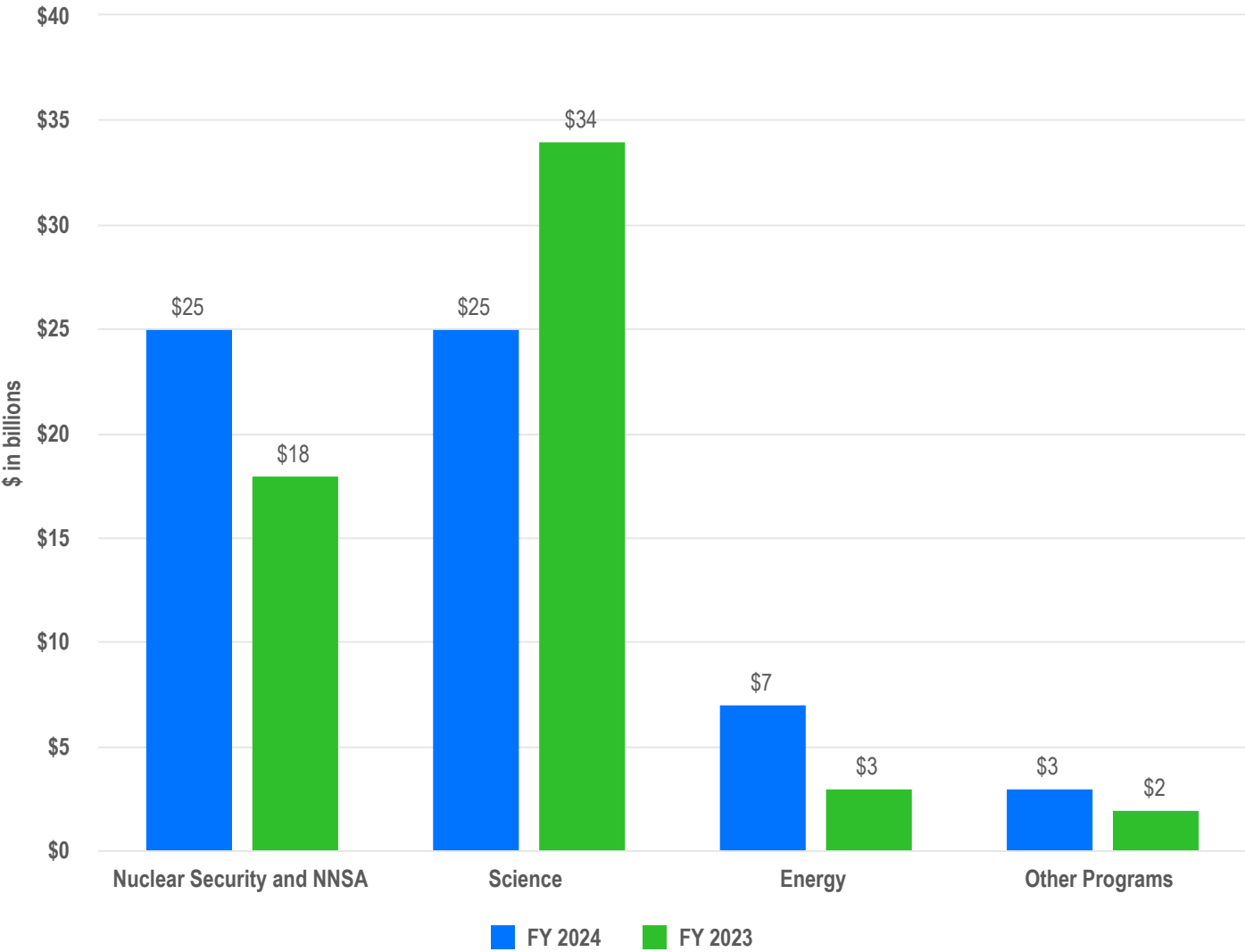


Total liabilities for FY 2024 were \$704 billion, compared to \$685 billion for FY 2023, an increase of \$19 billion, or 3%.

LIABILITIES (\$ IN BILLIONS)	FY 2024	FY 2023	CHANGE	% CHANGE
Environmental and Disposal Liabilities	\$545	\$534	\$11	2%
Advances from Others and Deferred Revenue, Other than Intragovernmental	55	53	2	4%
Other Non-Intragovernmental Liabilities	65	59	6	10%
All Other Liabilities	39	39	—	—%
<b>Total Liabilities</b>	<b>\$704</b>	<b>\$685</b>	<b>\$19</b>	<b>3%</b>

Total liabilities increased mainly due to the Department's Environmental Cleanup and Disposal Liabilities. The Environmental Cleanup and Disposal Liabilities are the largest component of the liabilities. The increase is primarily due to modifications of liability estimates driven by changes in technical approach, scope of activities, regulatory and legal changes, and inflation adjustments. In addition, the Department's contingent liability increased for spent nuclear fuel this fiscal year.

Analysis of Net Cost by Program

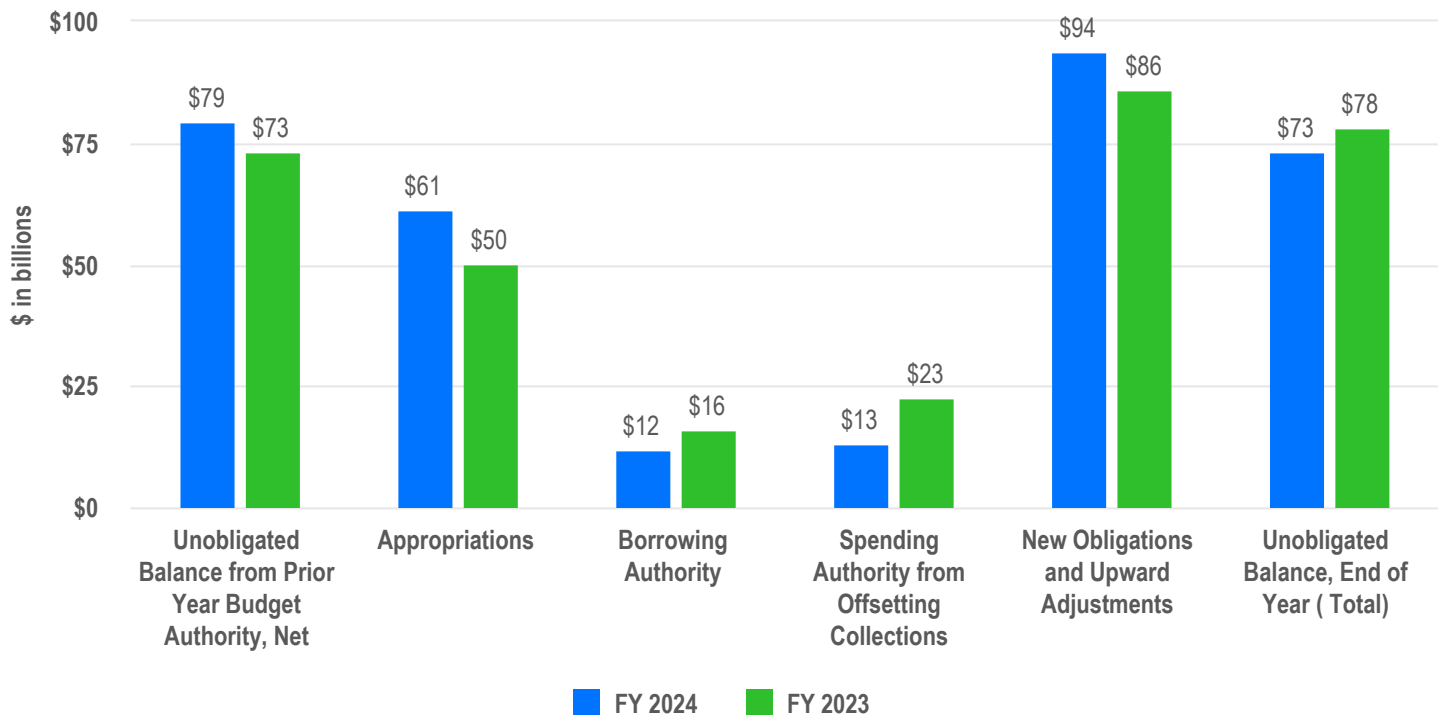


Net program cost for FY 2024 was \$60 billion, compared to \$57 billion for FY 2023, an increase of \$3 billion, or 5%.

NET PROGRAM COST (\$ IN BILLIONS)	FY 2024	FY 2023	CHANGE	% CHANGE
Nuclear Security and NNSA	\$25	\$18	\$7	39%
Science	25	34	(9)	(26)%
Energy	7	3	4	133%
Other Programs	3	2	1	50%
Total	\$60	\$57	\$3	5%

Net program cost increased mainly due to a decline in revenue from oil sales at SPR in FY 2024 compared to last year.

## Analysis of Budgetary Resources



BUDGETARY RESOURCES (\$ IN BILLIONS)	FY 2024	FY 2023	CHANGE	% CHANGE
Unobligated Balance from Prior Year Budget Authority, Net	\$79	\$73	\$6	8%
Appropriations	61	50	11	22%
Borrowing Authority	12	16	(4)	(25)%
Spending Authority from Offsetting Collections	13	23	(10)	(43)%
Other	2	2	—	—%
<b>Total Budgetary Resources</b>	<b>\$167</b>	<b>\$164</b>	<b>\$3</b>	<b>2%</b>
New Obligations and Upward Adjustments	94	86	\$8	9%
Unobligated Balance, End of Year (Total)	73	78	(5)	(6)%
<b>Status of Budgetary Resources</b>	<b>\$167</b>	<b>\$164</b>	<b>\$3</b>	<b>2%</b>

The *Combined Statements of Budgetary Resources* provides information on the budgetary resources available to the Department for the year and the status of those resources at the end of the FY. The Department receives most of its funding from general government funds administered by Treasury and appropriated for DOE's use by Congress. Since budgetary accounting rules and financial accounting rules recognize certain transactions at different points in time, Appropriations Used on the Consolidated Statements of Changes in Net Position will not match costs for that period. The primary difference results from recognition of costs related to changes in unfunded liability estimates.

Total budgetary resources consist of the balance at the beginning of the year, appropriations received during the year, borrowing authority, contract authority, and spending authority from offsetting collections. Total budgetary resources were \$167 billion for FY 2024 compared to \$164 billion in FY 2023, an increase of \$3 billion, or 2%.

Total Budgetary Resources increased due to multiple reasons. Appropriations increased \$11 billion primarily due to a \$12.4 billion reduction in appropriations in FY 2023 with no reduction in FY 2024 related to the SPR Petroleum Account. Borrowing Authority decreased \$4 billion primarily due to a \$9.6 billion decrease in Advanced Technology Vehicles Manufacturing Direct Loan Financing Account, a \$1.8 billion decrease in Transmission Facilitation Fund, and a \$7.2 billion increase in Title 17 Innovative Technology Direct Loan Financing Account. Spending Authority from Offsetting Collections decreased \$10 billion primarily due to \$6 billion collected in FY 2023 with no collections in FY 2024 related to the SPR Petroleum Account.



# MANAGEMENT'S ANALYSIS, ASSURANCES, AND PRIORITIES

## IIJA Resources, Obligations, and Outlays - Current Year

CURRENT YEAR (FY 2024)					
(\$ IN MILLIONS)	APPROPRIATIONS	BORROWING AUTHORITY	TRANSFERS	NET OBLIGATIONS	NET OUTLAYS
Energy Efficiency and Renewable Energy	\$ 1,945		\$ (31)	\$ 2,089	\$ 776
Cybersecurity, Energy Security, and Emergency Response	100	—	(2)	95	43
Electricity	1,610	—	(8)	2,454	35
Nuclear Energy	1,200	—	(2,040)	1,106	5
Fossil Energy and Carbon Management	1,447	—	(8)	765	90
Carbon Dioxide Transportation Infrastructure Finance and Innovation Program Account	—	—	(2)	2	2
Office of Clean Energy Demonstrations	4,476	—	(23)	1,489	386
Construction, Rehabilitation, Operation and Maintenance - Western Area Power Administration	—	—	—	—	—
Transfers to Colorado River Basin Power Marketing Fund account	—	—	—	—	11
Departmental Administration	—	—	11	12	13
Office of the Inspector General	—	—	53	6	5
Small Business Innovation Research/Small Business Technology Transfer	—	—	20	25	11
Transmission Facilitation Fund	—	—	—	1,034	—
America Energy Independence Fund	—	—	2,030	—	—
<b>Total</b>	<b>\$ 10,778</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 9,077</b>	<b>\$ 1,377</b>

## IIJA Resources, Obligations, and Outlays - Cumulative

CUMULATIVE (FY 2022 - FY 2024)					
(\$ IN MILLIONS)	APPROPRIATIONS	BORROWING AUTHORITY	TRANSFERS	NET OBLIGATIONS	NET OUTLAYS
Energy Efficiency and Renewable Energy	\$ 12,374	\$ —	\$ (92)	\$ 6,098	\$ 987
Cybersecurity, Energy Security, and Emergency Response	350	—	(3)	197	61
Electricity	4,880	—	(15)	3,260	67
Nuclear Energy	3,600	—	(2,045)	1,113	10
Fossil Energy and Carbon Management	4,730	—	(17)	978	139
Carbon Dioxide Transportation Infrastructure Finance and Innovation Program Account	2,100	—	(6)	4	3
Office of Clean Energy Demonstrations	14,030	—	(42)	4,220	485
Construction, Rehabilitation, Operation and Maintenance - Western Area Power Administration	500	—	(86)	414	414
Transfers to Colorado River Basin Power Marketing Fund Account	—	—	85	85	85
Departmental Administration	—	—	42	25	21
Office of the Inspector General	—	—	85	7	6
Small Business Innovation Research/Small Business Technology Transfer	—	—	64	45	12
Transmission Facilitation Fund	—	1,750	—	1,034	—
America Energy Independence Fund	—	—	2,030	—	—
<b>Total</b>	<b>\$ 42,564</b>	<b>\$ 1,750</b>	<b>\$ —</b>	<b>\$ 17,480</b>	<b>\$ 2,290</b>

## IRA Resources, Obligations, and Outlays - Current Year

CURRENT YEAR (FY 2024)						
(\$ IN MILLIONS)	APPROPRIATIONS	SPENDING AUTHORITY FROM OFFSETTING COLLECTIONS	BORROWING AUTHORITY	TRANSFERS	NET OBLIGATIONS	NET OUTLAYS
Enhanced Use of Defense Production Act	\$ —	\$ —	\$ —	\$ —	\$ 248	\$ 9
Residential Efficiency and Electrification Rebates	—	—	—	(9)	1,069	11
High-Efficiency Electric Home Rebate Program	—	—	—	—	1,608	13
State-Based Home Energy Efficiency Contractor Training Grants	—	—	—	—	2	1
Assistance for Latest and Zero Building Energy Code Adoption	—	—	—	—	14	9
Department of Energy Loan Program (Title XVII Program)	—	178	7,417	(7)	7,448	34
Energy Infrastructure Reinvestment Financing	—	—	—	(10)	165	16
Advanced Technology Vehicle Manufacturing	—	763	3,651	(6)	3,972	81
Domestic Manufacturing Conversion Grants	—	—	—	(4)	1	1
Tribal Energy Loan Guarantee Program	—	3	—	—	3	1
Transmission Facility Financing	—	—	—	(4)	5	4
Grants to Facilitate the Siting of Interstate Electricity Transmission Lines	—	—	—	(1)	3	2
Interregional and Offshore Wind Electricity Transmission Planning, Modeling, and Analysis	—	—	—	—	6	5
Advanced Industrial Facilities Deployment Program	—	—	—	(12)	113	24
Department of Energy Office of Inspector General Oversight	—	—	—	53	12	1
National Laboratory Infrastructure	—	—	—	—	99	447
Availability of High-Assay Low-Enriched Uranium	—	—	—	—	9	8
Environmental Reviews - Department of Energy	—	—	—	—	45	6
Environmental Reviews - Federal Energy Regulatory Commission	—	—	—	—	5	5
<b>Total</b>	<b>\$ —</b>	<b>\$ 944</b>	<b>\$ 11,068</b>	<b>\$ —</b>	<b>\$ 14,827</b>	<b>\$ 678</b>

## MANAGEMENT'S ANALYSIS, ASSURANCES, AND PRIORITIES

**IRA Resources, Obligations, and Outlays - Cumulative**

CUMULATIVE (FY 2022 - FY 2024)						
(\$ IN MILLIONS)	APPROPRIATIONS	SPENDING AUTHORITY FROM OFFSETTING COLLECTIONS	BORROWING AUTHORITY	TRANSFERS	NET OBLIGATIONS	NET OUTLAYS
Enhanced Use of Defense Production Act	\$ 250	\$ —	\$ —	\$ —	\$ 250	\$ 9
Residential Efficiency and Electrification Rebates	4,300	—	—	(9)	1,094	13
High-Efficiency Electric Home Rebate Program	4,500	—	—	—	1,631	13
State-Based Home Energy Efficiency Contractor Training Grants	200	—	—	—	2	1
Assistance for Latest and Zero Building Energy Code Adoption	1,000	—	—	—	17	12
Department of Energy Loan Program (Title XVII Program)	3,600	198	7,790	(7)	7,868	48
Energy Infrastructure Reinvestment Financing	5,000	—	—	(10)	169	18
Advanced Technology Vehicle Manufacturing	3,000	763	16,965	(6)	17,742	85
Domestic Manufacturing Conversion Grants	2,000	—	—	(4)	3	1
Tribal Energy Loan Guarantee Program	75	3	—	—	4	1
Transmission Facility Financing	2,000	—	—	(4)	6	5
Grants to Facilitate the Siting of Interstate Electricity Transmission Lines	760	—	—	(1)	4	3
Interregional and Offshore Wind Electricity Transmission Planning, Modeling, and Analysis	100	—	—	—	16	8
Advanced Industrial Facilities Deployment Program	5,812	—	—	(12)	126	25
Department of Energy Office of Inspector General Oversight	20	—	—	53	12	1
National Laboratory Infrastructure	2,000	157	—	—	2,090	957
Availability of High-Assay Low-Enriched Uranium	700	—	—	—	31	9
Environmental Reviews - Department of Energy	115	—	—	—	46	6
Environmental Reviews - Federal Energy Regulatory Commission	100	—	—	—	7	6
<b>Total</b>	<b>\$ 35,532</b>	<b>\$ 1,121</b>	<b>\$ 24,755</b>	<b>\$ —</b>	<b>\$ 31,118</b>	<b>\$ 1,221</b>

Note: The cumulative Advanced Technology Vehicle Manufacturing borrowing authority and obligations includes \$13.3 billion that was reported in FY 2023 as part of DOE base funding. In FY 2024, it is reported under IRA funding.

# Analysis of Systems, Controls, and Legal Compliance



## Management Assurances



The Department of Energy (Department) leadership and management is responsible for establishing and maintaining an effective system of internal controls to meet the objectives of the Federal Managers' Financial Integrity Act of 1982 (FMFIA). To support the Department's management's responsibilities, an annual evaluation of management and financial system internal controls is required by Sections II and IV of FMFIA, and the Office of Management and Budget (OMB) Circular No. A-123, Management's Responsibility for Enterprise Risk Management and Internal Control. The annual assurances are made based on the results of these evaluations, which are reflected in reports and representations completed by senior accountable managers within the Department.

The Department completed an evaluation of management and financial system internal controls, and as of September 30, 2024, the Department provides reasonable assurance that internal controls on the effectiveness and efficiency of operations, reliability of reporting for internal and external use, and compliance with applicable laws and regulations are operating effectively in design and operation. The evaluation of internal controls for reporting included processes supporting the Digital Accountability and Transparency Act of 2014 (DATA Act) and overall data quality contained in agency reports, as required by Appendix A of OMB Circular No. A-123 and Departmental requirements. The evaluation is an assessment of entity and process controls and considered risks associated with supplemental funding, such as Infrastructure Investment and Jobs Act, Inflation Reduction Act, and Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act. The Department has reasonable assurance that processes are in place to identify risks and establish controls to mitigate identified risks. Evaluation results indicate the Department's financial systems generally conform to governmental financial systems requirements, and substantially comply with requirements of the Federal Financial Management Improvement Act of 1996 (FFMIA).

The Department has no material weaknesses to report as a result of the internal control evaluations. The Department continues work to address Management Priorities, which represent important strategic management issues the Department has in fulfilling responsibilities and initiatives to support the Administration in securing a better future for the Nation.

/Jennifer M. Granholm/

Jennifer M. Granholm  
Secretary of Energy  
November 14, 2024



### Federal Managers' Financial Integrity Act (FMFIA)

FMFIA requires agencies to establish internal controls and financial systems to provide reasonable assurance that the integrity of federal programs and operations remains protected. This act mandates that the head of the agency provide an annual assurance statement detailing if the agency met this requirement and if material weaknesses exist.

In response to FMFIA, the Department has an internal control program that holds managers accountable for the performance, productivity, operations, and integrity of programs through the use of internal controls. Each year, senior Department managers evaluate the adequacy of the internal controls surrounding activities and determine whether the controls conform to the principles and standards established by OMB and the Government Accountability Office (GAO). The results of these evaluations and other senior management information determine if there are internal control matters resulting in material weaknesses. The Departmental Internal Control and Assessment Review Council (DICARC) provides review and oversight of the internal control program and advises the Secretary on the Statement of Assurance.

The Secretary of Energy's 2024 Statement of Assurance, provided above, is the final report produced by the Department's annual assurance process. Although the Department did not identify any material weaknesses during its internal control and risk assessment cycle, it acknowledges that a material weakness and related challenges have been identified elsewhere in this report.

### OMB Circular No. A-123, Appendix A

OMB Circular No. A-123, Appendix A, requires agencies to conduct management assessment and evaluation of internal controls over reporting, which includes processes supporting the DATA Act, and overall data quality contained in agency reports. The evaluation requires an annual assessment of entity and process controls.

The Department's evaluation for FY 2024 provides reasonable assurance that processes are in place to identify risks and establish controls to manage these risks.

### Federal Financial Management Improvement Act (FFMIA)

FFMIA improves federal financial management and reporting by requiring financial management systems to comply substantially with three requirements:

1. Federal financial management system requirements;
2. Applicable federal accounting standards; and
3. The United States Standard General Ledger (USSGL) at the transaction level.

This Act requires independent auditors to report on agency compliance with the three stated requirements as part of financial statement audit reports.

The Department evaluated agency financial management systems and determined they substantially comply with federal financial management systems requirements, applicable Federal accounting standards, and the USSGL at the transaction level.



An individual at NNSA from Lawrence Livermore National Laboratory prepares to test a sample from the Epic Shadow exercise.

### NNSA Conducts Multi-Laboratory Nuclear Forensics Exercise

If nuclear material or a nuclear device were intercepted in the United States, decision-makers would need to know as quickly as possible where it came from and who was responsible.

With that in mind, NNSA's Office of Counterterrorism and Counterproliferation recently conducted the Epic Shadow exercise to demonstrate its Nuclear Forensics Material Analysis Program (NF-MAP) capabilities and answer these questions.

The Office of Nuclear Forensics sustains NF-MAP, part of NNSA's NEST, to support national decision-making and law enforcement efforts to attribute nuclear threats. Read the article [here](#).

# Management Priorities

DOE conducts multiple complex and highly diverse missions. Although the Department continually strives to improve the efficiency and effectiveness of programs and operations, specific areas merit a higher level of focus and attention. These areas often require short- and long-term strategies for stable operations and represent the most significant management priorities the Department faces in accomplishing the missions.

The Reports Consolidation Act of 2000 requires the OIG to prepare an annual statement summarizing the Department's most serious management and performance challenges. These challenges are included in the Other Information section of this report. In FY 2023, GAO issued the biennial High-Risk Series update, which includes DOE contract management and major projects costing \$750 million or greater as well as U.S. government environmental liability, a responsibility DOE shares with other federal agencies.

After considering critical DOE activities and areas found by GAO and the OIG, the Department identified 11 management priorities representing the most important strategic management issues the Department has now and in the coming years. Tables 1a-c identify the GAO High-Risk List issues, DOE management priorities, and IG challenge areas. In accordance with the Government Performance and Results Act Modernization Act of 2010, DOE includes performance measures related to the Management Priorities in the Department's APPR.

Table 1a

GAO HIGH-RISK LIST –GAO-23-106203 AS OF APRIL 2023 (UPDATED EVERY TWO YEARS)
<ul style="list-style-type: none"><li>Acquisition and Program Management for DOE's National Nuclear Security Administration and Office of Environmental Management</li><li>U.S. Government's Environmental Liability</li></ul>

Table 1b

DOE MANAGEMENT PRIORITIES
<ul style="list-style-type: none"><li>Contract and Major Project Management</li><li>Safety and Physical Security</li><li>Cybersecurity</li><li>Environmental Cleanup</li><li>Nuclear Waste Disposal</li><li>Physical Infrastructure</li><li>Human Capital Management</li><li>Diversity, Equity, Inclusion, and Accessibility</li><li>Climate Change</li><li>Energy Justice</li><li>Nuclear Stockpile Stewardship</li></ul>

Table 1c

IG CHALLENGE AREAS FY 2025
<ul style="list-style-type: none"><li>Key Mission Element Challenges:<ul style="list-style-type: none"><li>Restoring Plutonium Pit Production Capability</li><li>Managing Radioactive Liquid Waste</li></ul></li><li>Cross-Cutting Challenges – Reducing Fraud, Waste, and Abuse:<ul style="list-style-type: none"><li>Overseeing the Department of Energy's Expanded Mission - Infrastructure Investment and Jobs Act, the CHIPS and Science Act, the Inflation Reduction Act, and the Puerto Rico Energy Resilience Fund</li><li>Protecting Sensitive Data, Information Systems, National Security, and Critical Infrastructure</li><li>Research Security</li><li>Data Governance and Analytics</li><li>Leadership With Artificial Intelligence</li></ul></li></ul>

## CONTRACT AND MAJOR PROJECT MANAGEMENT

### Key Challenges:

The Department is historically in the top three agencies in terms of federal government contract obligations, spending about 90% of its annual budget on contracts to operate scientific laboratories, engineering and production facilities, and environmental restoration sites, as well as acquiring capital assets. Contractors at DOE sites and laboratories perform critical missions, including maintaining nuclear weapons stockpiles, cleaning up radioactive and hazardous waste resulting from the legacy of the Manhattan Project, and conducting the world's most sophisticated basic and applied energy and scientific research activities. To conduct these missions, the Department manages large, complex capital asset projects.

In 1990, GAO designated DOE's contract management, including contract administration and project management, as a high-risk area because of historical challenges with contracts and project execution. Since then, DOE has made significant improvements in project management, although challenges remain.

GAO published the latest High-Risk List Update in April 2023, continuing its focus on DOE contracts and major projects — those with an estimated cost of \$750 million or greater — under the purview of NNSA and EM. GAO acknowledged the NNSA and EM leadership changes that resulted in criteria moving from "Partially Met" to "Met." Additionally, GAO recognized NNSA's and EM's continuing efforts to identify and correct root causes and other roadblocks to achieve "Met" in all categories. This includes their work in areas such as monitoring and correcting contract performance

## MANAGEMENT PRIORITIES (Unaudited)

below expectations, establishing and improving processes for reviewing field office contractor oversight, workforce and staffing challenges, and managing contract documentation in a central recordkeeping system.

The DOE IG continues to conduct annual audits and investigations of contractor performance. The Department evaluates issues and recommendations identified by the IG and takes appropriate action to mitigate risks for specific contractor performance findings. DOE is taking steps to validate contractor implementation of agreed-upon corrective actions.

**Departmental Initiatives:** In FY 2024, DOE continued to make progress in addressing contract and major project management.

DOE efforts to address GAO criteria to improve contract and major project management included:

- Sustained leadership commitment to address contract and project management challenges.
- Improved acquisition planning for M&O and other major contracts to verify DOE maintains a firm understanding of contract requirements and holds contractors accountable for contract objectives.
- Improved the quality of enterprise-wide cost information available to DOE managers and key partners.
- Applied DOE's contract and project management practices to major legacy projects.

DOE ongoing improvements include:

- Implementing requirements of the Program Management Improvement Accountability Act of 2016 (PMIAA) and OMB supplemental guidance, including appointing a Program Management Improvement Officer and participating in the Program Management Policy Council.
- Sustaining focus on Category Management (CM) principles and initiatives. DOE continues to conduct training, correct data to ensure small business use is properly reflected in Spend Under Management, and continuously monitoring DOE CM and small business policy interactions.
- Developing the workforce by providing staff with the requisite skills and resources to perform acquisition-related duties and responsibilities.
- Adopting the best commercial practices using technological innovations and obtaining best-value goods and services to achieve efficiencies and avoid unnecessary spending.
- Defining requirements in measurable outcomes.
- Making use of single or multiple-award Indefinite Delivery, IDIQ contracting vehicles to define and task the contractor to perform discrete scopes of work when requirements arise.
- Using firm, fixed-price contracts to define specific requirements and provide industry with information for realistic price requirements.
- Identifying and aligning applicable contract incentives to appropriate performance measures.
- Using objective performance measures focused on outcomes to balance considerations of cost control, schedule achievement, and technical performance.
- Providing prompt, accurate, and objective contractor performance assessments in the government-wide Contractor Performance Assessment Reporting System to hold poor-performing contractors accountable and reward high-performing contractors.
- Implementing a risk assessment tool for contracting officers to oversee and assess the effectiveness of a contractor's purchasing system at NNSA laboratories and facilities, in accordance with Federal Acquisition Regulation Subpart 44.3.
- Requesting, analyzing, and tabulating best contract management practices across DOE via Procurement Management Reviews and making that information available through the Office of Acquisition Management's Acquisition Answers Knowledge Management Portal, lunch-and-learn training sessions, and other dissemination mechanisms.

## SAFETY and PHYSICAL SECURITY

### Key Challenges:

#### Safety

Challenges exist with maintaining the safety and health of the DOE federal and contractor workforce as well as protecting the public and environment during departmental operations, while striving to enhance the Department's productivity and achieve mission objectives.

#### Physical Security

Challenges exist with safeguarding and protecting national assets entrusted to DOE in an effective and efficient manner to support the Department's mission success.

**Departmental Initiatives:** DOE continues ongoing efforts to maintain enterprise safety and health and improve the safeguarding and protection of national assets.

#### Safety

- **Per- and Polyfluoroalkyl Substances (PFAS):** DOE is responding to concerns about emerging environmental contaminants known as PFAS, a group of synthesized chemicals manufactured and used in a variety of industries since the 1940s. These chemicals are persistent in the environment and PFAS exposure can lead to adverse health effects. Multiple DOE sites have discharged PFAS as a chemical agent in the fire suppression product, aqueous film-forming foam. Other DOE operations and processes have also released quantities of PFAS into the environment. The Department is supporting research on past PFAS operations, participating in policymaking and regulatory processes, and tracking and contributing to the emerging scientific and technical approaches in measuring and remediating PFAS contamination. In FY 2024,

## MANAGEMENT PRIORITIES (Unaudited)

EHSS continued to lead DOE efforts to understand and address the impacts of PFAS, including addressing deliverables identified in the DOE PFAS Strategic Roadmap. The PFAS Storage and Disposal Guidance, which supports DOE site storage and disposal of materials containing PFAS, whether generated through routine operational processes or from recovery of emergency use discharges or spills of PFAS-containing materials. Key accomplishments include:

- Revised Department policy on emerging environmental issues. This includes refocusing the PFAS Coordinating Committee as the Environmental Protection and Compliance Coordinating Committee to cover a broader range of compliance issues, changing regulations, and emerging research. EHSS also rescinded aspects of the PFAS disposal moratorium established in the September 2021 memo, *Addressing Per- and Polyfluoroalkyl Substances at the Department of Energy*, which prohibited the disposal of PFAS-bearing wastes. This is documented in the 2024 S-2 memo, *Managing Emerging Environmental Issues at the Department of Energy*.
- Updated PFAS Assessment Report for DOE Sites, a summary of the Department's knowledge to date about uses and releases of PFAS at DOE sites. This report builds upon the FY 2023 initial report and informs next steps in addressing PFAS at sites.
- Continued coordination with other federal agencies, the White House, and communication with the public.
- Continued support for implementing the *Guide for Investigating Historical and Current Uses of PFAS at DOE Sites*, which is designed to help the Department better understand its past and present uses of PFAS, identify areas of potential releases into the environment, and develop information to characterize and assess PFAS risks.

The Department's ongoing efforts include actively tracking 3M's December 2022 announcement to discontinue PFAS use in its product portfolio by the end of FY 2025. DOE, including NNSA, is working with 3M, DOD, NASA, and other federal partners to determine the announcement's impact on mission-critical components and systems.

In response to the FY 2024 Energy & Water Appropriations bill, September 30, 2023, DOE completed the first of two requested reports on the life cycle of fluoropolymers and their alternatives in commerce, to include review of resilience properties, cost-benefit analysis, and greenhouse gas (GHG) emissions. The report covered a wide range of industries, including automotive, battery, building construction, chemical processing, electronics, infrastructure, semiconductor, solar panel, and wind energy industries. The Department is developing a second report on the impact to potential life spans of infrastructure materials, including steel, plastics, glass, and wood, as well as potential life span impacts to renewable energy generation components and energy storage components, if fluoropolymers were no longer permitted to continue in commerce.

- **Safety Culture and Integrated Safety Management (ISM):** EHSS efforts to improve organizational culture and effectiveness at critical DOE and NNSA programs have significantly contributed to the safety and health of the Department's federal and contractor workforce while safeguarding public and environmental interests.
  - At LANL, the support has enabled the largest directorate to increase production while maintaining stringent safety standards, ensuring compliance with environmental regulations and protecting public health. The innovative approach to performance management and change processes has fostered a collaborative environment that enhanced productivity without compromising safety, resulting in a 50% improvement in operational uptime. This demonstrates a careful balance between achieving mission objectives and maintaining a safe, healthy, and sustainable working environment, exemplifying a commitment to excellence in operational performance and safety management.
  - EHSS has made significant strides in advancing Department goals by fostering excellence in performance and engaging stakeholders to align EHSS policies with the DOE mission. Key accomplishments include:
    - Assisted in creating and supporting EJE in resetting its organizational culture through strategic planning, staff engagement, hosting an offsite, and mentoring leadership. This comprehensive support enabled EJE to develop and execute Department-wide policies that effectively implement applicable legislation and executive orders, thereby strengthening diversity and inclusion goals that enhance equal employment opportunities, support small and disadvantaged businesses, bolster minority educational institutions, and uplift historically underrepresented communities.
    - Created a learning environment that significantly increased the demand for assistance, a remarkable 700% rise in requests. In supporting DOE's Accident Prevention and Investigation Program, staff have enhanced the DOE's corporate safety initiatives by revising critical courses such as EIP-400 and aligning them with the NTC Casual Investigation Courses. Serving as an expert resource on organizational culture for Federal Accident Investigation Boards (FAIB) and a quality reviewer of FAIB reports, staff provides valuable guidance to DOE leaders, promoting a proactive approach to accident prevention. By exchanging lessons learned and sharing best practices, this work helps identify leading indicators and embedded precursors to accidents, enabling DOE to strengthen its ISM System and reduce accident frequency and severity. Staff expertise is highly valued by EHSS leadership and recognized across other line programs, underscoring their role in fostering a culture of continuous improvement and safety excellence within the Department.
  - Through leadership support of the Department's Safety Culture Improvement Panel (SCIP), DOE continues to focus on improving safety culture across the complex. Providing protections for DOE federal and contractor whistleblowers and fostering a safety-conscious work environment by encouraging workers to raise concerns without fear of reprisal are key examples of efforts to mitigate this risk and will continue. In addition, as part of ISM's feedback and improvement, it is imperative that leaders focus on the safe execution of work to further a positive safety culture.
- In FY 2024, EHSS led 10 monthly SCIP meetings and shared over four Program Secretarial Status Reports, e.g., FECM, EM, NNSA, and SC, as well as 12 best practices from DOE sites to promote organizational learning. Six SCIP working groups supported the completion of the SCIP



## MANAGEMENT PRIORITIES (Unaudited)

FY 2024 Annual Plan goals and objectives to promote long-term sustainability of safety culture and Safety-Conscious Work Environment (SCWE) concepts. This includes improving communications, developing a common contract clause for safety culture, supporting training development and delivery, identifying ways to monitor and measure safety culture, and providing safety culture assistance to DOE sites. Key accomplishments and ongoing actions include:

- Supported the development and delivery of over 35 safety culture courses to senior executives, first-line supervisors, and employees across the complex, reaching over 800 participants, in collaboration with the SCIP and DOE NTC. These courses provide leaders and employees with tools to successfully implement desired behaviors and measurably improve the safety culture, SCWE, and organizational climate consistently across the Department.
  - Continued support to the NTC instructor qualification process by training, coaching, and evaluating future instructors, enabling site offices to conduct courses.
  - Conducted the Annual SCIP Meeting and Safety Culture Workshop in Albuquerque, New Mexico, August 5-8, 2024. The event was held in collaboration between the SCIP, NNSA's Sandia Field Office and SNL, and DOE's EA's NTC. The theme for this year's workshop was Building Habits of Excellence through Leadership, Employee/Worker Engagement, and Organizational Learning. The workshop included plenary speakers from DOE and DOE contract executives, labor representatives, and invited guests who focused on building habits of excellence. Additionally, the workshop included 24 breakout sessions on best safety culture practices from DOE federal and contractor staff and other federal agencies, including the Federal Aviation Administration and NASA.
  - Supported national conferences and workshops, such as the National Cleanup Workshop 2023, Waste Management Symposia 2024, and the National Employee Concerns Program, by providing presentations as well as coordinating and facilitating executive leadership panels on psychological safety.
  - Developed and delivered a new presentation on psychological safety to the EM Consolidated Business Center and Safety Fest Tennessee 2024. The tools and resources enabled the organizations to implement an open and collaborative work environment.
  - Supported effective safety culture and organizational culture efforts across the complex, including providing key guidance and support as well as tools and resources to leadership at the EM Los Alamos Site Office, Idaho Cleanup Project, Hanford's Central Plateau Cleanup Program, EM Consolidated Business Center, LANL, and LLNL. These activities enabled the organizations to measurably improve teamwork, communication, productivity, and safety culture.
  - Led the two of three pilots of the SCIP Safety Culture Assistance Visit (SCA Visit). The first was at the request of the EM Oak Ridge's United Cleanup Oak Ridge LLC (UCOR) in October 2023. The SCIP SCA Visit provided UCOR with valuable feedback, including high-level recommendations to help improve safety culture, SCWE, and organizational climate. The second was requested by the Western Area Power Administration (WAPA) and conducted in August 2024. These proactive assistance visits identify areas of strength, gaps to excellence, and provide 3-5 high-level recommendations organizations can focus on to achieve their biggest return on investment. These recommendations will help improve their safety culture, organizational climate, and SCWE.
  - Distributed the results of an ISM benchmarking study against external standards to share best practices and opportunities to improve the Department's ISM system and implementation practices.
- **Departmental Regulatory Framework:** The Department operates under a robust standards-based worker protection and safety regulatory framework composed of rules, policies, orders, and technical standards providing for adequate protection of the public workers and environment. As a self-regulated entity, it is incumbent upon DOE to continually review and improve its framework by identifying and integrating lessons learned from industry best practices, updates to national consensus standards, and the Department's own implementation experience.

In FY 2024, EHSS continued work on or completed updates to the Department's worker safety and health program rules, radiation protection regulation, nuclear safety requirements, and quality assurance requirements, as well as numerous technical standards and implementation guides used by DOE program offices and contractors to support safe performance of work. Significant effort and resources were applied to providing technical assistance to DOE federal and contractor organizations in the implementation of safety and health programs.

### Physical Security

- **Trusted Workforce (TW) Implementation:** In FY 2024, DOE accomplished the following in association with TW milestones:
  - Continued the enrollment of the national security sensitive workforce into the Report of Arrest and Prosecution Background (Rap Back) service. This has enabled DOE to continue meeting requirements for TW 1.5.
  - Finalized preparations for the enrollment of the federal non-sensitive public trust workforce into Rap Back and continuous vetting (CV) beginning in FY 2025 by developing an implementation plan and communicating with Program Offices regarding budgetary requirements for CV services.
  - Continued coordination with the Defense Counterintelligence and Security Agency to be among the first Departments to use the National Background Investigations Service Shared Services offered. This will enable DOE to meet certain TW 2.0 goals moving forward through FY 2025.
- **Security Vetting:** DOE continuously works with other U.S. department and agencies (D/A) to develop, implement, and evaluate improvements and efficiencies in security vetting as the program transitions to CV under TW 2.0. Through various IWGs, benchmarking, and collaborating with other D/As, DOE can implement TW 2.0 milestones and continue to manage risk in real time while protecting DOE's mission, information, and resources.

## MANAGEMENT PRIORITIES (Unaudited)

- **Counter Uncrewed Aircraft System (CUAS) Design Reference:** In FY 2024, DOE initiated an update to the CUAS Design Reference to address evolutions in UAS navigation advancements and commercial countermeasures. It is for complex-wide use to educate programs and sites on the regulations, threats, risk assessment methodology, and implementation process for employing a CUAS capability. DOE, through NNSA, deployed CUAS systems that are fully operational at LANL, Nevada National Security Site (NNSS), and Pantex Plant while the CUAS system at the Y-12 National Security Complex will be fully operational in Q1 of FY 2025.
- **Security Risk and Vulnerability Analyses:** The Department continuously updates risk analysis and vulnerability assessment tools and processes to assist in the identification of unacceptable risks and vulnerabilities in security postures and better enable sites and programs to focus resources on priority mitigation concerns. DOE works to evaluate physical technologies for effectiveness and affordability to enable informed procurement decisions across the complex when addressing threat mitigation options.
  - DOE collaborates with the Nuclear Regulatory Commission (NRC), the Defense Threat Reduction Agency (DTRA), and other DOD elements to develop a common basis for protection of nuclear weapons and special nuclear material at the national level and improve communication and transparency with decision-makers in Congress and the executive branch. The Department emphasizes the importance of developing security risk assessment processes for non-nuclear sites to address protection of critical infrastructure, high-value assets, and personnel.
- **Unmanned Aircraft Systems:** DOE is developing a searchable database of approximately 300 commercial CUAS to assist sites in making informed procurement decisions. The CUAS Selection Tool will perform a best-fit analysis of commercial platform capabilities with site-defined requirements to include operational integration, systems performance, collateral effects, environmental considerations, safety training, and life cycle cost.
- **Classification and Declassification of Information and Matter:** DOE is responsible for implementation of the U.S. government-wide program to classify and declassify or decontrol nuclear weapons-related matter, i.e., information and material supporting the nation's nuclear nonproliferation programs, and assists other agencies to promote the accurate identification of nuclear weapons-related information and prevent its inadvertent release. The Department continuously improves training, communication, and computerized tools to advance the accuracy and productivity of classification determinations. DOE supports the National Declassification Center at the National Archives in safely releasing historical government documents of other agencies no longer meeting criteria for classification, for the benefit of an informed public, and in concert with other open government initiatives. The DOE effort prevents the inadvertent release of classified nuclear weapons-related information at the National Archives.
- **Insider Threat Program (ITP):** Under the auspices of the IN, DOE is continuing to expand and refine its physical and technical capabilities for User Activity Monitoring (UAM) on classified networks. This work is resident within the IN-managed ITP Analysis and Referral Center (ARC). The ARC is also working to expand its UAM capability to unclassified networks within IN.

The Office of Insider Threat Program (OITP), managed with EHSS, is updating insider threat training for all employees, including ITP for supervisors and new employees; all training courses are published on Learning Nucleus, DOE's internal online-based learning system. OITP hosted the ITP Annual Workshop at ANL in May 2024. The workshop included a variety of speakers from DOE and across the U.S. government to speak to the implementers of the ITP across the Department.

The Department is continuously working with elements across the enterprise to establish compliance with national-level ITP minimum requirements. DOE has developed a near-term strategy for the ITP based on guidance from the Secretary and is in the midst of revising DOE Order 470.5, *Insider Threat Program*. OITP completed the 2024 ITP Annual Report in September 2024.

- **Human Reliability Program (HRP):** The Department continuously monitors HRP personnel in the program under the authority of title 10, Code of Federal Regulations, part 712, *Human Reliability Program*, which is currently under review. Carnegie-Mellon's Software Engineering Institute completed the pilot of its Networked Employee Assurance Tool and presented results at the 2024 HRP Workshop. EHSS management continues to provide guidance and support to the field through site assistance visits, collaborating with program office federal management, and hosting an annual workshop to bring key subject matter experts together to discuss program implementation.

## ENVIRONMENTAL CLEANUP

### Key Challenges:

For more than 30 years, EM has cleaned up the environmental legacy of decades of nuclear weapons production and government-sponsored energy research. While EM continues to make progress, the remaining work is technically complex, with associated high risks.

Technical and programmatic risks and uncertainties are inherent in DOE's cleanup projects. The legacy of the Manhattan Project, Cold War, and other nuclear fuels programs include thousands of remaining excess contaminated facilities within the EM Program portfolio and in other DOE programs. The duration and diversity of past nuclear weapons research and development, testing, and production create a level of uncertainty regarding the amount and composition of waste, as well as the nature and extent of environmental contamination. As a result, characterization of legacy waste sites is performed in conjunction with planning and execution of cleanup activities, such as deactivating and decommissioning facilities, removing hazardous materials, stabilizing waste streams to prevent the release of such material into the environment, and remediating sites in accordance with cleanup objectives and applicable legal agreements and regulations. Available disposal pathways for waste streams and nuclear

## MANAGEMENT PRIORITIES (Unaudited)

materials are essential to fulfill many cleanup requirements and effectively manage environmental liabilities. Cleanup activities can continue for decades, often requiring first-of-a-kind solutions and/or facilities. The development and deployment of new technologies can strengthen EM's ability to characterize and treat waste, manage costs, and fulfill schedules.

Statutes, laws, and regulatory agreements or court orders govern EM's site cleanup work by establishing the scope of the work and the timeline for completing the work. DOE developed initial regulatory milestones based on the best information available for a site, with the understanding that further characterization would be needed. As the scope of the potential cleanup work is better defined, EM shares updated characterization data with the EPA, state regulators, and other interested parties.

**Departmental Initiatives:** In FY 2024, EM continued pursuing numerous initiatives that address key challenges and improve performance. The ongoing initiatives supporting EM's mission include the implementation and development of various strategies, operations, technologies, and partnerships to advance the EM cleanup mission. In FY 2024, EM accomplishments spanned the complex.

- At the Hanford site, EM's Office of River Protection made demonstrable progress toward the implementation of the DFLAW program, which will require integrated, around-the-clock operation of over 25 separate nuclear facilities.
  - Continued operations of the Tank-Side Cesium Removal System.
  - Completed over 40 upgrades at the Effluent Treatment Facility, which increased processing rates to support 24/7 DFLAW operations.
  - Completed initial heat-up for Melter 1 and 2 and filled the first four containers with test glass at the Low-Activity Waste Facility.
  - Initiated negotiations for the High-Level Waste (HLW) proposal for completion of the design.
  - Completed retrieval operations for single-shell tank AX-101.
  - Completed facility maintenance of 242-A Evaporator.
  - Completed construction of U-Farm barrier.
  - Completed construction of the new 200W potable water storage tank shell.
  - Installed the Pall membrane filtration system in the new Central Plateau Water Treatment Facility.
- At the SRS, EM continued treating tank waste for final disposition, and other cleanup activities:
  - Received approval to operate SDU 9.
  - Completed cell construction of SDU 10 and began shotcrete/prestress activities.
  - Completed the design and site preparation phases for SDUs 11 and 12.
  - Continued operation of the SWPF, treating approximately 9.95 million gallons of salt solution since the start of hot operations in October 2020.
  - Continued initiatives at SWPF and the Defense Waste Processing Facility (DWPF) to enable an increase to the salt processing rate to 9 million gallons per year.
  - Continued execution of a risk reduction strategy to process high curie salt batches through SWPF.
    - In FY 2024, EM processed more than 11.2 million curies, including curies disposed through the DWPF.
  - Over the past two years, 10% of the radioactivity in the tank farms has been safely immobilized in grout and glass.
  - Completed interim double-stacking initiative at DWPF for Glass Waste Storage Building (GWSB) #1.
    - As a result of the initiative, an additional 2,262 canisters (4,524 total) were placed, the construction of an additional building was avoided, and a cost savings of roughly \$100 million was realized.
- At the INL, EM continued treatment of waste and other cleanup progress activities:
  - The IWTU processed approximately 115,000 gallons of sodium-bearing waste since start-up in April 2023. During FY 2024, approximately 47,000 gallons of waste were processed.
  - Completed 10 of 10 planned Peach Bottom spent nuclear fuel transfers from Generation 1 to Generation 2 vaults.
  - Completed demolition of four Accelerated Retrieval Project facilities.
  - Completed 365 shipments of transuranic waste to WIPP.
  - Recycled over 546 tons of metal from the Naval Reactors demolition efforts.
- At Paducah, EM continued to build upon cleanup progress:
  - Disposed over 1 million pounds of R-114 refrigerant.
  - Segmented 131 of 497 converters in the C-333 Process Building Material Sizing Area.
  - Characterized and deactivated all surge drums in C-333.
  - Completed demolition of 13 of 13 excess facilities as part of the footprint reduction project.
  - Continued construction activities for the dedicated oxide and heel cylinder shipping facility.
  - Prepared 10 gondolas containing 60 oxide cylinders for rail shipment and disposal.
  - Continued safe conversion of depleted uranium hexafluoride cylinders in line with annual production targets.
- At Portsmouth, EM continued progress on the Deactivation & Decommissioning (D&D) of the former gaseous diffusion plant:
  - Completed X-326 Process Building Demolition Project fieldwork, including D&D of equipment, and received approval for Critical Decision-4.
    - The project was completed 16 months ahead of schedule and approximately \$28 million under budget.
  - Completed demolition and soil excavation of the X-626, a recirculating cooling water facility.
  - Continued X-333 Process Building deactivation, including the completion of non-destructive assay characterization fieldwork and initiation of pre-demolition subprojects.

## MANAGEMENT PRIORITIES (Unaudited)

- Continued X-330 Process Building deactivation.
- At the On-Site Waste Disposal Facility, EM completed the CAP 2 Cell 2 Clay Layer and Secondary Liner and construction and testing of a 1 million-gallon leachate storage tank.
- Prepared 10 gondolas containing 60 oxide cylinders for rail shipment and disposal.
- Continued safe conversion of depleted uranium hexafluoride cylinders in line with annual production targets and continued preliminary shipments of oxide to a licensed commercial disposal facility.
- At EM-Los Alamos, EM continued the transfer of TRU waste to WIPP:
  - EM completed 22 shipments of TRU waste to WIPP.
- At the Moab site, EM disposed over 1,036,065 tons of uranium mill tailings.

DOE's ongoing efforts to advance cleanup activities include significant decommissioning and demolition activities:

- At the West Valley Demonstration Project, continued controlled demolition of the Main Plant Process Building (MPPB) and dispositioned over 22,000 tons of MPPB waste since the start of the project.
- At LLNL, EM continued partnering with NNSA to complete excess facility D&D activities:
  - Completed the LS377 Slab/Soil Removal Project, which returns the first EM completed site to NNSA for mission use.
  - Completed the Building 251 pre-demolition abatement and hazard removal activities (an EM Current Year 2024 priority).
  - Commenced the LS175 Slab/Soil removal project.
  - Continued the Building 280 demolition project.
  - Commenced the Building 281 demolition project.
  - Continued the LS412 slab/soil removal project.
- At Oak Ridge, EM is reducing risk, completing cleanup at a former enrichment complex, and enabling DOE's critical research and national security missions.
  - Shipped the Oak Ridge Reactor vessel for off-site disposal from the ORNL.
  - Processed 89 canisters of high-dose Uranium-233 stored at ORNL and exceeded the goal to complete 35 canisters in FY 2024.
  - Began demolition of the Alpha-2 Complex.
    - This activity marks the first removal of an enrichment facility at Y-12.
  - Completed all soil remediation at the East Tennessee Technology Park (ETTP).
  - Removed 500,000 curies of radioactive material at ORNL slated for eventual disposal to be recycled and reused for new power systems for NASA and DOD.
- At the NNSS, EM continued to support cleanup activities across the DOE complex by providing disposal capacity and services for low-level waste (LLW), mixed low-level waste (MLLW), and classified waste.
  - Supported the safe and secure disposal of approximately 20K m<sup>3</sup> (700K ft<sup>3</sup>) of LLW, MLLW, and classified components.

Given the scope and magnitude of the cleanup work to be tackled over the coming decades, it is essential for EM to be best-in-class when it comes to project management. In recent years, EM has made significant strides in strengthening its project management capabilities.

- Across the complex, EM strengthened the effectiveness of program management and continues to incorporate the concept of end-state contracting in major contracts and procurement to reinvigorate the sense of urgency and completion mindset.
- EM held its second End State Contracting Model Post-Award Progress Workshop in Oak Ridge, Tennessee. This workshop expanded the scope from the first to include external stakeholder feedback, integration between contracts and projects as well as end state definition and risk reduction metrics.
- EM issued the *EM Strategic Vision 2024-2034* that outlines the planned complex-wide and site-specific goals over the next decade, within EM's framework of regulatory compliance commitments and best business practices.
- EM partnered with the national laboratories, industry, and academia to integrate the best scientific and engineering resources into decision-making, so the selected technologies, design, and construction approaches accelerate project completion.

## NUCLEAR WASTE DISPOSAL

### Key Challenges:

The amended Nuclear Waste Policy Act of 1982 (NWPAct) makes DOE responsible for the management and disposal of HLW and Spent Nuclear Fuel (SNF) to protect public health, safety, and the environment.

The NWPAct authorizes the Secretary to enter into contracts with individuals who hold title to or generate SNF or HLW of domestic origin. In return for the payment by contract holders of fees established by the NWPAct into the Nuclear Waste Fund (NWF), the government was to begin disposing of SNF and HLW starting in 1998.

- Contract holders filed breach of contract suits, and the Department was found to be in partial breach of the contracts and to be liable for damages resulting from the delay.
- As of September 30, 2024, the Judgment Fund paid approximately \$11.1 billion in settlements and judgments to contract holders:
  - Contract holders will continue to provide annual claims for added costs under the settlement agreements.
  - Annual payments pursuant to those agreements will continue until the government has fulfilled SNF and HLW acceptance obligations.
- DOE reviews the claims and provides recommendations for approval to the Department of Justice. DOE staff continues as the lead government witness for the remaining unsettled cases as they are tried and continues to manage the NWF balance of approximately \$49.5 billion.



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- In *National Association of Regulatory Utility Commissioners (NARUC) v. DOE*, the U.S. Court of Appeals for the D.C. Circuit ruled the Department's 2010 fee adequacy determination was legally inadequate and ordered the Department to issue a new fee adequacy evaluation in compliance with the court's opinion by January 18, 2013. The Department issued and provided the court with an updated fee adequacy report by the deadline.
- NARUC and the Nuclear Energy Institute moved to reopen the appeal to challenge the report.
  - On November 19, 2013, the court issued a decision finding that the Department's 2013 fee adequacy report was "arbitrary and capricious" and ordered the Secretary to provide "to Congress a proposal to change the fee to zero until such time as either the Secretary chooses to comply with the NWPA as it is written, or until Congress enacts an alternative waste management plan."
  - On December 20, 2013, the court issued a mandate directing the Department to comply with the court's decision to reduce the fee to zero.
  - On January 3, 2014, the Department provided the court-mandated proposal to Congress to adjust the 1 mill per kilowatt-hour (kWh) fee to zero.

**Departmental Initiatives:** In the Consolidated Appropriations Acts of 2021, 2022, 2023, and 2024, Congress appropriated funds to the Department for nuclear waste disposal activities, including interim storage activities. The accompanying congressional reports in 2021-2023 requested the Department move forward under existing authority to identify potential sites for federal interim storage facilities using a consent-based siting process.

- In late September 2023, DOE placed 12 cooperative agreements with Consent-Based Siting Consortia resulting in 30 public meetings/engagements, 20 information research projects, nine state and Tribal engagements, and three seed grant awards, in addition to four quarterly meetings.
- In February 2024, fabrication on DOE's eight-axle Fortis railcar, designed to carry SNF and HLW to future federal storage and disposal facilities began fabrication at Kasgro Rail in New Castle, Pennsylvania.
- In spring 2024, DOE prepared to transport a cask of SNF, which is part of the High-Burnup Demonstration Cask Project, from the North Anna Nuclear Generating Station in Virginia to a national lab for continued research and development on the performance of high-burnup SNF in storage and transportation. This R&D project is a collaboration with the nuclear industry through the Electric Power Research Institute. DOE plans to use its Atlas railcar to conduct the transport, plans to provide training to state and Tribal government emergency responders along the transportation route through DOE's Transportation Emergency Preparedness Program, and conduct broad public outreach through road shows in advance of the shipment expected to occur in fall 2027. Some elements of this shipment will enable DOE to start building capability and capacity for future large-scale transport of SNF to one or more federal CISFs. In May 2024, DOE completed a nuclear power plant infrastructure assessment of the North Anna Nuclear Generating Station to identify options and considerations for removing the high-burnup demo cask from the site by fall 2027.
- In May 2024, the DOE Energy System Acquisition Advisory Board approved Mission Need, Critical Decision-0 for the federal CISF project with a total project cost range of \$4.6 billion to \$10.5 billion, and completion date of FY 2042-2047 of all activities for the first 15,000 MTHM of storage capacity. DOE will now proceed to begin work on Critical Decision-1, Alternative Selection, and Cost Range.
- In June 2024, the Association of American Railroads certified DOE's Atlas railcar consist (two buffer railcars, one spent nuclear fuel-carrying Atlas railcar, and one rail escort vehicle) to operate on all major freight railroads in the U.S. Atlas is a 12-axle railcar designed to transport larger containers of SNF and HLW to future federal storage and disposal facilities. DOE plans to use the Atlas railcar consist to transport one cask of SNF in 2027 as part of the High-Burnup Demonstration R&D Project from the North Anna Nuclear Generating Station in Mineral, Virginia, to a DOE facility for further research.
- In summer 2024, DOE placed a contract task to seek input and recommendations from federally recognized Tribes on how DOE should engage with them in the consent-based siting process.
- In July 2024, DOE released a request for information (RFI) to seek input on contracting approaches and interested service providers for design, engineering, and integration support for the federal CISF project.
- In August 2024, DOE released an RFI to seek input from members of the general public, Type B transportation cask vendors, testing facilities, technical experts, and marketing/public relations experts to inform DOE's approach for conducting a package performance demonstration of a full-sized rail SNF transportation cask for the purposes of building public trust and confidence in the safety of SNF transport.
- The Consent-Based Siting Consortia held 75 public engagements, brought in 34 new team members, implemented five subgrant programs, held nine Tribal engagements, and participated in 16 local and state government meetings.
- DOE's ongoing efforts include continued work with multidisciplinary teams of social and behavioral scientists, communicators, environmental scientists, technical experts, and others to advance consent-based siting, storage design, transportation preparations, and other program areas, with specific tasks including:
  - Developing and implementing an organizational culture to be a "nuclear safety organization" capable of submitting a license application to the NRC.
  - Developing a knowledge management information repository.
  - Continuing development of the Fortis eight-axle railcar.
  - Continuing development of an integrated safety and security monitoring system for rail shipments.
  - Maintaining current detailed data on the national SNF inventory and facilitating more efficient data collection with a new web-based data portal.
  - Resuming nuclear power plant site infrastructure evaluations to identify options for transporting SNF from each location, completing one site visit in FY 2024 to Duane Arnold.
  - Developing and validating software tools to support environmental analysis.

## MANAGEMENT PRIORITIES (Unaudited)

- Performing research to support continued safe storage and eventual disposal of SNF and HLW.
- NE continued engagement with state and Tribal government representatives to prepare for future large-scale SNF transportation via cooperative agreements to facilitate information exchange and coordination among states and Tribes, including:
  - Presenting technical information through DOE's National Transportation Stakeholders Forum (NTSF) Annual Meeting.
  - Bringing the Atlas railcar consist to the 2024 NTSF Annual Meeting in Denver, Colorado, for state and Tribal attendees to view in person alongside the Naval Reactors SNF railcar consist.
  - Continuing to lead multiple NTSF ad hoc working groups to develop a concept of operations for rail shipments of SNF identify roles and responsibilities states and Tribes will have; to consider how DOE will provide training and technical resources to states and Tribes where SNF is transported; to collaborate on approaches to communication and development of informational materials.
  - Participating in multiple in-person and virtual meetings with state and Tribal representatives to share updates to federal policy and program plans and respond to questions and information needs.

## CYBERSECURITY

### Key Challenges:

Today's rapidly evolving cyber threat landscape presents unprecedented challenges. Cyberattacks are evolving in complexity due to advanced technologies, such as AI, and an increase in persistent threats from nation-state actors. Achieving a safe, secure, and resilient cyber environment requires the Department to refocus its cyber strategy through cost-effective investments and activities to reduce cyber risk.

A few key challenges faced by DOE include:

- Providing enterprise visibility and management of cybersecurity within the Department's federated model. National laboratories, sites, and program offices utilize DOE Order 205.1D, *Cybersecurity Program*, to design and operate cybersecurity programs with a degree of autonomy, often leveraging lab-developed cybersecurity solutions. The multitude of methods used impact DOE's ability to efficiently prioritize and allocate resources to safeguard essential information technology (IT) assets, information, and the operations dependent upon them.
- Attracting, developing, and retaining a highly skilled cybersecurity workforce. DOE hiring efforts are impeded by salary competition with the private sector and delays caused by DOE's internal hiring processes.

### Departmental Initiatives:

Cybersecurity is a DOE-wide responsibility and demands an expanded view to encompass the broad scope of information-sharing and information-safeguarding. In FY 2024, OCIO continued pursuing numerous initiatives to address challenges and improve cybersecurity risk management, including:

- **Enterprise Cyber Collaboration Office (ECCO):** DOE launched the ECCO program, which is designed to provide an enterprise visibility of the cybersecurity posture of labs, sites, and plants while reducing the burden of cybersecurity data calls.
- **Post-Quantum Cryptography (PQC):** DOE has taken a leadership position within the federal government to provide a post-quantum cryptography PQC-safe environment. DOE conducted an analysis of alternatives with seven PQC inventory and crypto-agility vendors in accordance with National Security Memorandum-10 and OMB Memorandum (M)-23-02. These findings will help DOE identify which vendor(s) should participate in a pilot and how many pilots to conduct. The Enterprise Encryption and PQC Working Group was also formed and meets monthly for sharing encryption strategies and collaborating on the transition to quantum-safe algorithms across the Department.
- DOE is overseeing cryptographic technical deep dives to improve understanding of the cryptographic landscape, e.g., public key infrastructure (PKI), personal identity verification (PIV) cards, and mobile devices, to prepare for the emerging threat of PQC. DOE collected the FY 2024 cryptographic inventory and associated budgetary estimates. Interviews were conducted with PKI, PIV, and mobility stakeholders, and both the certificate life cycle and mobility current state analysis are being circulated for subject matter expert reviews.
- **DOE Cybersecurity Strategy:** OCIO developed an enterprise-wide cybersecurity strategy with contributions from across DOE, which received Deputy Secretary approval in January 2024. The strategy details cybersecurity planning, programming, budgeting, training, and execution activities to improve DOE's cybersecurity posture.
- OCIO also developed an implementation plan to execute the approved strategy and is currently undergoing DOE leadership review.
- **DOE Enterprise Crowdsourced Penetration Testing Service:** OCIO provided external, internal, and targeted penetration testing for DOE through the crowdsourced penetration testing service, which identified 282 vulnerabilities, including 70 critical vulnerabilities and 29 high vulnerabilities in FY 2024 and 2,090 vulnerabilities of all severities since the beginning of the offering.
- **DOE Vulnerability Disclosure Program (VDP):** VDP enabled the identification and mitigation of 34 public-facing vulnerabilities in FY 2024. Since the program's inception in September 2020, there have been 85 total vulnerabilities, 79 of which have been addressed.
- **Cyber Supply Chain Risk Management (C-SCRM):** DOE led C-SCRM efforts within the federal government by delivering over 9,000 assessments since July 2019 and evaluating over 3,281 suppliers for more than 103 entities across DOE, including external government entities, such as the U.S. Bureau of Reclamation (BOR). In line with OMB M-22-18, the C-SCRM program created the DOE attestation repository and identified all software producers and suppliers with unique software that require the collection and validation of a Cybersecurity and Infrastructure Security Agency (CISA)-compliant secure software development framework (SSDF) attestation. To facilitate collection of SSDF attestations, the DOE common form was shared with identified producers and suppliers for all software identified as requiring an SSDF attestation.
- **Cybersecurity Awareness and Training:** OCIO continued to host the annual Cybersecurity Awareness Month campaign. The theme was "Secure Our World" and focused on the following cybersecurity topics: 1) phishing; 2) passwords; 3) MFA; and 4) software updates.

## MANAGEMENT PRIORITIES (Unaudited)

- Provided on-demand cyber role-based training to Authorizing Officials (AO), Authorizing Official Designated Representatives (AODR), Information System Security Officers (ISSO), and System Owners.
- Delivered 10 Executive Lunch and Learns to the DOE workforce. Guest speakers from the Department, federal government, and industry presented on cyber topics relevant to the DOE environment. In FY 2024, OCIO reported a total of 1,753 attendees for the Executive Lunch and Learns.
- Facilitated three AO community of practice (CoP) sessions with the DOE AO workforce. The CoP ensures the AO workforce is aware of tools and resources necessary to interface with peers and improve cyber risk-based decisions. DOE subject matter experts shared lessons learned, best practices, and facilitated discussions. In FY 2024, OCIO reported a total of 118 attendees for the AO CoP.
- Provided Federal Risk and Authorization Management Program (FedRAMP) training to 329 members of the DOE workforce.
- Planned and executed two Cyber Fire Foundry events, Denver and Knoxville. Cyber Fire Foundry is a cybersecurity incident investigation training sponsored by OCIO in collaboration with national laboratories with participants from DOE, federal government, U.S. military, industry, academia, as well as international partners. Cyber Fire Foundry is one of DOE's premier cybersecurity workforce engagements and offers lab-based courses, case study discussions, and collaborative exercises for all skill levels. Cyber Fire Foundry 2023-2 was held in Denver, Colorado, which reported a total of 136 attendees; this included 17 international participants from eight countries (November 2023). Cyber Fire Foundry 2024-1 was held in Knoxville, Tennessee, which reported a total of 229 attendees; this included 16 international participants from six countries (April 2024).
- **DOE Cybersecurity Policy:** OCIO published cybersecurity policy DOE Order 205.1D, *Cybersecurity Program*. The policy provides cybersecurity requirements based on latest federal guidance and enhances DOE's cybersecurity program in alignment with evolving cyber methodologies and the current threat landscape.
- **Governance:** OCIO established a monthly CISO Roundtable for collaboration and discussion on cybersecurity initiatives and challenges. OCIO also supported quarterly in-person Chief Information Officer/ CISO summit to foster discussions and information sharing on DOE's strategic direction.

DOE's ongoing and continuous efforts to drive improvements to the Department's cybersecurity posture include:

- **Continuous Diagnostics and Mitigation (CDM) Program:** Utilizing the CDM dashboard, which is fully accredited and actively sharing data with CISA via the cross-cluster search capability implemented in October 2023.
  - DOE components who are currently participating in CDM account for 99.7% of all FISMA assets. Of these components, 86% have successfully connected to and are reporting asset management data to the CDM dashboard.
- **Endpoint Detection and Response (EDR):** Working toward fully implementing capabilities of components who own in-scope assets which have selected an EDR solution that provides: 1) proactive detection of cybersecurity incidents within the federal government infrastructure; 2) active cyber hunting; and 3) containment and remediation; and 4) incident response.
  - Considering only CISA-vetted EDR tools and mobile devices. 65% of the Department's expected FISMA endpoints are covered by an EDR tool.
- **Authority to Operate (ATO) Ongoing Authorization (OA):** Implementing an OA program to address the needs of rapidly changing environments and to facilitate a continual state of awareness. Approximately 90% of the systems under OCIO purview have successfully been migrated to the OA program.
- **Zero Trust Architecture (ZTA):** Advancing ZTA implementation across DOE by partnering with Forrester to provide ZTA training across OCIO and other DOE organizations. 110 self-study licenses were obtained for DOE resulting in 96 certifications. OCIO is continuing to lead the enterprise ZTA Working Group as a forum for the various organizations to highlight their successes and share lessons learned on ZTA implementation. OCIO is currently responding to M-24-14 by overseeing updates to DOE's ZTA Plans and FISMA high-value assets maturity assessments to ensure submission by November 7, 2024.
- **Cyber Modernization:** Managing portfolio of \$145 million OCIO cyber modernization funds spanning from FY 2022 to FY 2024. This is supporting over 60 projects to advance cybersecurity support of EO 14028 and other federal mandates. DOE is revising the proposal template before OCIO collects proposals and distributes FY 2025 cyber modernization funds.
- **Big Data Platform (BDP):** Continuing to optimize BDP by improving risk-based alerting capabilities, which provides prioritized alerts to enable real-time and up-to-date responses.
- **Threat Intelligence Platform:** Leveraging Analyst1 (A1), which is a threat intelligence platform enabling automated indicator sharing between the Integrated Joint Cybersecurity Coordination Center, CISA, DOE national laboratories, and various federal government partners. A1 data is updated every 30 minutes and can be rapidly ingested by sites via an application programming interface.

## PHYSICAL INFRASTRUCTURE

### Key Challenges:

DOE is responsible for a large portfolio of world-leading scientific and production assets and the general-purpose infrastructure needed to operate and use these assets. While DOE made investments in world-class mission facilities, much of the supporting infrastructure, including office space, general laboratory spaces, maintenance shops, and utilities contributing to the mission and forming the backbone of the laboratory and production plant sites, is beyond design life and needs attention. Based on Department-wide facility assessments and data analyses, DOE is facing a systemic challenge of degrading infrastructure and high levels of deferred maintenance. To address these challenges, DOE focuses infrastructure management priorities on halting further increases in the level of deferred maintenance and reducing levels over time, improving facility condition and functionality, and reducing the number of excess facilities in the Department's real property inventory.

## MANAGEMENT PRIORITIES (Unaudited)

Degrading infrastructure and excess contaminated facilities pose a risk to safety, security, and programmatic objectives. DOE faces challenges with the number of excess facilities throughout the complex and the need to deactivate, decontaminate, decommission, and demolish facilities in the near term. EM is the primary office responsible for performing necessary decontamination and final D&D of process-contaminated facilities.

**Departmental Initiatives:** In FY 2024, the Department continued to make progress in addressing infrastructure challenges through the following actions:

- Took active leadership roles in developing interagency infrastructure management initiatives via the Federal Real Property Council (FRPC).
  - As co-chair of the FRPC Data Quality Working Group, DOE continued to lead an interagency effort to advance the real property data quality program that applies to all federal agencies. This group is currently working to update the Federal Real Property Profile Data Quality Improvement Program Guidance to improve government-wide real property management information. Improvements in this area will help remove infrastructure from the GAO high risk list.
- Coordinated with the DOE Laboratory Operations Board in finalizing an infrastructure report to provide insight into where laboratory facilities, as an aggregate, stand in terms of various real property and sustainability metrics.
- Participated in several GAO engagements to understand and improve infrastructure management, including:
  - [GAO Engagement 24-106420](#) – Efforts to Incorporate Climate Vulnerabilities and Energy Justice into Asset Management
  - [GAO Engagement 24-105485](#) – Agencies Should Provide More Information about Increases in Deferred Maintenance and Repair
- Revising DOE Order 437.1, *Bridge and Tunnel Management*, to align the order with new National Bridge Inspection Standards. Revisions include new requirements for highway bridge inspection programs, maintaining bridge inventories, and reporting inspection results.
- Assessing deferred maintenance prioritization and decision-making at DOE's major property holding departmental elements in response to the GAO-deferred maintenance report.
- Updating and improving the DOE Real Property Data Collection tool to capture the planning and execution for the life cycle of the Department's real property portfolio. The Real Property Data Collection Tool determines, in the context of the Department's strategic objectives and budget, cross-Departmental achievements, gaps, barriers, opportunities for improvement, and potential budgetary implications.
- Program Office infrastructure planning and evaluations efforts include the following:
  - NNSA continues to execute non-nuclear, non-complex projects through the streamlined execution processes defined in Supplemental Directive 413.3-7 Project Management for Non-Nuclear Non-Complex Capital Asset Acquisition. Additionally, NNSA is developing non-traditional acquisition strategies to expand infrastructure delivery through novel approaches utilizing existing authorities. The KCNExT is one example, as NNSA is partnering with a local developer to construct multiple build-to-suit facilities, which will include the underlying land and be purchased upon completion. And, NNSA is leveraging increased Minor Construction authorities to continue accelerating efforts to provide a modern, adaptive nuclear security enterprise that meets mission needs and attracts a talented workforce.
  - SC via its Science Laboratories Infrastructure program continues executing utility renewal projects at many of its laboratories to ensure reliability and reduce deferred maintenance.
  - EM has implemented a Master Asset Plan (MAP) that assesses the health and condition of infrastructure at EM sites, identifying where investments are needed to reduce the risk to mission by ensuring adequate site infrastructure. EM also continues to host infrastructure Deep Dive reviews, and based on infrastructure assessments documented in the MAP, specific infrastructure areas can be targeted during the Deep Dives to facilitate planning for improvements.

In addition to these initiatives, DOE continues to:

- Improve its infrastructure planning efforts by issuing an updated Departmental Real Property Capital Plan to outline DOE's processes for infrastructure budgeting, performing needs assessments, conducting alternative analysis and life cycle cost estimates, prioritizing real property projects, and establishing metrics for success.
- Manage its new Bridge and Tunnel Management program by ensuring all DOE bridges, tunnels, and culverts are inspected and evaluated in accordance with the requirements identified in DOE Order 437.1, *Bridge and Tunnel Management*.
- Track five-year infrastructure trends via the State of Facilities Annual Report.
- Maintain a close partnership between its Asset Management Office and its Budget Office to improve DOE real property capital planning process.

## HUMAN CAPITAL MANAGEMENT

### Key Challenges:

DOE requires an empowered and high-performing federal workforce to accomplish the mission. Key human capital challenges include:

- Competition for highly skilled talent
- Risk to institutional knowledge due to retirement eligibility of the workforce
- Vulnerability due to unplanned attrition
- Workforce and leadership development gaps
- Employee engagement

The Office of the Chief Human Capital Officer (HC), working with DOE Program and functional offices, identified five strategic human capital priority areas relating to leadership, people, and human resources (HR):

- Strategic Human Capital Planning
- Talent Management



## MANAGEMENT PRIORITIES (Unaudited)

- HR Service Delivery
- IJA and IRA Hiring
- HC Capacity

**Departmental Initiatives:** DOE aligned actions with the administration's goal to make government lean, accountable, and efficient. HC drove human capital innovations to recruit, develop, engage, and retain a high-quality, diverse, and inclusive workforce capable of meeting the Department's mission through the following strategic priorities:

**Strategic Human Capital Planning:** HC continued to monitor progress toward the goals established in our five-year Strategic Plan and subsequent annual HC Operating Plan (HCOP). The plan set the direction for innovative human capital management across the Department and promotes strategies to enable and empower the DOE workforce to meet mission requirements. A SharePoint site was developed to track and monitor progress toward completion of each milestone. Results are shared with HC leadership and reported annually to OPM. Priorities included:

- Expanded access to human capital data through the deployment of seven customer-facing dynamic dashboards, enabling data-informed decision-making. Two administrative dashboards (for internal use) have been deployed, and an additional three dashboards (HIRED, Cybersecurity, and FEVS v2) are in development.
- Partnered with EJE and agency leadership to implement the DEIA Strategic Plan to provide an environment that enables and empowers employees and promotes organizational performance through purposeful commitment to core DEIA principles.
- Managed operational Position Allocation Reports (PAR) (i.e., staffing plans) for DE to ensure Full-Time Equivalent (FTE) allocations were properly aligned to support mission priorities, created opportunities for early career and career pathing, and streamlined the hiring process.
- Integrated PARs into CHRIS to ensure a 1:1 ratio of positions, comparing PARs to system information.
- Used the Human Capital Framework (HCF) as the set of strategic criteria for internal audits and evaluations of human capital programs and processes, focusing on three human capital management systems: Talent Management, Performance Culture, and Strategic Planning and Alignment.
- Completed the Human Capital Management Accountability Program (HCMAP) review of the Office of HR Operations and Compensation (OHROC), which resulted in a passing score.
- Initiated the HCMAP review of the Bonneville Power Administration (BPA)'s HR Service Center.
- Coordinated seven third-party reviews of talent management business practices.
- Developed and launched the Executive Allocation System dashboard to assist with managing Senior Executive Service (SES), political, and excepted service allocations. The dashboard provides readily accessible and near-real-time position information, resulting in more effective workforce management for our customers.
- Obtained OPM and OMB approval on an additional 20 SES/SL allocations for the Department.

**Talent Management:** HC supported organizational performance through the development and delivery of innovative strategies that effectively develop, engage, and retain a high-performing, diverse, and inclusive workforce.

- Developed and delivered strategies to strengthen workplace culture and employee engagement through improved data analysis, promotion of best practices, and strategies targeting key engagement drivers.
- Issued DOE's Tele/Remote Work Order to improve DOE's ability to recruit/retain a high-performing workforce. Developed and launched DOE's first Tele/Remote Work Automated Collection System for electronic completion and tracking of agreements and integrated the results into CHRIS for tracking.
- Consulted with 11 DEs and nine other organizations in review of FEVS data, root cause analysis, and resulting interventions.
- Updated the Department's Leadership initiative, *Let's Lead! TRACKing a Climate for Change*, focusing on trust, respect, addressing issues, and communication to strengthen workplace culture and improve organizational performance.
- Designed and delivered an Employee Engagement Curriculum that provides development around 10 engagement drivers, including diversity and inclusion. The update provided easy access to content through the Percipio catalog in Learning Nucleus.
  - As a result of these efforts, the Department realized increases in all FEVS indices, including a 2% increase in the Leaders Lead score from 2022 to 2023. Over the 4-year period from 2019 to 2023, the Leader's Lead score increased 9%. Moreover, DOE was listed as No. 6 on the Partnership for Public Service Best Places to Work (midsize agencies) and the best employer in America for veterans by Forbes for 2023.
- Expanded awareness of and access to quality learning and workforce development opportunities through outreach to the DOE workforce, ERG, and training community.
  - Throughout FY 2024, 3,884 DOE employees participated in 127 HC sponsored professional skills courses. Additionally, 165,479 Percipio eContent pages were viewed, resulting in 21,439 total content completions across multiple media types — books, videos, individual courses, and audiobook summaries.
- Developed the functionality of the DOE LMS to promote the continuous upskilling and reskilling of the DOE workforce through the release of competency-based curriculums.
- Designed and delivered informational sessions for DOE federal employees who aspire to become members of the SES, to include the SES hiring process, DOE's recruitment methods, and strategies for developing and writing strong Executive Core Qualification narratives.
- Developed Pathways cohorts to engage and create opportunities for expanded learning environments for interns, recent graduates, and Presidential Management Fellow employees.
- As authorized in CHIPS and Science Act, established a new excepted service hiring authority utilizing the PS Pay Plan<sup>1</sup>. The authority allows for the Under Secretary for Science and Innovation to make appointments of up to 60 scientific, engineering, and professional personnel without regard to civil service laws. As of second quarter 2024, one PS employee was appointed.

<sup>1</sup> Plans coded PS are Excepted Service positions designated and paid rates of basic pay under the DOE's Under Secretary for Science authority under Section 10726 of the CHIPS and Science Act (Public Law 117-167). PS code is for use by DOE only.

## MANAGEMENT PRIORITIES (Unaudited)

- Developed and launched DOE's Business Exchange Program to bring experienced professionals from the private or non-profit sectors into DOE to infuse needed expertise to meet new or recent mission requirements.
- Partnered with IM to develop and implement a department-wide Cyber Workforce Program. Specifically, developed strategies to assist with recruitment and retention of mission critical occupations and support DOE's overall cyber structure.

**HR Service Delivery:** HC drove investment in needed upgrades to DOE's HR IT solutions to better support the employee life cycle and facilitate more effective and efficient HR service delivery for all DOE employees.

- HC successfully secured a \$17 million investment from the Technology Modernization Fund for DOE's Human Resources Information Technology (HRIT) modernization effort, with favorable pay back terms that include an extended time frame for repayment, and with the TMF only requiring a 75% repayment.
- This funding secured a path forward for a new HRIT platform to replace CHRIS, ePerformance, Learning Nucleus, and Automated Time Attendance and Production System (ATAAPS) through procurement of Workday, a global leader in modern HR software solutions.
  - This cloud-based, software-as-a-service (SaaS) solution will modernize our HRIT platform and ensure DOE is on the cutting edge of technology.
  - DOE is the first cabinet level agency to deploy a SaaS product and is taking a leading role with OPM on cross-government modernization.
  - Initial project stand-up, planning, architect and configure stages are nearing completion.
  - The official Authority to Operate has been granted.
- Completed expansion of USA Staffing capabilities with implementation of USA Hire assessments. USA Hire not only assists DOE with meeting the requirements of EO 13932, but has also resulted in higher-quality candidates on selection certificates.
- Examined existing Standard Operating Procedures (SOPs) and HR policies for continuous improvement opportunities to improve the effectiveness and efficiency of the hiring process and reduce DOE's time-to-hire.
- Developed an interactive Benefits Briefing to present benefits information to employees in a more engaging manner.
- In partnership with customer organizations, updated the HC Shared Service Center Service Level Agreement to include the addition of Key Performance Indicators to measure effectiveness and efficiency in HR service delivery. HC also revised timeline metrics to ensure alignment with existing dashboards.
- Developed a training program for DE's Resource Managers to enhance their knowledge of HR processes to support their Hiring Managers in the execution of their HR responsibilities.
- Provided executive performance management guidance by releasing comprehensive opening and closing guidance. Updated training sessions to reaffirm effective practices and share lessons learned.
- Promoted the use of a resume-based method to recruit for SES positions to considerably shorten the hiring timeframe. In FY 2023, 75% of SES recruitments were administered using a resume-based method, which requires the least amount of up-front work for applicants and allows for a larger, more diverse applicant pool. In FY 2024, HC began piloting Mandatory Technical Qualifications (MTQ) within resumes in lieu of separate MTQ narrative submissions to streamline supplemental documents and reduce the frequency of incomplete SES application submissions.
- Expanded outreach and collaboration with customers to ensure HC programs and services remained customer-centric and responsive to organizational needs by addressing the top 10 customer concerns. The customer experience project derived from focus groups led by OPM. They provided us with the opportunity to evaluate the top 10 issues plaguing hiring managers and address them. After creating solutions for each of the items, an animated video was created to convey updates to customers in an informative and engaging way.
- Launched the classification initiative in BPA HR Service Center to ensure managers understand classification guidance and principles, as well as to support a collaborative process when consulting on position descriptions.
  - Assessed over 1,900 position descriptions to comply with OPM's PMIAA.
  - As of the end of July, over 700 position descriptions were classified.
- Automated BPA's apprentice hiring process, which expedited recruitment actions and resulted in 599 applications and 22 selections.
- Automated BPA's overtime/compensatory time request process in the HR Management Information System, creating efficiencies and increasing compliance.
- Focused on targeted outreach to diverse institutions and organizations to promote workforce diversity, upheld Merit System Principles, and ensured equal access to DOE employment opportunities, including SES positions.
- Established a team dedicated to Pathways hiring and management to promote program participation and to ensure effective and efficient program oversight and timely conversion to permanent employment.
- Established FY 2024 DOE Hiring Goals for veterans and people with disabilities and strongly encouraged the use of the non-competitive hiring authority for certain military spouses.
- Delivered 52 strategic hiring briefings and developed customized Strategic Hiring Plans for each DE based on FY 2024 hiring priorities. These plans included customized recruitment and outreach strategies aligned with the recommended hiring strategies, emphasizing that targeted recruitment improves the overall hiring result.
- Collaborated with Federal Technical Capabilities Panel members to develop standardized position description language for critical and hard-to-fill Facility Representative positions to aid in recruitment efforts.
- Conducted over 90 targeted recruitments and attended almost 20 career fairs, increasing the number of highly qualified applicants on BPA selection certificates.
- Planned for the consolidation of HC's Oak Ridge office space with an anticipated savings of over \$150,000.

**IIJA Hiring:** Implemented and completed the hiring of over 1,000 CEC jobs.

- Managed a recruitment pipeline of over 100,000 applicants for the DOE CEC.
- Received and promoted a diversified applicant pool.
- Ensured timely hiring of the CEC workforce with record Time-to-Hire across federal agencies.
- Completed 80% hiring. Discontinued the DOE Applicant Portal and Lever support systems and shifted to OPM's new Agency Talent Portal to identify talent for remaining CEC positions.
- Expanded use of the applicant tracking system to reach specific groups for positions with government-wide direct hire authority.

## MANAGEMENT PRIORITIES (Unaudited)

- Rolled the Hiring Initiatives Team into the OHROC organization to ensure uniform services across all hiring actions.

**HC Capacity:** Examined internal organizational structures and work processes while focusing on workforce culture and engagement initiatives to maximize employee performance.

- Deployed specific engagement strategies to support HC leaders in developing and fostering a diverse, inclusive, and engaged HC workforce.
- Executed HC's strategic PAR to ensure priorities are properly resourced and supported.
- Focused on improving its work culture using technology and innovation to improve processes.
- Achieved and sustained 95% capacity/fill of all HC positions.
- Continued inward-facing team building/engagement activities through the HC Culture Team. Activities included:
  - A Speaker Series to include internal speakers focused on creating deeper understanding of customer missions and groundbreaking projects, and external speakers tackling topics related to employee engagement and development.
  - Interactive employee engagement events to drive stronger team connections and stress overall health and work-life balance.
  - A new Peer-to-Peer Recognition program to encourage employee recognition of HC core values.

### Other Efforts Included:

- Developed and deployed a Reasonable Accommodation (RA) video to expand understanding and access to DOE's RA program.
- Launched the Labor Management Council to engage stakeholders representing both labor and management in identifying solutions to support the DOE workforce and promote mission achievement.
- Updated Position Allocation Management protocols and oversaw the FY 2024 PAR Annual Review, ensuring alignment with FY 2024 funding levels and informing recruitment strategies.
- Developed and published two brief videos on the Position Management process to educate customers in an engaging manner.
- Completed mass actions to update position statuses for remote work and telework position designations.
- Completed over 900 BPA new hire I-9 inspections, which were paused during COVID, to ensure regulations compliance.
- Processed over 23,000 personnel actions for BPA employees, an increase of 33% from FY 2023.
- Successfully piloted a hiring action using an alternative assessment (the structured resume review process) to augment the self-reported occupational questionnaire and improve the quality of candidates on issued certificates.
- Continued to market the use of skills-based assessments and addition of multi-hurdle approaches to DOE's competitive service positions.
- Developed a Subject Matter Expert Qualification Assessments evaluation framework that includes hiring manager and subject matter expert surveys to determine satisfaction rates with the process.
- Used position management and vacancy data to deliver strategic briefings to multiple DEs to identify opportunities to add assessments into the hiring process to help them secure the high-quality talent required for their positions.
- Conducted research and data analysis to identify the greatest hiring needs across HC-served DEs to develop a pooled hiring strategy, timeline, and action plan.
- Continued to expand the adoption of shared certificate hiring practices within the agency by marketing the availability of shared certificates issued under the Competitive Service Act and from OPM's Cross-Government Actions.
- Continued to promote DOE's internal shared certificate program, including a new internal shared certificate report so that HR staff can review currently available shared certificates to share with customers before initiating a new recruitment request for a similar position.
- Addressed challenges with attracting, retaining, and recruiting Facility Representative positions. Developed standard positions descriptions as a first step.
- Developed three new training programs, including Supervisor Essentials Awards Training, and two Resource Manager Essentials Trainings – Onboarding and Student Loan Repayment Program/Retention Incentive Training.
- Revised the Just-in-Time Onboarding Survey to better assess and gather feedback from new employees on their hiring experience for the HR Consultant and the Benefits team.
- Onboarded approximately 1,615 employees (1,045 external and 573 internal) in FY 2024.
  - BPA filled an additional 749 positions and is the second consecutive year of record hiring. Additionally, hiring survey scores remain impressive at 4.6/5.0.
- Automated BPA's apprentice hiring process, which expedited recruitment actions and resulted in 599 applications and 22 selections.
- Developed five new and revised four existing SOPs to improve service and provide consistent processes.
- Developed a Disability Recruitment Video to help recruit people with disabilities.
- Led the Request to Update Disability Status effort to contribute to our understanding of the effectiveness of strategies in hiring and retaining people with disabilities.
- Partnered with the American Association of People with Disabilities (AAPD) to place two AAPD interns across the Department.
- Hosted eight transitioning military service members across the Department on internships under the Operation Warfighter Program (OWF).
- Conducted resume searches and created campaigns for DEs in the USAJOBS Agency Talent Portal to help identify potential candidates and invite them to apply to vacancy announcements.
- Advertised vacancy announcements for DEs on diversity-focused and energy-related professional associations and college and university job boards.
- Established a Pathways Executive Champion who promoted use of the Pathways Programs and sent a call to action to DEs to increase Pathways Intern hiring.
- Developed a Pathways Program Recruitment Video to help recruit early career talent.
- Facilitated a Recruitment and Outreach CoP made up of over 140 members to share opportunities, best practices, and lessons learned.
  - Convened or led training on a variety of topics in CoP Meetings:
    - University of Maryland Federal Fellows Program
    - DOE Scholars Program
    - Hiring Flexibilities
    - FY 2024 Hiring Goals for Veterans, People with Disabilities, and Military Spouses

## MANAGEMENT PRIORITIES (Unaudited)

- AAPD Summer Internship Program
- Internal and External Shared Certificates
- EM Success Through Academic Research Scholarship Program
- Community for the Advancement of Latinos at Energy
- Request Process for Free Job Advertisements
- Schedule A & 30% or More Disabled Veteran Resume Repositories
- HSPD-12 Security Vetting Process
- USAJOBS Agency Talent Portal (ATP)
- Spearheaded five DOE-wide information sessions with expanded outreach to diverse candidates, resulting in a total of 12,601 registrants. In these events, we provided information on the federal application and hiring process, pay and benefits, federal resume writing, and special hiring authorities and initiatives.
  - Persons with Disabilities Information Session – 1,485 registered
  - DOE Careers in Engineering & Physical Science – 3,565 registered
  - DOE Careers in Data & Computing – 3,756 registered
  - DOE Early Career Programs – 1,473 registered
  - DOE Careers in Contracting & Grants Management – 2,322 registered
- Convened MESC Information Session where 3,991 registered.
- Hosted or attended 52 recruitment and outreach events targeting the following audiences:
  - Veterans & Military Spouses – 28 events
  - People with Disabilities – seven events
  - Diversity and STEM events – 17 events
- Collaborated with EJE on the HC Recruitment Survey to capture the programs and events that influence a new hire's decision to apply for federal employment with DOE.
- Hosted 70 students across the Department under the DOE Student Experience Program to provide experiential learning opportunities and promote DOE as the employer of choice for early career talent.
- Developed and presented 16 trainings for DEs:
  - One session for CEC Managers – USAJOBS ATP Training
  - One session for DOE Supervisors – HC Essentials for Supervisors: USAJOBS ATP
  - Four sessions for DOE Supervisors – HC Essentials for Supervisors: Recruitment & Outreach
  - One session for DEs – OWF Information
  - One session for LPO Supervisors – Pathways Program Overview
  - One session for SC Pathways Temporary Interns – Intern Professional Development
  - One session for SCEP Stipend Based Fellows – Exploring Federal Opportunities, Federal Application Process, and Resume Writing
  - Six sessions for Mentors, Sponsors, Hiring Managers, and New Hires – Pathways Overview
- Marketed DOE events and vacancy announcements to social media platforms, diversity-focused professional associations, veteran, military spouse, and disability employment partners, and colleges and universities, particularly minority-serving institutions.
- Managed a Recruiter's Toolbox for DEs containing a list of employment programs and resources to source, recruit, and hire candidates. These included job boards, outreach events, and resume databases.
- Identified tools and strategies for engaging a virtual/hybrid workforce to foster a culture of open and reciprocal communication. Promoted training resources to increase effectiveness while working in a hybrid environment.
- Developed a competency model to support career progression across the Department, spanning career levels, to support our employees' career development goals.
- Updated the Executive Performance Management Toolkit to include standalone training modules and created custom performance management trainings for DEs, as requested.
- Piloted office hours for new executive management programs and processes.

## DIVERSITY, EQUITY, INCLUSION, AND ACCESSIBILITY

### Key Challenges:

On June 25, 2021, President Biden issued EO 14035, *Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce*, which applies the concept of “underserved communities” to the context of the federal workforce. In so doing, EO greatly expands the scope of individuals identified as underrepresented in the federal workforce and recognizes individuals may belong to more than one underserved community, facing intersecting barriers. The EO outlines a historic effort to assess the status of federal agency DEIA efforts, as well as a data-driven approach to the identification of barriers to equal opportunity, with the goal of strengthening the federal government's ability to recruit, hire, develop, promote, and retain the nation's top talent and remove barriers to equal opportunity. This historic cross-cutting effort will allow the Department an opportunity to bring together subject matter experts from DOE Program and Staff Offices, NNSA, and Power Marketing Administration (PMA) offices to assess the status of DOE's DEIA efforts and to identify barriers to equal opportunity. Key challenges for the DEIA EO include:

- Assessing the status of DOE's DEIA efforts through a comprehensive survey and Department-wide multiyear strategic plan to address DEIA in general, recruitment, hiring, promotion, retention, outreach and engagement, professional development, pay and compensation policies, reasonable accommodation, training and development, safe workplaces and sexual harassment, and culture.
- Conducting a comprehensive data-driven assessment of equity in DOE's employment practices and culture, which includes the identification of promising practices, potential barriers, potential root causes, potential solutions, and resource capacity in the areas of recruitment, hiring, promotion, retention, outreach and engagement, professional development, performance evaluations, pay and compensation practices, reasonable accommodation access, safe workplaces and sexual harassment, inclusive workplace culture; and equity.

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- Implementing the DOE-wide DEIA Strategic Plan that requires leadership support to advance DEIA strategy, ongoing analysis of workforce demographics, training and development, and outreach and engagement.
- Establishing collaborative working groups that include DOE Program Offices, PMA leaders, DEIA practitioners, DOE DEIA senior leadership, and Alliance Councils to advance the DEIA Strategic Plan and Goals, which aligns with the government-wide DEIA Strategic Plan and establishing quarterly goals for strengthening DEIA initiatives and programs across the Department.

### Departmental Initiatives:

As the nation's largest employer, the federal government must serve as the model for excellence for DEIA. DOE is committed to advancing the administration's whole-of-government integration of DEIA through Department-wide DEIA strategic goals. During FY 2024, EJE led the development of action plans on behalf of DOE for EO 14035, *White House Initiative on Diversity, Equity, Inclusion, and Accessibility*, EO 14050, *White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity for Black Americans*, and EO 14075, *Advancing Equality for Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex Individuals*. EJE also led the submission of intermittent deliverables for EO 14045, *White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity for Hispanics*. ED continues to serve as the lead for progress updates related to the following EOs: EO 14035 (DEIA); EO 13985, *Advancing Racial Equity and Support for Undeserved Communities Through the Federal Government* (Equity 1.0); EO 14091, *Further Advancing Racial Equity and Support for Undeserved Communities Through the Federal Government* (Equity 2.0); EO 14020 (gender equity); and EO 14031, *Advancing Equity, Justice, and Opportunity for Asian Americans, Native Hawaiians, and Pacific Islanders*, or AA and NHPI. EJE launched the Department's cross-agency EO teams, composed of diverse senior leaders and employees, to identify and develop DOE goals in alignment with government-wide priorities. EJE is also taking the lead in coordinating participation in IWG that include DEIA.

In FY 2024, the Department continued to make progress in advancing DEIA efforts:

- **Building Capacity:** A key goal in FY 2024 was to strategically involve the DOE DEIA Senior Leadership Council and a DOE DEIA Alliance CoP to support, collaborate and advance DEIA initiatives across the Department. During FY 2024, EJE's standalone Office of Diversity, Equity, Inclusion, and Accessibility (ODEIA) increased its FTEs to 15. ODEIA has three Division Chiefs: DEIA Strategic Planning, DEIA Training and Organizational Development, and DEIA Workforce Engagement. Team members were hired to support ODEIA's strategic plan implementation, training development and deployment, ERGs and internal engagement, targeted outreach and external engagement, and DEIA communications.
- **Clean Energy Corps:** Hundreds of new jobs were filled for the Office of the Under Secretary for Infrastructure (S3) as part of the CEC. The demographic briefers lead by HC and EJE showed some improvement in the diversity of its applicant pool. The DOE applicant portal for CEC related positions received over 100K entries before shifting to OPM's Agency Talent Portal. In FY 2023 to FY 2024, CEC hiring managers joined HC and EJE outreach opportunities engaging with diverse communities and groups. DOE leadership, including the Office of the Secretary, worked with hiring managers on various efforts to improve diverse talent mobility to hire through HC trainings, outreach, and staffing plans as DOE continues to utilize the IIJA (\$62 billion) and IRA (\$35 billion) investment in clean energy technology.
- **EO 14035, Diversity, Equity, Inclusion, and Accessibility in the Federal Workplace:** DOE's DEIA Strategic Plan was released at the end of FY 2022, with an announcement to DOE staff and a [press release](#) to the public. Under the leadership of the Chief of DEIA Strategic Planning Division, ODEIA hired a program manager, two strategy specialists for strategic plan design, goal-tracking, and project management, and three DEIA business partners for program office-level consultation.
- **EO 13985 and EO 14091 (Equity 1.0 and 2.0):** DOE released its first Equity Action Plan (EAP) in April 2022, designed to ensure that the Department eliminates barriers to access, transforms programs and policies to open even broader pathways for underrepresented groups to access DOE resources, and stands up new programs to better serve communities. Pursuant to EO 14091, *Further Advancing Racial Equity and Support for Undeserved Communities Through the Federal Government*, released February 2023, DOE has the continuing responsibility to evaluate its programs and policies to reduce barriers to access and in FY 2024, DOE completed the third annual EAP draft.
- **EO 14020, Establishment of the White House Gender Policy Council:** The National Strategy on Gender Equity and Equality was released in October 2021, outlining 10 priorities for federal agencies. The DOE Gender Equity Team developed and submitted an Action Plan to the Gender Policy Council in April 2021, August 2023, and February 2024. The plan included goals to improve gender equity related to DOE's talent processes, grants, and funding opportunity awards, boosting participation in clean energy careers and job creation, responding to the climate crisis with a gender equity lens, and including the nonbinary community within the larger framework of gender equity.
- **EO 14031, White House Initiative on Asian Americans, Native Hawaiians, and Pacific Islanders (WHIAANHPI):** WHIAANHPI has appointed the ODEIA Chief of Workforce Engagement as the WHIAANHPI Regional Network lead for Region 7. DOE sponsored the Federal Asian Pacific American Council's annual National Leadership Training Program in Leesburg, Virginia, (May 2024) and attended the OPM AA and NHPI Federal Employee Leadership Development Conference (March 2024). The Department is partnering with its Asian American Pacific Islander Network ERGs to sponsor ERG members in the federal workforce for professional development, capacity-building, and enhancing leadership skills including attendance at the second annual ERG One enERGY Summit at ANL (August 2024). DOE joined WHIAANHPI Regional Economic Summit in Atlanta, Georgia, and Riverside, California, sharing federal and DOE opportunities related to careers, internships, grants, and financial assistance as one of the co-sponsors. DOE also partnered with Asian Americans in Energy, the Environment, and



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Commerce on an external engagement event in Washington, D.C., (May 2024) to inform the community about employment, contracting, and business opportunities resulting from investments via the IIJA and IRA.

- **EO 14045, White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity for Hispanics:** In May 2021, the Department of Energy developed an action plan to address educational challenges, access to high-quality early education, address inequitable student treatment, improve data collection, access to excellent teachers and professionals, increase student support services, support equitable access to college-readiness, eliminate discriminatory enrollment and policies, and ensure equitable access to educational resources and technology. To date, DOE has submitted actions plans in May 2022, 2023, and 2024 with input from DOE Program Offices.
- **EO 14050, White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity for Black Americans:** In FY 2024, EJE Chiefs, Strategic Planning and Training and Organizational Development Division attended a Department of Education event in Charleston, South Carolina, to support and learn about the barriers and challenges for Black Americans and Education Equity and Excellence. In October 2022 and April 2024, DOE submitted its White House Initiative for Black Americans Action Plan with input from DOE Program Offices.
- **EO 14075, Advancing Equality for Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex Individuals:** Following the publication of the Federal Evidence Agenda on LGBTQI+ Equity, DOE submitted its Action Plan related to Sexual Orientation and Gender Identity data in April 2023, with input from program offices related to employee and program-specific data collection and use. In FY 2024, DOE continues to work in close partnership with its Energy PRIDE ERGs for Pride Month, including raising the Progress Pride Flag for the third year in a row with the Energy Secretary. In June 2024, ODEIA, in partnership with PRIDE, celebrated the unveiling of the first-ever DOE Gender Transition Guidelines.
- **ERGs:** DOE continues to partner with ERGs on heritage month celebrations and outreach events. The first ERG Program Manager worked with the Office of Public Affairs to design and grow the ERG site on the DOE Energy Hub. It now serves as a central site for connecting all ERGs from HQ, national labs, field sites and power marketing administrations uplifting the efforts and contributions of the ERGs to the DOE mission. The HQ ERGs have increased their activities including participating in focus groups on a research on career advancement and career development with the EEO office, joining DEIA outreach activities, and hosting relevant events geared toward membership retention and professional development. A regular cadence of ERG leadership quarterly meetings with has been established and is led by the ERG Program Manager. The second annual *One enERGY Summit* was hosted at ANL in August 2024.
- **Office of DEIA – Strategic Planning Division:** In addition to EO 14035, accomplishments include the following:
  - DOE's DEIA Strategic Plan goals for FY 2024 are 95% completed.
  - Completed the draft DOE inaugural DEIA 5-year strategic plan and goals. Plan launch and release coming in January 2025.
  - Established a DOE-wide DEIA Alliance as a CoP for DEIA practitioners to collaborate on DEIA goals, projects, and strategic planning.
  - Developed resources, tools, and webinars, e.g., DEIA toolkits, Strategic Tips for Success, launched a DEIA SharePoint site and hosted three DEIA strategy sessions to upskill DOE program offices in alignment with Department-wide goals and development of local office-level DEIA plans.
  - Developed Advancing Together Series will highlight DEIA Practitioners and leaders across DOE and inter-agencies to discuss strategy and evidence-based goals.
  - Selected by OPM to participate in a DEIA dashboard beta test for demography and analysts tools that will be launched across the federal workforce to determine barriers and challenges.
- **Office of DEIA – Training and Organizational Development Division:** Accomplishments include the following:
  - More than 72% of all DOE supervisors completed DEIA Fundamentals for Supervisors training.
  - Conducted five DEIA Back-to-Basic courses upon request.
  - Conducted one course for the DOE enterprise.
  - Launched the DEIA Practitioners' course for more than 50 practitioners across DOE.
  - Created a DEIA Terms and Definition document and video that is available to all DOE personnel.
  - Updated the DEIA Training and Development SharePoint, to include a DEIA training topic suggestion box, training needs assessment link, and list of available training courses.
  - Partnered with HC to co-host the first Accessibility Summit.
  - Co-led the OPM Chief Diversity Officer Executive Council training subcommittee development of a DEIA training competency model that will be adopted by OPM for federal-wide DEIA training.
- **Office of DEIA – Workforce Engagement Division:** Accomplishments include:
  - After launching the first DOE complex-wide ERG Summit at HQ (Forrestal) in FY 2023, the Workforce Engagement Division hosted the second annual *One enERGY Summit* in partnership with ANL. The event at ANL (Lemont, Illinois) had over 350 attendees from 17 national laboratories, PMAs and DOE field sites participating in leadership development, training and networking, increasing the collaboration among ERGs all throughout the agency.
  - The ERG Program manager has successfully uplifted ERG's within the DOE complex through the ERG page on the DOE Energy Hub that serves as a central site for connecting all ERGs from HQ, national laboratories, field sites, and PMAs.

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- DOE continued to partner with ERGs this year on heritage month celebrations and outreach events.
- In serving as organizers and DOE HQ sponsors, the workforce engagement division coordinated DOE sponsorships with other program offices, SC, and DOE national laboratories to attend diverse, professional, and minority-focused conferences.
- The division also launched the DOE Day Series, hosted at select academic institutions in Georgia, California, and Alaska.
- The Workforce Engagement Division has active engagement in Regional Economic Summits, including those hosted by WHIAANHPI, and continues to support DOE's internship programs by mentoring and providing research opportunities for student interns every year.

### CLIMATE CHANGE

#### Key Challenges:

The United States and the world face a profound climate crisis. The Fifth National Climate Assessment (NCA) reports the U.S. will increasingly experience more frequent, intense, and increased-duration extreme weather events across all regions of the country, including extreme temperature and precipitation events, stronger hurricanes, storm surges, droughts and wildfires.

The impact of climate change on DOE and its operations and infrastructure is also significant and projected to increase with a changing climate. DOE estimates that the Department has already experienced over \$500 million in damage and lost productivity due to climate and extreme weather events since 2000.

EO 14008, *Tackling the Climate Crisis at Home and Abroad*; EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*; and related EOs establish requirements for federal agencies to pursue action at home and abroad to avoid the most catastrophic impacts of this climate crisis and to seize the opportunity tackling the challenge that climate change presents. Ambitious performance goals include putting the federal government on a path to achieve CFE by 2030, a zero-emission vehicles (ZEV) fleet by 2035, and a net-zero building portfolio by 2045.

**Departmental Initiatives:** In response to the climate crisis and recent Administration climate requirements, such as those contained in EO 14008, DOE developed and released the [2021 Climate Adaptation and Resilience Plan \(CARP\)](#) and subsequent annual updates. In FY 2024, DOE developed the Climate Adaptation Plan (CAP), which contains a risk assessment of the Department's buildings and personnel, an implementation plan to build resilience against these risks, and a timeline to demonstrate progress.

#### Assess Vulnerabilities and Implement Resilience Solutions at DOE Sites:

Taking a proactive approach to climate change adaptation and resilience in the 2021 CARP, DOE committed to develop a new vulnerability assessment process, conduct site-level vulnerability assessments, and implement resilience plans. In this effort, DOE sites identified vulnerabilities by using the latest climate science information and developed resilience solutions to inform resource allocation and decision-making.

In FY 2024, DOE continued to make progress on this action in the following ways:

- Developed a Vulnerability Assessment Summary Report that includes detailed analyses on DOE's hazards, critical assets, and resilience solutions. The goal of the report is twofold: identify top DOE climate risks nationwide and recommend resilience strategies. DOE identified wildfire, heat waves, and extreme storm events as the most common climate impacts across the complex.
- Collected site resilience solution information in the Sustainability Dashboard, DOE's web-based reporting platform. By tracking resilience solutions, DOE can better understand how DOE sites are responding and adapting to climate change and identify opportunities for improvement.
- Implemented climate resilience measures for our highest vulnerabilities across the complex.
  - DOE sites are employing strategies to reduce the risk of wildfires. LANL created a fuel break across 135 acres through the Rendija Canyon Wildland Fire Thinning Reduction and Defensible Space Project. BNL completed two prescribed fires for a total of 37 acres. An additional 23 acres were prepared for prescribed fire. These strategies support site ecology, land preservation, and reduces risks to sitewide critical assets.
  - To protect outdoor workers during heat waves, EM's Oak Ridge site implemented real-time physiological monitoring to protect workers from extreme temperatures. The contractor, UCOR, was recognized with Verdantix 2023 Environment, Health, and Safety Innovation Excellence Award for Safety Performance Improvement for its successful implementation.
  - To harden facilities to the impacts of extreme weather events on real property, SRS upgraded numerous HVAC systems, water pumps, cooling towers, and air handlers. Similarly, Y-12 completed roofing replacements and two air handling unit replacements.
  - To build resilience for a variety of climate hazards, INL continued installation of a new Power Utility Building (PUB). The PUB will provide a state-of-the-art power dispatch center for INL to dispatch resources, perform dynamic load management, maintain safe operating

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*“Through transformative science and technological solutions, we are making significant progress to address some of our nation’s most pressing challenges.”*

— DOE Secretary  
Jennifer M. Granholm

*Testimony Before the U.S. Senate Committee  
on Appropriations Subcommittee on Energy  
and Water Development*

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conditions, manage faults and outages, and respond to emergencies in real time, 24 hours a day, 365 days a year. This project supports resilience efforts to harden the energy supply at the INL site.

- Issued the report “Emerging Climate Change Risks and Opportunities for NNSA Missions” in April 2024. The report reflects the results of the NNSA Strategic Outlook Initiative study, which leveraged expertise across the nuclear security enterprise to focus on the potential impacts of climate change on the NNSA mission. The report also proposed goals and recommended actions to help NNSA increase resilience and mitigate risks to mission delivery.
- Collaborated with the DOD on the development of a National Defense Authorization Act required report that assesses the effects of climate change on the U.S. nuclear enterprise through 2080. NNSA shared leveraged site Vulnerability Assessment and Resilience Plans (VARPs) with DOD to inform development of the report. DOD transmitted the report to Congress in October 2023.

Across the DOE complex, sites have taken action to reduce vulnerabilities to a range of climate threats. A total of 36 sites developed VARPs that identified additional key site-level resilience solutions, as well as the potential costs and benefits of resilience investments. Although DOE has made progress on many climate change initiatives, greater effort is needed for DOE to:

- Support federal/DOE sustainable acquisition and procurement that reduces GHG emissions, promotes environmental stewardship, and supports resilient supply chains. DOE will build upon existing approaches and evaluate purchases to give preference to vendors, products, and services that enable DOE to be climate-ready.
- Support supply chain development, including advanced materials, and critical materials.

### **Enhance Climate Mitigation Actions:**

The administration’s climate goals include net-zero GHG emissions by 2050, with power sector GHG emissions attaining the net-zero goal by 2035. Renewable energy, fossil energy with carbon capture utilization and storage, nuclear energy, energy storage, and transmission and distribution technologies must all work together seamlessly to provide secure, reliable, resilient, and affordable CFE. The Cleanup to Clean Energy initiative (CUCE) was launched by Secretary Granholm in July 2023 to lease over 35,000 acres of DOE land at five sites for the development of commercial scale clean energy projects to provide clean electricity to the grid. CUCE will help achieve President Biden’s ambitious climate goals and the directive in Executive Order 14057 for agencies to use their properties to develop new clean electricity generation.

Fossil fuel use in the buildings, industry, and transportation sectors must be transitioned to electric power wherever possible. End-uses of electricity must also be made supportive of the grid, such as by enabling flexible, integrated support of the grid through mechanisms such as vehicle to grid systems. DOE will support this by improving the cost and performance of electric end-use technologies for building space and water heating, EVs, and industrial processes and integrating them with the grid with dynamic controls. DOE will continue to develop solar and geothermal sourced energy for heating building space and water.

In FY 2024, DOE continued to make progress by:

- Hosting CUCE information days with the public and private sector to discuss opportunities. In addition, DOE sites initiated requests for information and qualifications, with the first award issued at INL to two developers who will develop combined solar panel and battery storage projects of 400 MW generation capacity.
- Executing DOE’s largest CFE procurement at LANL, through its electric contract with the Los Alamos County and in partnership with SNL in New Mexico. When fully operational, the Foxtail Flats Solar and Storage Project is expected to provide 170 MW of photovoltaics and 320 MWh of battery storage to be shared by Los Alamos County, LANL, SNL, and Kirtland Air Force Base, representing a significant step forward in DOE’s transition to a clean energy future.
- Building upon the signing of a CFE Memorandum of Understanding (MOU) between DOE/NREL and Xcel Energy, the Department will implement the joint CFE roadmap to guarantee 100% CFE prior to 2030 for NREL and other federal facilities that are part of Xcel Energy’s service territory. ORNL and Y-12 signed an MOU with Tennessee Valley Authority to achieve 100% CFE by 2030, and to provide CFE to other federal facilities. NETL arranged to purchase additional CFE to meet the 100% CFE goal before 2030 and possibly as early as 2026. DOE’s WAPA will use the agreement with Xcel Energy for its two Colorado facilities that are not already 100%. WAPA will also explore its ability to support other federal entities in the purchase of Power Purchase Agreements.
- Providing sites with training and technical support to work with their utilities to procure CFE, as well as to develop on-site CFE sources.
- Electrifying buildings at several DOE sites by replacing fossil fuel fired boilers with heat pumps. Additionally, many new buildings are designed and constructed to rely solely on electricity to transition away from natural gas for heating and other needs. For example, Hanford Site received an Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) grant to replace evaporator diesel-powered boilers with electric boilers for a new electric steam plant. All the new construction projects within the SC’s Science Laboratories Infrastructure portfolio are designed to be fully electric, except where needed for scientific endeavors, including those at LBNL, Stanford Linear Accelerator Center (SLAC) and Fermilab.
- Funding projects through NNSA’s Energy Resilient Infrastructure and Climate Adaptation (ERICA) Initiative to improve delivery of resilient and sustainable infrastructure projects. The initiative is a critical element of NNSA’s multi-faceted strategy to identify, prioritize, and implement infrastructure investments that accelerate sustainability, climate adaptation, and resilience in support of mission, and will help meet statutory, legislative, EO, and DOE/NNSA requirements. Examples of the types of projects ERICA considers for funding include renewable energy generation, microgrid with energy storage system, Smart Lab upgrades, electric vehicle infrastructure, Sulfur Hexafluoride system upgrades, and utility conservation projects.

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DOE's ongoing efforts to improve include:

- Leveraging AFFECT grants to advance net-zero efforts. In FY 2024, nine DOE sites received a total of ten AFFECT awards with a combined value of \$18 million. For example, WAPA received funds to create a holistic roadmap for net-zero building development, including rooftop solar, energy-efficient windows, and HVAC improvements. LM's Grand Junction Field Support Center received funds to complete deep energy retrofits, pursue electrification, and install building automation systems and geothermal heat pumps.
- Assessing the potential to deploy Small Modular Reactors and microreactors to decarbonize DOE's electricity supply and partner with private industry to deploy these technologies at remote locations.
- Increasing on-site renewable energy projects. Fermilab is exploring the use of an energy savings performance contract to install a 10 plus megawatt solar photovoltaic array and battery energy storage system (BESS) to mitigate emissions, reduce operating costs, and increase resilience. NNSS is currently in the process of issuing a design-build procurement for up to four solar microgrid installations (3-5 MW each) with co-located storage (4-hour BESS).
- Demonstrating real-world pathways to achieve low-carbon emissions from building and manufacturing operations and share these solutions with the market. This pilot helped inform and establish the Better Climate Challenge. Through the Better Climate Challenge, organizations can partner with DOE to reduce portfolio-wide GHG emissions by at least 50% within 10 years. DOE will provide technical assistance and opportunities to learn and share actionable best practices for carbon reduction.
- Transitioning to a zero emissions fleet. In December 2023, Deputy Secretary Turk issued the Accelerating the Department of Energy's Transition to Zero Emission Vehicles memorandum encouraging that all replaced or newly acquired DOE vehicles, especially light-duty vehicles, will be ZEVs. For FY 2024, DOE's light-duty vehicles ordered consisted of 71% light duty ZEVs, thereby replacing older gas-fueled light-duty vehicles in accordance with EO 14057. DOE continues to install a network of electric charging stations across the sites, including Secretary Granholm's actions of issuing a Secretarial memorandum promoting the deployment of electrical vehicle charging stations. Programs need to take steps to guarantee the availability of sufficient charging infrastructure by planning, funding, and deploying charging ports in advance of vehicle acquisitions. To help further advance ZEV acquisitions and charging infrastructure, DOE established the Green Fleet Award program in 2023 and awarded the first-ever awards to seven sites who led the Department in the acquisition of ZEVs. In 2024, eight sites were awarded Green Fleet Awards. These 15 sites received funding to increase future ZEV purchases and installation of electric vehicle charging infrastructure.
- Serving in a lead role in support of the U.S. Global Change Research Program's development of the congressionally mandated Fifth NCA, which was issued in November 2023. The NCA represents an assessment of the science of climate change and variability and its impacts across the United States, including the energy system, now and throughout this century. DOE has played a key role in the development of the energy chapter and other chapters. In March 2024, DOE held a webinar on the Fifth NCA to brief Departmental management and staff on the projected impacts of climate change on the country and DOE operations.

***Institutionalize Climate Considerations Across DOE Policies, Directives, and Processes:*** To ensure the Department operates in a consistent and efficient manner, DOE orders, directives, and policies must be examined and updated to institutionalize climate mitigation and adaptation/resilience actions across the complex, while also addressing potential energy, environment, and environmental justice impacts. DOE commits to integrate climate information that reflects the current understanding of global climate change into its mission, programs, and management functions and decision points for managing its procurement, real property, public lands and waters, and financial programs, including where appropriate.

In FY 2024, DOE continued to make progress:

- On April 24, 2024, DOE announced the release of a final rule to propel federal buildings toward zero emissions – the Clean Energy for New Federal Buildings and Major Renovations of Federal Buildings Rule (Clean Energy Rule), which was proposed in December 2022. The rule establishes reductions in Scope 1 fossil fuel use in new or significantly renovated federal facilities, exceeding certain cost thresholds – approximately \$3.6 million, targeting reductions in on-site emissions by 90% compared to a 2003 baseline beginning in 2025 and by 100% beginning in 2030. Compliance begins on or about May 1, 2025. The Clean Energy Rule, in conjunction with EO 14057 and other Federal Sustainability Plan actions, including Federal Building Performance Standard, strengthens progress to achieve net-zero emissions in federal buildings by 2045 by eliminating on-site fossil fuel emissions. These initiatives will drastically reduce emissions from both the existing federal building stock and any newly constructed federal buildings, empowering federal agencies to continue leading by example.
- As a part of the Department's celebration of Earth Day, DOE sponsored a range of activities to bring greater awareness and support for responsible climate and sustainability action. These activities included photo and haiku contests, a flyer on plastic pollution and disposal, interactive games for families, and a guidebook to help people live more sustainably. This guidebook includes resources and activities to lower individuals' greenhouse gas emissions and encourages employees to incorporate sustainable climate-friendly habits at home, in their commute, while making purchases, and in other everyday activities.
- The Office of General Counsel and OP released a memorandum regarding the use of social cost of greenhouse gas (SC-GHG) estimates for the Department. The memorandum describes the 2023 updates to SC-GHG accounting by the IWG on SC-GHG. Departmental elements are directed to use the 2023 SC-GHG estimates going forward and for documents under review which have not yet been published.

DOE has made progress in these areas, but greater efforts are needed to:

- Use procurement mechanisms to purchase products and services that are resilient and have a low-carbon footprint;
- Map out entry points of climate information into management functions and responsibilities that effect funding or contracts; and

## MANAGEMENT PRIORITIES (Unaudited)

- Identify opportunities to incorporate climate criteria in solicitations.

**Provide Climate Tools, Technical Support, and Climate Science Information:** DOE recognizes that a climate-ready organization requires a workforce that can safely and successfully adapt to climate change-related challenges, identify and take advantage of new opportunities, and foster a culture of innovation. Employees should be aware of climate tools, technology, and guidance available to address those risks. This will help employees develop the skills and climate knowledge necessary to manage and protect the Department's physical assets, operations, and its workforce in a changing climate.

In FY 2024, DOE continued to make progress:

- Over 300 federal employees took the Introduction to Climate Change course for DOE. The course contains an overview of climate change and its impacts, as well as DOE efforts to mitigate GHG emissions to minimize additional climate change and adapt to climate threats that are unavoidable. The course is also available to DOE contractors and has been adopted by NREL and Fermilab.

DOE's ongoing efforts to improve include:

- Creating a Climate Resource page on the Energy Hub for employees and contractors to access climate change resources. This includes tools, technical resources, climate science information, and on-demand climate awareness training.
- Ensuring funding opportunities benefit communities with environmental justice concerns by requiring applicants to include Community Benefit Plans in their proposals. The Department is exploring additional ways to engage these communities. For example, the EJ Thriving Communities Technical Assistance Centers Programs in partnership with the EPA.
- Participating in the National Science and Technology Council's Committee on Environment Subcommittee on Climate Services. The subcommittee is established to coordinate the provision of federal climate services, building a more cohesive and strategic federal climate services enterprise that meets the diverse range of needs across the nation, as well as reducing burden on users to find, access, and use such data and services, and enhances climate services development and delivery.

**Advance Deployment of Emerging Climate Technologies:** To address the climate crisis, 100% clean energy technologies must be deployed at large scale, meeting all energy supply and end uses by 2050. This requires an increase in domestic production and deployment of sustainable and resilient clean energy supply and end-use technologies. Approaches are needed that will accelerate the deployment of technologies. In addition, approaches are required to develop a more resilient, sustainable, secure, and diverse supply chains, such as implementing approaches to encompass greater domestic production, as well as identifying and diversifying supply chain sources, while simultaneously supporting small businesses and encouraging economic growth in neighboring communities with environmental justice concerns.

In FY 2024, DOE continued to make progress by:

- Developing supply chain vulnerability assessment guidance for sites to analyze critical supply chains. This guidance provides a framework for sites to assess critical goods, products, services, and minerals that are at risk to climate change and procurement hazards.
- Supporting several nuclear demonstration testbed projects to generate data required to support the design and licensing of innovative advanced reactor concepts that could contribute to enhanced supply of clean electricity. The DOME testbed will be capable of hosting fueled microreactor experiments and is expected to be available for use at the INL as soon as 2026.
- Establishing the Microreactor Applications, Research Validation, and Evaluation (MARVEL) microreactor, which will serve as a unique nuclear test platform to demonstrate microreactor operations and end-use applications. Most recently, the MARVEL team completed the final project design review and successfully built a full-scale prototype to support the project. MARVEL is planned to be operational at INL as soon as 2027.

DOE has made progress in these areas, but greater efforts are needed to:

- Develop and deploy innovative climate technologies, materials, manufacturing processes, and advanced technologies at DOE sites;
- Support purchasing preference for made in America climate-ready products and services.
- Advance manufacturing process technology development.
- Foster technology transfer to U.S. companies.
- Advance Manufacturing Consortia and strengthen Technical Partnerships.
- Provide technical assistance to state and local government/communities.

DOE's ongoing efforts to improve include:

- In September 2023, the Sustainable Climate-Ready Sites (SCRS) program completed its inaugural year with 12 DOE sites participating. The SCRS recognizes site achievements in categories, including natural and cultural resource stewardship, sustainability, climate resilience, and environmental justice. SCRS responds to DOE's commitments in the 2021 CARP to weave land use planning and ecosystem health into DOE's approach to climate change resilience and mitigation. Through SCRS, DOE highlights innovations in climate resilience planning and assess how these activities are integrated with the broader environmental and sustainability efforts at each site. Throughout FY 2023, DOE hosted monthly trainings, analyzed site self-assessments and practices, and conducted an analysis to support the sites' achievements. The four sites with the top scores were: Oak Ridge Environmental Management, PNNL, BNL, and NNSS. These sites were recognized by Ingrid Kolb (Director, MA) on Earth Day 2024.
- DOE continues to partner with the Council on Environmental Quality, General Services Administration (GSA), DOD, Department of State (DOS), and national laboratories to pilot an aggregated federal procurement initiative for CFE to demonstrate new and novel approaches to U.S.



## MANAGEMENT PRIORITIES (Unaudited)

government CFE procurement. The pilots will help illustrate how the U.S. government can overcome existing technological, organizational, and market barriers to U.S. government CFE procurement and meet the dual U.S. government goals of 100% annual CFE procurement and 50% hourly CFE match by 2030.

### ENERGY JUSTICE

#### Key Challenges:

On January 27, 2021, President Biden issued EO 14008, Tackling the Climate Crisis at Home and Abroad, which established the historic Justice40 Initiative, a whole-of-government effort establishing the goal that 40% of the overall benefits of climate and clean energy investments flow to disadvantaged communities. The ambitious and historic initiative allows the Department to deepen its current environmental justice efforts and provide an unprecedented opportunity to expand its equity footprint through diverse programs. Key challenges for Justice40 relate to its scope. For DOE, those challenges include(d):

- Identification of investments that fall within Justice40.
- Measurement of investment benefits with respect to specific DOE programs, pursuant to the EO.
- Determination of percentage of benefits of covered programs that accrue in disadvantaged communities versus the benefits of all covered programs.
- Full implementation of the initiative across all DOE programs, including research and development programs.

**Departmental Initiatives:** On October 31, 2023, DOE changed the name of the Office of Economic Impact and Diversity to EJE to better reflect DOE's commitment to energy justice and tackling the climate crisis through equity-centered solutions.

In FY 2024, EJE continued to lead the implementation of Justice40 on behalf of the Department. DOE staff and program offices directly or indirectly support covered programs in areas falling within Justice40, including:

- Climate change
- Clean energy and energy efficiency
- Clean transportation
- Affordable and sustainable housing
- Training and workforce development related to climate, natural disasters, environment, clean energy, clean transportation, housing, water and wastewater infrastructure, and legacy pollution reduction, including in energy communities.
- Remediation and reduction of legacy pollution.
- Clean water and waste infrastructure.

EJE continued to help the Department identify and define Justice40 communities. In addition to leveraging the Climate and Economic Justice Screening Tool (CEJST) to identify geographically defined disadvantaged communities for any covered programs under the Justice40 Initiative and for programs where a statute directs resources to disadvantaged communities, to the maximum extent possible and permitted by law.

In addition, EJE updated DOE Disadvantaged Communities Reporter Mapping Tool on March 30, 2024, to include CEJST census tracts and help transition to the White House definition of disadvantaged communities. The Office of Infrastructure also released an interactive map that shows where, through IJIA and IRA funding, the Department is investing in communities across the country. This map identifies where DOE's demonstration and deployment investments are occurring and includes high-level snapshots of the community benefits that may be associated with these investments. The map serves as a tool that local communities can use to better understand what DOE-supported projects are being developed in their areas and to engage more effectively with the project, ultimately creating stronger and more specific benefits and building long-term project support.

In FY 2024, EJE renamed the Justice40 CoP to the EJE CoP to continue to support DOE program offices in addressing challenges and opportunities associated with Justice40, and also to socialize energy justice related topics of interest to offices. Topics covered Justice40 Budget Data Request requirements from OMB and CEQ, Energy Justice (EJ) tools being developed by non-governmental entities, social science research being developed within DOE, and socializing EJE activities across DOE offices. The EJE CoP involves approximately 50 participants who represent all DOE program offices and several support offices.

In FY 2024, DOE continues to lead the Equity, Energy, and Environmental Justice (EEEJ) group with representatives from a dozen program offices. The group meets bimonthly to facilitate engagement and support EEEJ work across the Department in the following areas:

- Embedding Justice40/equity into project evaluation, e.g., accountability framework.
- Development of the Department's first Energy and Environmental Justice Policy.
- Development of DOE's first-ever Environmental Justice Strategic Plan.

On March 22, 2024, OMB and the Council on Environmental Quality released the data call for the Phase Two EJ Scorecard. The data requested to be collected from agencies was consistent with the data collected for the Phase One Scorecard but with additional asks for narrative highlights. DOE collected responses from 37 offices and submitted a response on May 18, 2024. The Scorecard and related material have been published on the White House's new environmental justice website: <https://www.environmentaljustice.gov>.

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In FY 2024, EJE staff helped support the development and implementation of [CBPs](#), which is a new section of applications for all IIJA and IRA funding opportunity announcements and loan applications. CBPs are based on a set of four core policy priorities: 1) investing in America's workforce; 2) engaging communities and labor; 3) advancing DEIA; and 4) implementing Justice40. These key principles, when incorporated comprehensively into project proposals and applications and executed upon, will help ensure broadly shared prosperity in the clean energy transition. To facilitate the review and implementation of CBPs, EJE staff lead the following activities:

- Developed three public-facing CBP templates for prospective applicants to assist in developing effective CBPs when applying for DOE funding.
- Standardized and updated CBP requirement language in DOE funding opportunity announcements for IIJA and IRA development and deployment and research and development projects.
- Created and implemented tools to assist DOE staff in the evaluation and post award negotiation of DOE awards that contain CBPs.
- Created reporting and contracting materials to assist DOE in offices in the tracking and enforcement of CBP goals and milestones.
- Set an agency-wide standard for when CBPs should be applied to competitive and formula funding.
- Created an open license, interactive CBP workshop that can be hosted by interest groups and the public.

Selected Justice40 FY 2024 programs and initiatives include:

- **Community Geothermal Initiative:** This initiative supports the formation of U.S.-based community coalitions that will develop, design, and install geothermal heating and cooling systems to supply at least 25% of the heating and cooling load in communities. Identifying and addressing environmental justice concerns is a key focus of the initiative.
- **Industrial Assessment Centers:** This program provides no-cost assessments and recommendations to SMMs on energy efficiency, productivity, sustainability, and competitiveness, while simultaneously training the next generation of energy-savvy professionals. The program targets SMMs located within disadvantaged communities, as well as projects that benefit the operations of minority-serving institutions.
- **Advanced Cybersecurity Technology 1 Prize:** This three-phase competition will empower rural and municipal utilities to implement solutions that improve their cybersecurity posture. Winners receive cash prizes and technical assistance toward investments in workforce, governance, and cybersecurity tools and technologies.
- **R-STEP: Renewable Energy Siting through Technical Engagement and Planning:** The state-based collaboratives funded through R-STEP will provide technical assistance and other resources to rural communities, energy justice communities, Tribes, and others to improve planning and permitting processes for large-scale renewable energy facilities. This will enable disadvantaged communities to improve environmental and economic outcomes from hosting large-scale renewable energy infrastructure.
- **Funding for Enhanced EV Charging Resiliency, Reliability, Equity, and Workforce Development:** This funding will address barriers to charging in multifamily housing facilities, explore new approaches to curbside charging in urban areas, promote seamless connections across modes through e-mobility hubs, and test new incentive structures to provide affordable public charging access.
- **Manufacturing Ecosystem Track of the Community Energy Innovation Prize (CEI Prize):** Learning from a prior community-focused prize, the CEI Prize kept the application period open for an extended period (5-plus months) and designed the prize using a cohort model rather than a down-select model. All 10 teams were eligible to move through all three phases of the prize, creating less competition and promoting collaboration.
- **Consent-Based Siting for Interim Nuclear Storage Program:** \$26 million was awarded to 13 groups of university, non-profit, and private-sector partners that will work with communities using DOE's consent-based siting approach to interim storage of spent nuclear fuel. DOE and the consent-based siting consortia work together to build equity and environmental justice principles into the engagement processes. This funding opportunity was designed to be more accessible to disadvantaged communities and to serve needs more holistically by enabling mechanisms that provide subawards to communities and organizations.

In FY 2024, EJE launched three new forum-based tools for engaging community groups in learning about hydrogen-based systems, the extraction and use of critical minerals, and community benefit plans. Both the "Harnessing Hydrogen" and "Community Benefits Planning" are currently available to the public. Each forum supports public engagement and understanding around clean hydrogen technologies and DOE's new CBP framework. The forums are open-source and available free of charge for anyone to use. These forums are particularly helpful for communities, civic organizations, educators, and businesses and can be used together or separately.

EJE continues to partner with Treasury and IRS to administer the 48e Low-Income Communities Bonus Credit Program. The program was established under section 48(e), which was added to the Internal Revenue Code by IRA, to promote cost-saving clean energy investments in low-income communities, on Indian land, as part of affordable housing developments, and benefiting low-income households. For the 2024 program year, at least 50% of the capacity of each category will be reserved for projects meeting certain ownership and/or geographic selection criteria to promote equity.

EJE also established a partnership with EIA which allows us to jointly work on several objectives, including increasing geographic granularity on Residential Energy Consumption Survey and Energy Insecurity data, contributing to the National Energy Modeling System update, the Blue Sky Project, and the EIA Utility Shutoff Survey.

In FY 2024, EJE hosted its second annual Justice Week from Monday, October 30, 2023, through Thursday, November 2, 2023. The four-day event convened external and internal entities to discuss the Department's justice and equity efforts and the best path toward a new energy system. The

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continued goal of Justice Week is to share best practices, highlight successes, and identify continued challenge areas or areas of growth. The agenda was broken into the following topic areas:

- DOE's Equity Portfolio – This day focused on EOs 13985 and 14091 and the progress made to date, as well as changes being implemented in the 2022 Equity Action Plan.
- Justice40 programs within DOE – This day focused on accountability around Justice40, explained what the Department's new benefits methodology looks like, and focused on community benefits plans implementation in communities.
- Energy justice research and policy conference – This conference aimed to draw together communities and researchers across the life cycle of energy systems to share emerging research, define gaps in knowledge, and center research around community needs.
- MSIs and MBEs – This day highlighted the creation of successful pathways to STEM with MSIs and showcased the wins of MBEs.

On June 5, 2024, the DOE held the Affordable Home Energy Shot Summit to virtually convene participants to discuss the Affordable Home Energy Shot™ — an ambitious initiative to reduce the upfront cost of upgrading a home by at least 50% while reducing energy bills by 20% within a decade. This summit was an opportunity for dialogue between DOE and its diverse partners on the ground to understand the emerging needs and opportunities of realizing this Energy Shot's vision.

### NUCLEAR STOCKPILE STEWARDSHIP

#### Key Challenges:

One of NNSA's three overarching missions is to ensure the safety, security, and effectiveness of the U.S. nuclear weapons stockpile in support of the nation's nuclear deterrent. This mission is carried out by NNSA's Office of Defense Programs (DP) through the Stockpile Stewardship Program (SSP). The SSP was established to maintain the active stockpile, execute warhead acquisition programs to meet DOD requirements, maintain and upgrade NNSA laboratory and production infrastructure, develop and maintain the underpinning science and engineering, and ensure a highly trained and skilled workforce. Since the inception of the SSP, this mission has been accomplished without nuclear explosive testing through the application of specialized science, technology, engineering, and manufacturing. The U.S. nuclear stockpile is assessed annually and is found to be safe, reliable, effective, and secure. The stockpile stewardship program faces several key future challenges:

- To provide a credible nuclear deterrent, the U.S. must maintain the current stockpile of nuclear weapons, extend the life of the stockpile, and modernize laboratory and production infrastructure for continued long-term stewardship.
- Sustained long-term support is critical for continued alignment of warhead acquisitions with DOD platform requirements.
  - Continued science and infrastructure investments are needed to ensure the current and future stockpile meets the needs of the nation.
  - Weapon components and subsystems often require life extension or replacement using parts and processes that are decades out of date.
- NNSA's ability to execute its mission depends on a modern, flexible, and resilient nuclear security infrastructure. Over half of NNSA's facilities are more than 40 years old, and roughly one-third date back to the early Cold War era. Many buildings and equipment require replacement.
- NNSA executes its nuclear modernization efforts in conjunction with both DOD delivery platforms and the NNSA infrastructure needed to produce and maintain those nuclear weapons. This approach provides NNSA the flexibility to implement new policy decisions related to nuclear modernization as the U.S. understands the changing international threats facing the U.S. and its allies and partners.
  - The U.S. must continue to invest in the weapons and infrastructure modernization programs to provide the capabilities needed to ensure the deterrent's viability into the future. For these reasons, NNSA continues to look for innovative ways to meet emerging challenges on a timescale that does not put nuclear deterrent at risk and to enhance science, technology, and engineering capabilities to improve the production processes' efficiency and effectiveness.

**Departmental Initiatives:** Nuclear deterrence has been, and remains, the cornerstone of the nation's security posture, and its credibility serves as the ultimate insurance policy against a nuclear attack. NNSA's central mission is to sustain the nation's nuclear weapons stockpile and industrial base to provide the tools of deterrence to the nation's military and allies.

NNSA completed several important initiatives in FY 2024 aimed at improving performance and addressing the challenges impacting Stockpile Stewardship. Ongoing initiatives supporting this mission include the implementation and development of various strategies, operations, technologies, and partnerships.

- Using the annual assessment process, the science-based SSP certified the safety, security, and military effectiveness of the U.S. nuclear weapons stockpile for the 27th consecutive year. The annual stockpile assessment process evaluates the nuclear arsenal by conducting stockpile maintenance, surveillance, experiments, and simulations to update the technical basis of each weapon system and report on their health to the President as required by 50 U.S.C. § 2525.
- The ICF program achieved a chain reaction fusion burn in the laboratory that generates more energy than delivered to it. The latest fusion burn performed at the NIF achieved 5.2 megajoules (MJ) fusion yield on February 12, 2024. Further experiments that will follow provide access to extreme regimes of physics critical for understanding the performance, survivability, and modernization of the nuclear stockpile.
- The Office of Research, Development, Test, and Evaluation (RDT&E) provides experimental facilities and resources to support studies of hostile survivability, development and testing of special materials, assessment of plutonium aging, and opportunities for improvements in pit producibility. The unique scientific facilities and expertise in RDT&E represent the foundational tools of the stockpile stewardship program. These tools regularly support the future nuclear stockpile including the recently finalized Nimble subcritical experiment platform that will inform W80-4 & W87-1 primary performance calculations accounting for deviations from our underground test history.

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- STA provides safe, secure transport of the nation's nuclear weapons, weapon components, and special nuclear material (SNM) throughout the nuclear security enterprise to meet national security requirements and support DOE/NNSA missions. Nuclear weapon warhead modernization, limited life component (LLC) exchanges, surveillance, dismantlement, nonproliferation activities, and experimental programs rely on STA's safe and secure transport. In FY 2024, STA continues its record of 100% safe and secure shipments without compromise, loss of components, or release of radioactive material. This record is enabled by the core components of the STA security concept of specialized vehicles, secure trailers, highly trained federal agents, and leading-edge communication systems.
- The B61-12 completed its first production unit in November 2021 and entered Phase 6.6, Full Rate Production, in June 2022. The program is executing to planned production rates and fully supporting Air Force deployment schedules.
  - The B61-12 LEP addresses multiple components that are nearing end-of-life, in addition to military requirements for reliability, service life, field maintenance, safety, and use control.
  - With the addition of an Air Force-procured tail kit assembly, the B61-12 LEP will consolidate and replace several existing B61 bomb variants.
  - The B61-12 LEP production activities will continue through FY 2026.
- The B61-13, an additional variant of the B61 gravity bomb, will strengthen deterrence by providing additional options against certain hardened and large-area military targets.
  - The B61-13 will replace some of the B61-7 weapons in the stockpile and have the safety, security, and accuracy of the B61-12.
  - The B61-13 Phase 6.4, Production Engineering is scheduled for FY 2025, with FPU scheduled in FY 2026.
- The W88 Alt 370 met its initial operational capability deliverables to the U.S. Navy in January 2022 and entered Phase 6.6, Full Rate Production, in June 2022. The program is executing to planned production rates and fully supporting Navy deployment schedules.
  - The W88 Alt 370 modernizes the arming, fuzing, and firing assembly, improves surety, replaces the conventional high explosive and associated materials, incorporates a lightning arrestor connector, and provides trainers, joint test assemblies, and associated handling gear.
  - The W88 Alt 370 production activities will continue through FY 2026.
- The W80-4 LEP completed initial joint Long-Range Stand-Off Weapon/W80-4 testing and component Baseline Design Reviews and entered Phase 6.4, Production Engineering, in March 2023.
  - Key design requirements extend the service life, replace critical non-nuclear components, reuse the W80-1 pit, and incorporate modern safety features.
  - The W80-4 LEP is expected to be completed by FY 2033.
- The W87-1 Modification Program completed the Weapon Design and Cost Report and entered Phase 6.3, Development Engineering, in November 2022.
  - The W87-1 will be deployed alongside the W87-0 on the Sentinel Missile and will replace the aging W78 warhead by modifying the existing legacy W87-0 design.
  - The W87-1 Modification Program will meet DOD and NNSA requirements for performance, safety, and security and is planned to deploy as part of the Sentinel by no later than 2032.
- The W93 entered Phase 2, Feasibility Study and Design Options, in mid-FY 2022 and remains on track for production starting in the mid-2030s.
  - The W93 will address future Navy ballistic missile warhead requirements and incorporate modern technologies to improve safety, security, and flexibility to address future threats.
  - The W93 will deploy in the Mk7 reentry body and inform the associated DOD Mk7 program activities.
- NNSA continues to meet tritium production requirements for national security while working to increase supply chain reliability, flexibility, and resiliency. NNSA continues to execute our successful strategic plan for tritium, partnering with TVA to use both Watts Bar reactors to meet current requirements and to maintain a schedule for increased production capacity for future requirements.
  - Continued irradiation of 1,792 TPBARs in Watts Bar Unit 1, Fuel Cycle #19.
  - Completed irradiation of 1,104 TPBARs in Watts Bar Unit 2, Fuel Cycle #5 and commenced irradiation of 1,680 TPBARs in Fuel Cycle #6 in the first quarter of FY 2024.
- Pit production modernization activities continue at LANL and SRS to fulfill the requirement to produce no fewer than 80 pits per year. Initiatives include:
  - LLNL commenced certification testing on the LANL-produced Certification build 05 as part of production to achieve a First Production Unit (FPU) of the W87-1 pit.
  - LLNL is on track to issue Qualification Engineering Releases at both LANL and KCNSC for FPU.
  - LANL continues to make progress on production with manufacturing FPU pit build candidates.
  - LANL is actively supporting a knowledge transfer program for the future SRS pit production mission with subject matter expertise. SRNS continues to support LANL pit production operations as part of the Mutual Support Program with activities at both LANL and LLNL.
  - SRNS continues to mature design of SRPPF and also continued executing long lead procurements and site preparation in support of the SRPPF construction project.
  - A new and innovative cooperative agreement was developed to meet the demands of gloveboxes for pit production modernization to support facility expansion and equipment modernization of commercial facilities in the U.S. for the fabrication and integration of gloveboxes that meet stringent and unique manufacturing specifications.
- NNSA continues to modernize secondary stage manufacturing capabilities while meeting near-term weapons deliverables.

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- The production technology Direct Casting, which allows the enterprise to directly cast near net shapes for radiation cases, achieved TRL-7 with two component specific gaps needing to be addressed prior to weapon system adoption. Direct Casting is the first new technology to achieve TRL-7 since Microwave Casting.
- NNSA continues to reduce hazards by phasing out programmatic operations in Building 9212 and has completed all purified EU metal production in 9212. Future purified EU metal production will begin in 2026 in Building 9215 with the Electrorefining project.
- NNSA awarded a contract to Nuclear Fuel Services for enriched uranium conversion services that builds flexibility and resiliency during a time of technology transformation at Y-12.
- The Advanced Simulation and Computing program deployed NNSA's first exascale high-performance computing system, El Capitan, at LLNL and various Commodity Technology systems (CTSs) at three NNSA labs. Additionally, its key tri-lab weapons simulation codes are running on classified Crossroads system and CTSs in support of the stockpile modernization programs.



# Financial Management Systems Plan

## Corporate Business Systems

DOE's enterprise-wide Corporate Business Systems (CBS), i.e., IT systems, consist of financial, budgetary, procurement, travel, and personnel systems. Supported by a data warehouse linking common data elements from each of the Department's business systems, these systems assist with external and internal reporting. The major business systems include:

- Budget: Budget Formulation and Distribution System (BFADS)
- Financial: Standard Accounting and Reporting System (STARS)
- Personnel: CHRIS
- Procurement: Strategic Integrated Procurement Enterprise System (STRIPES)
- Data Linking: Integrated Data Warehouse (IDW)/iPortal
- Travel Processing: Services outsourced through GSA's eTravel Services contract using a system called Concur Government Edition
- Payroll Processing: ATAAPS along with internal systems for collating internal data, which is then outsourced to be serviced by the Defense Finance and Accounting Service (DFAS)

## Current Systems

BFADS is the Department's budgetary funds formulation and distribution system providing the capability to capture and report all formulation activities, as well as to record, distribute, and execute appropriations, apportionments, allotments, allocations, and ancillary processes, such as reprogramming and appropriation transfers. BFADS integrates with STARS, IDW, and field office reimbursable work systems. FY 2024 BFADS activities included:

- Completed OneID/Single Sign-on for all BFADS environments
- Updated Oracle Hyperion from version 11.2.12 to version 11.2.14
- Offered training for users on the budget formulation and execution functionality
- Provided 24x7 support for key processing and reporting time frames (month, quarter, year-end, as well as annual Financial Statement Audit)
- Actively maintained the required security posture and upgraded to the most current quarterly Oracle patch set

Improvements for BFADS include reviewing NIST 800-53 Rev-5 compliance activities for implementation. BFADS plans to update to Oracle Hyperion version 11.2.18. BFADS will continue working on compliancy with IPv6. DOE will continue to improve system functionality and technical enhancements, as well as maintain a rigorous security posture.

STARS is the Department's financial management system, providing accounting, reporting, and performance measurement services. STARS integrates with procurement, funds distribution, travel, and HR systems. FY 2024 STARS activities included:

- Completed OneID Single Sign-on for all STARS environments.
- Supported setup and testing of FY24 accounting changes required for the Statement of Federal Financial Accounting Standards (SFFAS) 54, *Leases*
- Assisted with G-Invoicing initiative
- Provided 24/7 support for key processing and reporting time frames (month, quarter, year-end, as well as annual Financial Statement Audit)
- Maintained the security posture by performing the annual Disaster Recovery testing, security Assessment & Authorization (A&A) activities, and Privacy Impact Assessment activities
- Upgraded the STARS database to Oracle 19c
- Implemented STARS enhancements for FMS Interest, Risk-Based Fee, and Subsidy Collection for third-party loans

Improvements for STARS include G-Invoicing functionality to enable intragovernmental requisitions, G-invoicing EZ functionality, and assisting with In Flight IGT order migration. Lastly, DOE will gather and review information on Oracle Fusion version and Oracle database version 23ai for future implementation.

As DOE's HR system, CHRIS improves operational HR efficiencies, reduces paperwork, and provides the strategic information needed to make informed HR management decisions. FY 2024 CHRIS activities included:

- Completed the CHRIS PeopleSoft upgrade from 9.1 to 9.2
- Completed OneID/Single Sign-on for all CHRIS environments
- Maintained security posture: performed annual security A&A activities as well as Privacy Impact Assessment activities
- Supported HC Mass Pay preparations
- Supported and enhanced functionality and reporting based on user requirements
- Resolved application level log4j vulnerabilities
- Supported OCHCO's development and implementation of HRIT/Workday, CHRIS's replacement

Improvements for CHRIS include supporting and implementing any changes OPM requires; however, the focus will be predominantly on supporting the HRIT/Workday project.

## FINANCIAL MANAGEMENT SYSTEMS PLAN (Unaudited)

STRIPES is DOE's procurement and contracts management system, automating all procurement and contract activities associated with planning, awarding, and administering various unclassified acquisition and financial assistance instruments. Integrated with STARS and IDW, STRIPES connects DOE with GSA Integrated Award Environment systems, which includes the System for Award Management, Federal Procurement Data System – Next Generation, and SAM.gov's Contracts Opportunities. STRIPES also interfaces with Grants.gov and Unison's FedConnect. FY 2024 STRIPES activities included:

- Completed OneID/Single Sign-on for all STRIPES environments
- Researched, documented, and tested three new Unison modules to incorporate into stakeholder business processes. Data Validation has been implemented in production. The Bi-Lateral Signature, and Data Analytics modules are still in process
- Researched and documented the use of the Unison "Other Transaction" module to determine viability of the module to meet necessary non-procurement-type financial transactions within the contract writing system
- Continued support of DATA Act regulatory requirements, data calls, and quarterly reconciliations as mandated by OMB
- Coordinated with Unison and Cyber on Synack penetration testing results and mitigation.
- Provided 24/7 support for key processing and reporting time frames (month, quarter, year-end, as well as annual Financial Statement Audit)
- Maintained the security posture by performing the security A&A activities and the Privacy Impact Assessment activities
- Conducted and created general and targeted user training webinars
- Implemented STRIPES upgrade 7.5.7 and several PRISM Service Packs (8, 9, 10, and 11)

Improvements for STRIPES include implementing the Bi-Lateral Signature and Data Analytics modules and beginning work on documenting and testing a new module for Records Destruction.

IDW is a central data warehouse linking common data elements from multiple DOE corporate business applications, providing reporting to DOE executives, managers, and staff, including access to business applications, personalized dashboards, messaging, and discussion boards. FY 2024 IDW activities included:

- Completed the upgrade of all Oracle databases to version 19C
- Continued optimizing the Azure cloud environment to reduce vNet peering costs and completed rightsizing activities for application and database virtual machines
- Continued developing and supporting data collection tools to capture data in support of IIJA and IRA reporting needs
- Completed the development and offered training on Oracle Analytics Server to the DOE user community
- Continued efforts of creating and enhancing reporting subject areas, standard reports/dashboards, collaboration tools, developing ad hoc queries and data inquiries in support of Department-wide program needs
- Provided support and enhanced functionality for APEX developed solutions such as AMERICA, iBenefits, ANA, Small Business and Conference Management
- Performed annual documents and reports cleanup
- Continued to provide support to users at Headquarters, program offices and DOE sites for assistance with standard reports and dashboards, collaboration tools, developing ad hoc queries and data inquiries

IDW will undergo enhancements to support expanded use of HR data. The initiative will replace the existing Oracle Internet Directory middleware component with the new Oracle Unified Directory, which integrates storage, synchronization, and proxy functionality to help manage critical identity information driving DOE business applications. These capabilities will enable the Department to meet evolving needs of an enterprise architecture.

### Additional Efforts

Launched the Lifecycle Spending Dashboard, which contains Budget Lifecycle and Awardee Modules with interactive visualizations to assist in tracking and reporting on IIJA and IRA execution. OCFO will continue to enhance and expand the visualizations.

In FY 2024, OCFO deployed the application performance monitoring tool Dynatrace to all managed applications with infrastructure layer turned on and full-stack monitoring of applications and users is planned.

Improvements include OCFO expanding the use of RPA technology throughout the systems to further optimize system functionality. Systems functionalities will be evaluated with the focus on operational efficiency, and RPA solutions will be proposed solutions to stakeholders.

Improvement to the travel system include evaluating the transition from ETS2/Concur to the follow-on eGov Travel System.

Improvements to examining optimization opportunities for the cloud infrastructure. In particular, OCFO will analyze and design system architecture for containerization as a step to realization of immutable infrastructure. Furthermore, replacement of all self-signed certificates with managed ones to strengthen communications within the boundaries of all managed systems will begin to be phased in.

The background of the entire page is a photograph of several wind turbines silhouetted against a bright orange and yellow sunset sky. The sun is a large, glowing orb in the lower right quadrant. The turbines are of varying heights and are positioned across the frame, with one particularly large one on the left side.

U.S. Department of  
**ENERGY**<sup>TM</sup>

# **Financial Results**



## Message from the Deputy Chief Financial Officer (Unaudited)



DOE's senior leadership recognizes the importance of accurate and timely financial information for decision-making. In fiscal year (FY) 2024, the financial statement audit by the independent accounting firm, KPMG LLP, found that the Department's financial information is reliably and accurately presented with the exception of an opinion qualification on the Portsmouth Paducah Project Office environmental liability and one material weakness issued for internal controls related to financial reporting over environmental liability estimates. The audit identified no instances of noncompliance with laws and regulations, nor instances in which DOE's financial management stewardship and systems did not comply with governmental financial requirements. In the coming fiscal year, DOE will focus on resolving the material weakness and delivering timely, accurate, and reliable financial information to support the Department's mission.

In FY 2024, the DOE Chief Financial Officer (CFO) community met mission goals and provided high-caliber financial management and fiscal stewardship, exemplified by many achievements:

- Migrated the Payment Integrity and the Comprehensive Field Financial Review to a cloud-based system and improved the collaboration of the Agency Financial Report to increase efficiency and streamline processes.
- Enhanced CFO robotic process automation (RPA), leading to eight production RPAs in FY 2024. Further improvements include enhancing unattended RPA capabilities.
- Provided essential support for the Department's Spring Budget process, specifically establishing a new capability to produce over 175 concept papers for the Deputy Secretary's consideration as it pertains to cross-cutting, high impact areas such as artificial intelligence, fusion, geothermal, and Energy Earthshots™.
- Identified funding gaps across the Department and documenting over 120 FY 2024 appropriations appeals (the highest in five years). These actions avoided potential rescissions during the FY 2024 Omnibus bill negotiations.
- Implemented multi-factor authentication for the Budget Formulation and Distribution System, the Corporate Human Resources Information System (CHRIS), DOEInfo, Employee Self Service, the Integrated Data Warehouse/iPortal, Southeastern Power Administration, Standard Accounting and Reporting System, and Strategic Integrated Procurement Enterprise System.
- Partnered with Human Capital (HC) to successfully implement and launch the 9.2 upgrade of CHRIS.
- Launched the Lifecycle Spending Dashboard to enhance decision making through interactive visualizations and assist in the tracking and reporting on execution of funds received from the Infrastructure Investment and Jobs Act and Inflation Reduction Act.

In FY 2025 the CFO community will:

- Further implement automated solutions to manage and report the Department's performance measures and financial management initiatives.
- Continue to focus on workforce modernization and succession to ensure mission support activities are met through delivering exemplary financial management products and customer service.
- Mature the data analytics program across the DOE complex to enhance the detection of fraud, improper payments, and improve DOE's stewardship of financial resources.
- Continue to support the Human Resources (HR) Information Technology Modernization project in collaboration with HC which will replace the current HR system by providing core HR, benefits, compensation, and reporting features.

DOE's CFO community continues to manage taxpayer dollars wisely, as demonstrated by these notable successes. In FY 2025, the Department is committed to building on these successes, continuing to deliver superior financial stewardship and management through a sustained focus on DOE's mission, and realizing results.

/Christopher S. Johns/

Christopher S. Johns  
Deputy Chief Financial Officer  
December 12, 2024

# Financial Statements, Footnotes, and Consolidating Schedules

## Introduction to Principal Statements

The Department's financial statements have been prepared to report the financial position and results of operations of DOE, pursuant to the requirements of the Chief Financial Officers Act of 1990, the Government Management Reform Act of 1994, and the OMB Circular A-136, *Financial Reporting Requirements*.

The responsibility for the integrity of the financial information included in these statements rests with the management of the Department. The audit of the Department's principal financial statements was performed by an independent certified public accounting firm selected by the Department's Inspector General. The auditors' report issued by the independent certified public accounting firm is included in this report.

The following provides a brief description of the nature of each required financial statement.

## Consolidated Balance Sheets

The *Consolidated Balance Sheets* present, as of a specific time, amounts of future economic benefits owned or managed by the Department (assets), amounts owed by the Department (liabilities), and residual amounts retained by the Department comprising the difference (net position).

## Consolidated Statements of Net Cost

The *Consolidated Statements of Net Cost* summarize the Department's costs by the major programs of the Department. All costs reported reflect full costs, except for certain indirect costs, which are reported within the Other Programs line of the statements. The costs for each line are reduced by earned revenues to arrive at net costs.

## Consolidated Statements of Changes in Net Position

The *Consolidated Statements of Changes in Net Position* identify appropriated funds used as a financing source for goods, services or capital acquisitions. These statements present the accounting events that caused changes in the net position section of the *Consolidated Balance Sheets* from the beginning to the end of the reporting periods.

## Combined Statements of Budgetary Resources

The *Combined Statements of Budgetary Resources* identify the Department's budgetary authority. Federal law gives budgetary authority to agencies to incur financial obligations that will eventually result in outlays or expenditures. Budgetary authority that the Department receives includes appropriations, borrowing authority, contract authority and spending authority from offsetting collections. The *Combined Statements of Budgetary Resources* provide information on budgetary resources available to the Department during the year and the status of those resources at the end of the year. Detail on the amounts shown in the *Combined Statements of Budgetary Resources* is included in the Required Supplementary Information section on the schedule of Budgetary Resources by Major Account.

## Notes to the Consolidated and Combined Financial Statements

The notes to the consolidated and combined financial statements provide a detailed explanation for activity that is included in the line items of each statement. The notes also provide information to support the valuation and computation of the financial statement activity.

## Consolidating and Combining Schedules

The consolidating and combining schedules separate the Department's financial activity by the independent organizations that are included in the financial statement line items. The independent organizations include PMAs and the Federal Energy Regulatory Commission (FERC). The consolidating schedules also identify intradepartmental activity that is eliminated during the financial statement preparation process. Intradepartmental activity is not eliminated from the combining schedules.



# CONSOLIDATED AND COMBINED FINANCIAL STATEMENTS

## Principal Statements

### U.S. Department of Energy Consolidated Balance Sheets

As of September 30, 2024 and 2023

(\$ IN MILLIONS)	FY 2024	FY 2023
<b>ASSETS:</b> <sup>(Note 2)</sup>		
<b>Intragovernmental Assets:</b>		
Fund Balance with Treasury <sup>(Note 3)</sup>	\$ 139,669	\$ 129,301
Investments, Net <sup>(Note 4)</sup>	50,604	50,393
Accounts Receivable, Net <sup>(Note 5)</sup>	688	679
Advances and Prepayments	96	117
Other Assets	—	—
<b>Total Intragovernmental</b>	<b>\$ 191,057</b>	<b>\$ 180,490</b>
<b>Other than Intragovernmental Assets:</b>		
Cash	\$ 2	\$ 129
Accounts Receivable, Net <sup>(Note 5)</sup>	3,487	3,189
Loans Receivable, Net <sup>(Note 6)</sup>	17,415	16,764
Inventory, Net <sup>(Note 7)</sup>	48,172	44,452
Property, Plant, and Equipment, Net <sup>(Note 8)</sup>	61,825	52,091
Advances and Prepayments	895	814
Other Assets <sup>(Notes 9 and 10)</sup>	13,034	13,361
<b>Total Other than Intragovernmental</b>	<b>\$ 144,830</b>	<b>\$ 130,800</b>
<b>Total Assets</b>	<b>\$ 335,887</b>	<b>\$ 311,290</b>
<b>LIABILITIES:</b> <sup>(Note 11)</sup>		
<b>Intragovernmental Liabilities:</b>		
Accounts Payable	\$ 137	\$ 129
Debt <sup>(Note 12)</sup>	23,730	22,984
Advances from Others and Deferred Revenue <sup>(Note 16)</sup>	1,569	1,502
Other Liabilities <sup>(Note 15)</sup>	5,165	5,382
<b>Total Intragovernmental</b>	<b>\$ 30,601</b>	<b>\$ 29,997</b>
<b>Other than Intragovernmental Liabilities:</b>		
Accounts Payable	\$ 6,509	\$ 6,201
Federal Employee Salary, Leave, and Benefits Payable <sup>(Note 13)</sup>	2,209	1,966
Post Employment Benefits Payable	91	90
Environmental and Disposal Liabilities <sup>(Note 14)</sup>	544,541	534,314
Loan Guarantee Liabilities <sup>(Note 6)</sup>	78	79
Advances from Others and Deferred Revenue <sup>(Note 16)</sup>	55,450	52,841
Other Liabilities <sup>(Notes 15, 16, 17, 18, and 19)</sup>	64,603	59,361
<b>Total Other than Intragovernmental</b>	<b>\$ 673,481</b>	<b>\$ 654,852</b>
<b>Total Liabilities</b>	<b>\$ 704,082</b>	<b>\$ 684,849</b>
<b>NET POSITION:</b> <sup>(Note 26)</sup>		
Unexpended Appropriations - Funds from Dedicated Collections <sup>(Note 20)</sup>	\$ 36	\$ 207
Unexpended Appropriations - Funds from Other than Dedicated Collections	107,123	95,903
<b>Total Unexpended Appropriations (Consolidated)</b>	<b>\$ 107,159</b>	<b>\$ 96,110</b>
Cumulative Results of Operations - Funds from Dedicated Collections <sup>(Note 20)</sup>	\$ (18,685)	\$ (13,968)
Cumulative Results of Operations - Funds from Other than Dedicated Collections	(456,669)	(455,701)
<b>Total Cumulative Results of Operations (Consolidated)</b>	<b>\$ (475,354)</b>	<b>\$ (469,669)</b>
<b>Total Net Position</b>	<b>\$ (368,195)</b>	<b>\$ (373,559)</b>
<b>Total Liabilities and Net Position</b>	<b>\$ 335,887</b>	<b>\$ 311,290</b>

The accompanying notes are an integral part of these statements.

# CONSOLIDATED AND COMBINED FINANCIAL STATEMENTS

## U.S. Department of Energy Consolidated Statements of Net Cost

For the Years Ended September 30, 2024 and 2023

(\$ IN MILLIONS)	FY 2024	FY 2023
<b>MAJOR PROGRAMS:</b> <a href="#">(Note 21)</a>		
Nuclear Security and NNSA		
Program Costs	\$ 24,927	\$ 17,812
Less: Earned Revenues	(14)	(21)
<b>Net Cost of Nuclear Security and NNSA</b>	<b>\$ 24,913</b>	<b>\$ 17,791</b>
Science		
Program Costs	\$ 25,240	\$ 34,597
Less: Earned Revenues	(200)	(128)
<b>Net Cost of Science</b>	<b>\$ 25,040</b>	<b>\$ 34,469</b>
Energy		
Program Costs	\$ 13,093	\$ 14,871
Less: Earned Revenues	(6,121)	(11,695)
<b>Net Cost of Energy</b>	<b>\$ 6,972</b>	<b>\$ 3,176</b>
<b>Net Cost of Major Programs</b>	<b>\$ 56,925</b>	<b>\$ 55,436</b>
<b>OTHER PROGRAMS:</b> <a href="#">(Note 21)</a>		
Reimbursable Programs		
Program Costs	\$ 6,554	\$ 5,934
Less: Earned Revenues	(6,552)	(6,068)
<b>Net Cost of Reimbursable Programs</b>	<b>\$ 2</b>	<b>\$ (134)</b>
Other Programs		
Program Costs	\$ 3,245	\$ 2,837
Less: Earned Revenues	(560)	(514)
<b>Net Cost of Other Programs</b>	<b>\$ 2,685</b>	<b>\$ 2,323</b>
Costs Applied to Reduction of Legacy Environmental Liabilities <a href="#">(Notes 14 and 21)</a>	\$ (7,127)	\$ (7,075)
Costs Not Assigned to Programs <a href="#">(Note 22)</a>	\$ 21,908	\$ 23,329
<b>Net Cost of Operations</b>	<b>\$ 74,393</b>	<b>\$ 73,879</b>

The accompanying notes are an integral part of these statements.

# CONSOLIDATED AND COMBINED FINANCIAL STATEMENTS

## U.S. Department of Energy Consolidated Statements of Changes in Net Position

For the Years Ended September 30, 2024 and 2023

FY 2024				
(\$ IN MILLIONS)	FUNDS FROM DEDICATED COLLECTIONS (Note 20)	ALL OTHER FUNDS	ELIMINATIONS	CONSOLIDATED
<b>UNEXPENDED APPROPRIATIONS:</b> <a href="#">(Note 27)</a>				
Beginning Balances	\$ 207	\$ 95,903	\$ —	\$ 96,110
Appropriations Received <a href="#">(Note 24)</a>	\$ 7	\$ 60,476	\$ —	\$ 60,483
Appropriations Transferred - In/Out	—	32	—	32
Other Adjustments	—	(28)	—	(28)
Appropriations Used	(178)	(49,260)	—	(49,438)
<b>Net Change in Unexpended Appropriations</b>	<b>\$ (171)</b>	<b>\$ 11,220</b>	<b>\$ —</b>	<b>\$ 11,049</b>
<b>Total Unexpended Appropriations</b>	<b>\$ 36</b>	<b>\$ 107,123</b>	<b>\$ —</b>	<b>\$ 107,159</b>
<b>CUMULATIVE RESULTS OF OPERATIONS:</b> <a href="#">(Note 27)</a>				
Beginning Balances	\$ (13,968)	\$ (455,701)	\$ —	\$ (469,669)
Change in Accounting Principle <a href="#">(Note 1)</a>	—	(63)	—	(63)
Beginning Balances, as Adjusted	\$ (13,968)	\$ (455,764)	\$ —	\$ (469,732)
Other Adjustments	\$ —	\$ (1)	\$ —	\$ (1)
Appropriations Used	178	49,260	—	49,438
Non-Exchange Revenue	—	—	—	—
Donations and Forfeitures of Cash	—	21	—	21
Transfers - In/Out Without Reimbursement	(594)	307	—	(287)
Donations and Forfeitures of Property	7	—	—	7
Imputed Financing <a href="#">(Notes 23 and 26)</a>	18	19,985	—	20,003
Other	4	(414)	—	(410)
<b>Net Cost of Operations</b>	<b>\$ (4,330)</b>	<b>\$ (70,063)</b>	<b>\$ —</b>	<b>\$ (74,393)</b>
<b>Net Change in Cumulative Results of Operations</b>	<b>\$ (4,717)</b>	<b>\$ (905)</b>	<b>\$ —</b>	<b>\$ (5,622)</b>
<b>Total Cumulative Results of Operations</b>	<b>\$ (18,685)</b>	<b>\$ (456,669)</b>	<b>\$ —</b>	<b>\$ (475,354)</b>
<b>Net Position</b>	<b>\$ (18,649)</b>	<b>\$ (349,546)</b>	<b>\$ —</b>	<b>\$ (368,195)</b>
FY 2023				
	FUNDS FROM DEDICATED COLLECTIONS (Note 20)	ALL OTHER FUNDS	ELIMINATIONS	CONSOLIDATED
<b>UNEXPENDED APPROPRIATIONS:</b> <a href="#">(Note 27)</a>				
Beginning Balances	\$ 200	\$ 92,877	\$ —	\$ 93,077
Appropriations Received <a href="#">(Note 24)</a>	\$ 527	\$ 61,831	\$ —	\$ 62,358
Appropriations Transferred - In/Out	—	13	—	13
Other Adjustments	—	(12,604)	—	(12,604)
Appropriations Used	(520)	(46,214)	—	(46,734)
<b>Net Change in Unexpended Appropriations</b>	<b>\$ 7</b>	<b>\$ 3,026</b>	<b>\$ —</b>	<b>\$ 3,033</b>
<b>Total Unexpended Appropriations</b>	<b>\$ 207</b>	<b>\$ 95,903</b>	<b>\$ —</b>	<b>\$ 96,110</b>
<b>CUMULATIVE RESULTS OF OPERATIONS:</b> <a href="#">(Note 27)</a>				
Beginning Balances	\$ (13,002)	\$ (448,713)	\$ —	\$ (461,715)
Change in Accounting Principle	—	—	—	—
Beginning Balances, as Adjusted	\$ (13,002)	\$ (448,713)	\$ —	\$ (461,715)
Other Adjustments	\$ —	\$ —	\$ —	\$ —
Appropriations Used	520	46,214	—	46,734
Non-Exchange Revenue	6	1	—	7
Donations and Forfeitures of Cash	—	11	—	11
Transfers - In/Out Without Reimbursement	(517)	(2)	—	(519)
Donations and Forfeitures of Property	19	11	—	30
Imputed Financing <a href="#">(Notes 23 and 26)</a>	14	22,394	—	22,408
Other	(2,392)	(354)	—	(2,746)
<b>Net Cost of Operations</b>	<b>\$ 1,384</b>	<b>\$ (75,263)</b>	<b>\$ —</b>	<b>\$ (73,879)</b>
<b>Net Change in Cumulative Results of Operations</b>	<b>\$ (966)</b>	<b>\$ (6,988)</b>	<b>\$ —</b>	<b>\$ (7,954)</b>
<b>Total Cumulative Results of Operations</b>	<b>\$ (13,968)</b>	<b>\$ (455,701)</b>	<b>\$ —</b>	<b>\$ (469,669)</b>
<b>Net Position</b>	<b>\$ (13,761)</b>	<b>\$ (359,798)</b>	<b>\$ —</b>	<b>\$ (373,559)</b>

The accompanying notes are an integral part of these statements.

CONSOLIDATED AND COMBINED FINANCIAL STATEMENTS

**U.S. Department of Energy Combined Statements of Budgetary Resources**

For the Years Ended September 30, 2024 and 2023

(\$ IN MILLIONS)	FY 2024			FY 2023		
	BUDGETARY	NON-BUDGETARY CREDIT REFORM FINANCING ACCOUNT	TOTAL	BUDGETARY	NON-BUDGETARY CREDIT REFORM FINANCING ACCOUNT	TOTAL
<b>BUDGETARY RESOURCES:</b>						
Unobligated Balance from Prior Year Budget Authority, Net <a href="#">(Note 24)</a>	\$ 78,423	\$ 1,004	\$ 79,427	\$ 72,536	\$ 744	\$ 73,280
Appropriations <a href="#">(Note 24)</a>	61,466	—	61,466	50,151	—	50,151
Borrowing Authority	741	11,281	12,022	2,472	13,747	16,219
Contract Authority	1,001		1,001	1,933		1,933
Spending Authority from Offsetting Collections	12,257	1,114	13,371	21,589	1,152	22,741
<b>Total Budgetary Resources</b>	<b>\$ 153,888</b>	<b>\$ 13,399</b>	<b>\$ 167,287</b>	<b>\$ 148,681</b>	<b>\$ 15,643</b>	<b>\$ 164,324</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>						
New Obligations and Upward Adjustments (Total)	\$ 82,206	\$ 11,775	\$ 93,981	\$ 71,588	\$ 14,414	\$ 86,002
<b>Unobligated Balance, End of Year:</b>						
Apportioned, Unexpired Accounts	\$ 71,175	\$ 49	\$ 71,224	\$ 76,325	\$ 13	\$ 76,338
Exempt from Apportionment, Unexpired Accounts	14	—	14	15	—	15
Unapportioned, Unexpired Accounts	353	1,575	1,928	633	1,216	1,849
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 71,542</b>	<b>\$ 1,624</b>	<b>\$ 73,166</b>	<b>\$ 76,973</b>	<b>\$ 1,229</b>	<b>\$ 78,202</b>
Expired, Unobligated Balance, End of Year <a href="#">(Note 24)</a>	140		140	120		120
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 71,682</b>	<b>\$ 1,624</b>	<b>\$ 73,306</b>	<b>\$ 77,093</b>	<b>\$ 1,229</b>	<b>\$ 78,322</b>
<b>Total Budgetary Resources</b>	<b>\$ 153,888</b>	<b>\$ 13,399</b>	<b>\$ 167,287</b>	<b>\$ 148,681</b>	<b>\$ 15,643</b>	<b>\$ 164,324</b>
<b>OUTLAYS, NET</b>						
Outlays, Net (Total) <a href="#">(Note 26)</a>	\$ 52,319		\$ 52,319	\$ 39,288		\$ 39,288
Distributed Offsetting Receipts (-) <a href="#">(Note 26)</a>	(2,997)		(2,997)	(4,875)		(4,875)
<b>Agency Outlays, Net <a href="#">(Note 26)</a></b>	<b>\$ 49,322</b>		<b>\$ 49,322</b>	<b>\$ 34,413</b>		<b>\$ 34,413</b>
<b>Disbursements, Net (Total)</b>		<b>\$ 663</b>	<b>\$ 663</b>		<b>\$ 1,326</b>	<b>\$ 1,326</b>

The accompanying notes are an integral part of these statements.

## Notes to the Consolidated and Combined Financial Statements

### Note 1. Summary of Significant Accounting Policies

#### A. BASIS OF PRESENTATION

These consolidated and combined financial statements have been prepared to report the financial position and results of operations of the Department. The statements were prepared from the books and records of the Department in accordance with U.S. GAAP issued by the Federal Accounting Standards Advisory Board (FASAB) and presentation guidelines in OMB Circular A-136, *Financial Reporting Requirements*. Additionally, certain records are presented in accordance with standards established by the Financial Accounting Standards Board (FASB).

Accounting standards require all reporting entities to disclose that accounting standards allow certain presentations and disclosures to be modified, if needed, to prevent the disclosure of classified information per SFFAS 56, *Classified Activities*.

#### B. DESCRIPTION OF REPORTING ENTITY

The accompanying financial statements include activities and operations of the United States Department of Energy. In accordance with SFFAS 47, *Reporting Entity*, DOE has included all consolidation entities for which it is accountable in the accompanying financial statements and DOE does not have relationships requiring disclosure as a disclosure entity or related party.

The Department is a cabinet-level agency of the executive branch of the U.S. government. The Department is not subject to federal, state, or local income taxes. The Department's Headquarters organizations are located in Washington, D.C., and Germantown, Maryland, and consist of an executive management structure that includes the Secretary; the Deputy Secretary; the Under Secretary for Science and Innovation; the Under Secretary for Infrastructure; the Under Secretary for Nuclear Security/NNSA; Secretarial staff organizations; program organizations that provide technical direction and support for the Department's principal programmatic missions; and the PMAs (BPA, Southeastern Power Administration [SEPA], Southwestern Power Administration [SWPA], and WAPA) whose primary offices are located in the region served by each PMA. The Department also includes FERC, which is an independent organization responsible for regulating the transmission and sale of natural gas for resale in interstate commerce, for regulating the transmission and wholesale of electricity in interstate commerce, and the licensing of hydroelectric power projects.

The Department has a field structure comprised of operational offices, field offices, primary offices, and operations of the PMAs, laboratories, and other facilities. The majority of the Department's environmental cleanup, energy research and development, and testing and production activities are carried out by major contractors. These contractors operate, maintain, or support the Department's government-owned facilities. The Department indemnifies these contractors against financial responsibility from nuclear accidents under the provisions of the Price-Anderson Act.

These contractors have unique contractual relationships with the Department. In most cases, their charts of accounts and accounting systems are integrated with the Department's accounting system through a home office-branch office type of arrangement. Additionally, the Department is responsible for reimbursing the allowable costs of contractor contributions to certain defined benefit pension plans, as well as postretirement benefits such as medical care and life insurance, for the employees of these contractors. As a result, the Department's financial statements reflect not only the costs incurred by these contractors, but also include certain contractor assets, e.g., employee advances and prepaid pension costs, and liabilities, e.g., accounts payable, accrued expenses including payroll and benefits, and pension and other actuarial liabilities, that would not be reflected in the financial statements of other federal agencies that do not have these unique contractual relationships.

#### C. BASIS OF ACCOUNTING

Transactions are recorded on the accrual and budgetary bases of accounting. Under the accrual basis, revenues are recognized when earned and expenses are recognized when liabilities are incurred, without regard to receipt or payment of cash. Budgetary accounting facilitates compliance with legal constraints and controls over the use of federal funds. All material intradepartmental balances and transactions have been eliminated in the *Consolidated Balance Sheets*, *Consolidated Statements of Net Cost*, and *Consolidated Statements of Changes in Net Position*. The *Combined Statements of Budgetary Resources* are prepared on a combined basis and do not include intradepartmental eliminations.

Throughout these financial statements, assets, liabilities, earned revenue, and costs have been classified according to the type of entity with which the transactions were made. Intragovernmental assets and liabilities are those from or to other federal entities. Intragovernmental earned revenue represents collections or accruals of revenue from other federal entities. Intragovernmental costs are payments or accruals for goods and services provided by other federal entities, and costs incurred by other federal entities as a result of the Department's programs.

#### D. FUND BALANCE WITH U.S. TREASURY

Funds with Treasury primarily represent general and revolving funds that are available to pay current liabilities and finance authorized purchases. Disbursements and receipts are processed by Treasury, and the Department's records are reconciled with those of Treasury (see [Note 3](#)).



**E. INVESTMENTS AND RELATED INTEREST, NET**

All investments are reported at cost net of amortized premiums and discounts as it is the Department's intent to hold the investments to maturity. Premiums and discounts are amortized using the effective interest yield method (see [Note 4](#)).

**F. ACCOUNTS RECEIVABLE, NET**

Accounts receivable are recognized when claims to cash or other assets against other entities or individuals can be established, either based on legal provisions, or goods or services provided. Accounts receivable are reduced to net realizable value by the allowance for loss on accounts receivable, when appropriate, for both intragovernmental receivables and other than intragovernmental receivables. The estimate of the allowance is based on past experience in the collection of receivables and an analysis of the outstanding balances (see [Note 5](#)).

**G. CASH**

This amount includes cash held in a margin account with BPA's financial futures broker. In FY 2023, it also included cash held in escrow that was restricted to fund operations, maintenance, rehabilitation, and modernization activities at hydroelectric generating facilities with SWPA.

**H. DIRECT LOANS AND LOAN GUARANTEES, NET**

The Department has one loan that was obligated and disbursed prior to FY 1992, and is presented net of an allowance for loss. All loans obligated after FY 1992 are presented on a present value basis in compliance with the Federal Credit Reform Act of 1990. The present value of the loans is revalued on an annual basis (see [Note 6](#)).

Interest expense on the U.S. Treasury Bureau of the Fiscal Service (BFS) and U.S. Treasury Federal Financing Bank (FFB) debt is calculated in accordance with OMB Circular A-11, Sections 185.32, 185.34 and 185.35 using the Credit Subsidy Calculator. Capitalized interest receivables on loans with FFB are reclassified to principal outstanding on the capitalization date.

**I. INVENTORY, NET**

Stockpile materials are recorded at historical cost in accordance with SFFAS 3, *Accounting for Inventory and Related Property*, except for certain nuclear materials identified as surplus or excess to the Department's needs. These nuclear materials are recorded at their net realizable value (see [Note 7](#)).

**J. GENERAL PROPERTY, PLANT, AND EQUIPMENT, NET**

Property, plant, and equipment (PP&E) that are purchased, constructed, or fabricated in-house, including major modifications or improvements, are capitalized at cost. The Department's PP&E capitalization threshold, except as noted below, is \$500,000. The capitalization threshold for the NWF is \$50K. The capitalization thresholds for the PMAs and FERC range from \$5,000 to \$100,000 or may depend on whether particular equipment is considered a major unit of property, which is capitalized upon purchase, or a minor unit, which is generally expensed. The capitalization threshold for internal use software is \$750,000, except for the PMAs and FERC, which use thresholds ranging from \$5,000 to \$500,000 and leasehold improvements over \$250,000 for the FERC (see [Note 8](#)).

Right-to-use (RTU) lease assets includes leases other than short-term leases, contracts or agreements that transfer ownership, and intragovernmental leases. The Department's RTU lease capitalization threshold, except as noted below, is \$5 million. The capitalization threshold for the PMAs and FERC range from \$50,000 to \$500,000 for their individual standalone financial statements.

Costs of construction are accumulated as construction work in process. Upon completion or beneficial occupancy or use, the cost is transferred to the appropriate property account. The Department does not capitalize PP&E related to environmental management facilities storage and processing of the Department's environmental legacy wastes.

Depreciation expense is generally computed using the straight-line method. The units of production method is used only in special cases where applicable, such as depreciating automotive equipment on a mileage basis and construction equipment on an hourly use basis. In accordance with SFFAS 6, *Accounting for Property, Plant, and Equipment*, land is a non-depreciable asset, whereas depreciation is calculated for land improvements. The ranges of service lives are generally as follows:

- Structures and Facilities: 25-50 years
- Automated Data Processing Software: 3-7 years
- Equipment: 5-40 years
- Land rights for a specified period or 50 years, whichever is less

**K. LIABILITIES**

Liabilities represent amounts of monies or other resources likely to be paid by the Department as a result of a transaction or event that has already occurred. However, no liability can be paid by the Department absent an authorized appropriation. Liabilities for which an appropriation has not been enacted are, therefore, classified as not covered by budgetary resources (see [Note 11](#)), and there is no certainty that the appropriations will be enacted. Also, liabilities of the Department that are not contract based can be abrogated by the government acting in its sovereign capacity.

**L. FUNDS FROM DEDICATED COLLECTIONS**

Funds from dedicated collections are financed by specifically identified revenues provided to the government by nonfederal sources, often supplemented by other financing sources, which remain available over time. These specifically identified revenues and other financing sources are required by statute to be used for designated activities, benefits, or purposes, and must be accounted for separately from the government's general revenues (see [Note 20](#)).

**M. POST EMPLOYMENT BENEFITS PAYABLE**

The FECA (Federal Employees' Compensation Act) actuarial liability represents the liability for future workers' compensation benefits, which includes the expected liability for disability, survivors, and medical benefits to employees who are injured, or become ill, in the course of federal employment and to the survivors of employees killed on the job. This liability is calculated annually by the DOL for financial reporting purposes.

**N. ACCRUED ANNUAL, SICK, AND OTHER LEAVE**

**Federal Employees:** Federal employees' annual leave is accrued as it is earned, and the accrual is reduced annually for actual leave taken. Each year, the accrued annual leave balance is adjusted to reflect the latest pay rates. To the extent that current-year or prior-year appropriations are not available to fund annual leave earned but not taken, funding will be obtained from future financing sources. Sick leave and other types of non-vested leave are expensed as taken (see [Note 13](#)).

**Contractor Employees:** The Department accrues annual leave for contractor employees. Unlike leave for most of the Department's federal employees, this is a funded liability rather than an unfunded liability.

**O. RETIREMENT PLANS**

**Federal Employees:** There are two primary retirement systems for federal employees. Employees hired prior to January 1, 1984, may participate in the Civil Service Retirement System (CSRS). On January 1, 1984, the Federal Employees Retirement System (FERS) went into effect pursuant to Public Law 99-335. Most employees hired after December 31, 1983, are automatically covered by FERS and Social Security. Employees hired prior to January 1, 1984, elected to either join FERS and Social Security or remain in CSRS. All employees are eligible to contribute to the Federal Thrift Savings Plan (TSP). For employees covered by FERS, a TSP account is automatically established to which the Department is required to contribute 1% of gross pay and match employee contributions up to an additional 4%. For most employees hired since December 31, 1983, the Department also contributes the employer's matching share for Social Security. The Department does not report CSRS or FERS assets, accumulated plan benefits, or unfunded liabilities, if any, applicable to its employees. Reporting such amounts is the responsibility of OPM. The Department does report, as an imputed financing source and a program expense, the difference between its contributions to federal employee pension and other retirement benefits and the estimated actuarial costs as computed by OPM. The PMAs make additional annual contributions to Treasury to ensure that all postretirement benefit programs provided to their employees are fully funded and such costs are both recovered through rates and properly expensed.

**Contractor Employees:** The Department is contractually responsible for reimbursing its major contractors who sponsor employee defined benefit pension plans for the costs of contractor employee retiree benefits because these are allowable costs under their contracts. Most of these contractors sponsor defined benefit pension plans under which these plans promise to pay employees specified benefits, such as a percentage of the final average pay for each year of service. The Department does not sponsor and is not the fiduciary of contractor employee defined benefit plans. Contractors are required to make contributions to their plans as required by the Internal Revenue Code and the Employee Retirement Income Security Act (ERISA), as amended. For qualified defined benefit pension plans, the Department's current funding policy is to reimburse contractors for the minimum required contributions made, absent the Department's agreement to reimburse at a different level. For nonqualified plans, the funding policy is pay-as-you-go. Employer contributions are calculated to ensure that plan assets are sufficient to provide for accrued benefits of contractor employees. The level of contributions is dependent on plan provisions and actuarial assumptions about the future, such as interest rates, employee turnover and mortality, age of retirement, and compensation increases. The Department's major contractors also sponsor postretirement benefits (PRB) other than pensions consisting of predominantly postretirement health care benefits which are generally funded on a pay-as-you-go basis. Since the Department is responsible for the allowable costs of funding these contractor pension and PRB plans, it reports assets and liabilities for these plans (see [Note 17](#)).

**P. NET COST OF OPERATIONS**

Program costs are summarized in the Consolidated Statements of Net Cost by the Department's major programs (see [Note 21](#)). Full costs are reduced by exchange (earned) revenues to arrive at net operating cost.

**Q. REVENUES AND OTHER FINANCING SOURCES**

The Department receives the majority of the funding needed to perform its mission through congressional appropriations. These appropriations may be used, within statutory limits, for operating and capital expenditures. In addition to appropriations, other financing sources include exchange and non-exchange revenues and imputed financing sources. The Department also collects custodial revenues on behalf of others.

**Exchange and Non-Exchange Revenues:** In accordance with federal government accounting standards, the Department classifies revenues as either exchange (earned) or non-exchange. Exchange revenues are those that derive from transactions in which the government provides value to the public or another government entity at a price. Non-exchange revenues derive from the government's sovereign right to demand payment, including fines and penalties. Non-exchange revenues also include interest earned on investments funded from amounts remaining from the privatization of the U.S. Enrichment Corporation Fund (see [Note 4](#)). These revenues are not considered to reduce the cost of the Department's operations and are reported on the *Consolidated Statements of Changes in Net Position*.

**Imputed Financing Sources:** In certain instances, program costs of the Department are paid out of the funds appropriated to other federal agencies. For example, certain costs of retirement programs are paid by OPM, and certain legal judgments against the Department are paid from the Judgment Fund maintained by Treasury. When costs are incurred by other federal entities as a result of the Department's programs, the Department recognizes these amounts on the Consolidated Statements of Net Cost. In addition, these amounts are recognized as imputed financing sources on the *Consolidated Statements of Changes in Net Position* (see [Notes 23](#) and [26](#)).

**Custodial Revenues:** The Department collects certain revenues on behalf of others, which are designated as custodial revenues. The Department incurs virtually no costs to generate these revenues, nor can it use these revenues to finance its operations. The revenues are returned to Treasury and others and are reported in the custodial activity footnote (see [Note 25](#)).

## R. USE OF ESTIMATES

The preparation of financial statements requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Significant items subject to such estimates and assumptions include present value of loan receivables, including the allowance for subsidy cost; estimated lives of general PP&E; environmental cleanup and disposal liabilities; pension and other actuarial liabilities; contingencies and commitments; cost accruals; and estimated accrued unbilled revenues for PMAs. Actual results could differ from these estimates.

## S. COMPARATIVE DATA

In accordance with FY 2024 implementation of SFFAS 54, the Department removed capital lease assets and liabilities and now reports right-to-use lease assets and a corresponding lease liability for material non-intragovernmental, non-short-term contracts when the reporting entity has the right to obtain and control access to economic benefits or services from the use of the leased PP&E.

Treasury made several changes to the crosswalk for the Balance Sheet for FY 2024 reporting including realigning the Federal Employee Benefits Payable into Federal Employee Salary, Leave, and Benefits Payable and, Post-Employment Related Benefits. In addition, Other Debt was realigned from Federal Debt and Interest Payable to Other Liabilities.

BPA adopted a new internal policy which triggered a reassessment of irrigation assistance in FY 2024. Following the reassessment and in accordance with FASB Concepts Statement No. 8, BPA recorded a balance sheet liability with a corresponding regulatory asset for irrigation assistance which was previously reported as a commitment.

In addition, certain other FY 2023 amounts have been reclassified to conform to the FY 2024 presentation.

## T. PARENT-CHILD REPORTING

The Department is a party to allocation transfers with other federal agencies as both a transferring (parent) entity and/or a receiving (child) entity. Allocation transfers are legal delegations by one department of its authority to obligate budget authority and outlay funds to another department. A separate fund account (allocation account) is created in the Treasury as a subset of the parent fund account for tracking and reporting purposes. All allocation transfers of balances are credited to this account, and subsequent obligations and outlays incurred by the child entity are charged to this allocation account as it executes the delegated activity on behalf of the parent entity. Generally, all financial activity related to these allocation transfers, e.g., budget authority, obligations, outlays, is reported in the financial statements of the parent entity, from which the underlying legislative authority, appropriations and budget apportionments are derived. The Department receives allocation transfers, as a child entity, from the Department of Transportation. Additionally, the Department allocates funds, as the parent, to the USACE.

**Note 2. Non-Entity Assets**

(\$ IN MILLIONS)	FY 2024	FY 2023
Intragovernmental		
Inventories - Department of Defense Stockpile Oil <a href="#">(Note 7)</a>	\$ 123	\$ 123
Other	18	13
<b>Subtotal</b>	<b>\$ 141</b>	<b>\$ 136</b>
Other	9	8
<b>Total Non-Entity Assets</b>	<b>\$ 150</b>	<b>\$ 144</b>
<b>Total Entity Assets</b>	<b>\$ 335,737</b>	<b>\$ 311,146</b>
<b>Total Assets</b>	<b>\$ 335,887</b>	<b>\$ 311,290</b>

Assets in the possession of the Department that are not available for its use are considered non-entity assets.

**Note 3. Fund Balance with Treasury**

(\$ IN MILLIONS)	FY 2024	FY 2023
<b>Status of Fund Balance With Treasury</b>		
Unobligated Balance:		
Available	\$ 71,253	\$ 76,367
Unavailable	2,096	1,379
Obligated Balance Not Yet Disbursed	91,147	66,683
Borrowing Authority Not Yet Converted to Fund Balance	(27,223)	(17,243)
Budgetary Resources Invested in U.S. Treasury Securities	(685)	(1,129)
Non-Budgetary Fund Balance With Treasury	3,081	3,244
<b>Total Fund Balance With Treasury</b>	<b>\$ 139,669</b>	<b>\$ 129,301</b>

Unobligated Balance and Obligated Balance Not Yet Disbursed amounts reported above differ from related amounts in the Combined Statements of Budgetary Resources (SBR) because budgetary balances on the SBR are supported by amounts other than the FBWT. These amounts include contract authority, transfers of invested balances payable, realized authority to be transferred from invested balances, and budgetary resources temporarily precluded or reduced.

Borrowing authority not yet converted to fund balance represents unobligated and obligated amounts recorded that will be funded by future borrowings. Borrowing resources invested in U.S. Treasury securities represents unobligated and obligated amounts that will be redeemed in the future to pay program costs as they arise. Non-Budgetary FBWT includes special fund receipt accounts, deposit funds, and clearing and suspense account balances awaiting disposition or reclassification.

Unobligated balance amounts may be available in future years which are included in Category C – Apportioned for future years as specified on the annual OMB Standard Form SF-132 (Apportionment and Reapportionment Schedule).

**Note 4. Investments**

FY 2024						
(\$ IN MILLIONS)	FACE VALUE	UNAMORTIZED PREMIUM (DISCOUNT)	INTEREST RECEIVABLE	INVESTMENTS, NET	UNREALIZED MARKET GAINS (LOSSES)	MARKET VALUE
Intragovernmental Non-Marketable						
Nuclear Waste Fund	\$ 69,248	\$ (19,861)	\$ 101	\$ 49,488	\$ 938	\$ 50,426
D&D Fund	622	—	—	622	—	622
Power Marketing Administrations	494	—	—	494	—	494
<b>Total Investments and Related Interest, Net</b>	<b>\$ 70,364</b>	<b>\$ (19,861)</b>	<b>\$ 101</b>	<b>\$ 50,604</b>	<b>\$ 938</b>	<b>\$ 51,542</b>
FY 2023						
(\$ IN MILLIONS)	FACE VALUE	UNAMORTIZED PREMIUM (DISCOUNT)	INTEREST RECEIVABLE	INVESTMENTS, NET	UNREALIZED MARKET GAINS (LOSSES)	MARKET VALUE
Intragovernmental Non-Marketable						
Nuclear Waste Fund	\$ 60,458	\$ (12,908)	\$ 139	\$ 47,689	\$ (1,976)	\$ 45,713
D&D Fund	1,112	(13)	6	1,105	(1)	1,104
Power Marketing Administrations	1,599	—	—	1,599	—	1,599
<b>Total Investments and Related Interest, Net</b>	<b>\$ 63,169</b>	<b>\$ (12,921)</b>	<b>\$ 145</b>	<b>\$ 50,393</b>	<b>\$ (1,977)</b>	<b>\$ 48,416</b>

Pursuant to statutory authorizations, the Department invests monies in U.S. Treasury securities. The Department's investments primarily involve the NWF and the Uranium Enrichment D&D Fund. Fees collected from owners and generators of SNF and high-level radioactive waste and fees collected from domestic utilities are deposited into the respective funds. Funds in excess of those needed to pay current program costs are invested in U.S. Treasury securities.

The federal government does not set aside assets to pay for expenditures associated with the NWF and D&D funds for which the Department holds U.S. Treasury securities. These U.S. Treasury securities are an asset to the Department and a liability to Treasury. Because the Department and Treasury are both parts of the federal government, these assets and liabilities offset each other from the standpoint of the federal government as a whole. For this reason, they do not represent an asset or a liability in the U.S. government-wide financial statements. U.S. Treasury securities provide the Department with the ability to draw upon the Treasury to make expenditures, subject to available appropriations and OMB apportionments. When the Department requires redemption of these securities, the federal government finances those expenditures out of accumulated cash balances by raising taxes or other receipts, by borrowing from the public, repaying less debt, or by curtailing other expenditures. This is the same way the federal government finances all other expenditures.

**Note 5. Accounts Receivable, Net**

	FY 2024			FY 2023		
(\$ IN MILLIONS)	RECEIVABLE	ALLOWANCE	NET	RECEIVABLE	ALLOWANCE	NET
Intragovernmental	\$ 690	\$ (2)	\$ 688	\$ 679	\$ —	\$ 679
Nuclear Waste Fund	\$ 2,691	\$ —	\$ 2,691	\$ 2,550	\$ —	\$ 2,550
Power Marketing Administrations	644	(2)	642	546	(1)	545
Other	173	(19)	154	115	(21)	94
Subtotal	\$ 3,508	\$ (21)	\$ 3,487	\$ 3,211	\$ (22)	\$ 3,189
Total Accounts Receivable, Net	\$ 4,198	\$ (23)	\$ 4,175	\$ 3,890	\$ (22)	\$ 3,868

Intragovernmental accounts receivable primarily represent amounts due from other federal agencies for reimbursable work performed pursuant to the Economy Act, Atomic Energy Act, and other statutory authorities.

Non-intragovernmental receivables primarily represent fees due from owners and generators of SNF that contribute resources to the NWF. The NWF receivables are supported by contracts and are comprised of amounts due for two types of fees to be paid to the Department for disposal services:



(a) a one-time charge for SNF existing prior to April 7, 1983; and (b) a per kWh fee on all net electricity generated and sold by civilian nuclear power reactors after April 7, 1983. The per kWh portion of the fee was set to zero in 2014 and has not changed since then. However, the receivables associated with the one-time charges remain and continue to earn interest each year.

For PMAs, receivables due from the public primarily arise from the sale of power and transmission services. The other receivables balance primarily includes reimbursable work billings, trade receivables, and other miscellaneous balances.

## Note 6. Loans Receivable, Net, and Loan Guarantee Liabilities

(\$ IN MILLIONS)	FY 2024	FY 2023
Pre-FCRA Loans	\$ 1	\$ 1
FCRA Direct Loans		
Advanced Technology Vehicles Manufacturing (ATVM)	\$ 2,084	\$ 1,153
Title XVII	15,330	15,610
<b>Total Direct Loans and 100% Guarantee Loans, Net *</b>	<b>\$ 17,415</b>	<b>\$ 16,764</b>
FCRA Guarantee Loans (Guaranteed Value)		
Title XVII	\$ 1,476	\$ 1,224
Tribal Energy	47	—
<b>Total Guarantee Loans, Net *</b>	<b>\$ 1,523</b>	<b>\$ 1,224</b>
<b>Total Direct Loans and Loan Guarantees, Net</b>	<b>\$ 18,938</b>	<b>\$ 17,988</b>

\* Net means disbursements net of interest, repayments, recoveries, and allowance for subsidy

### PRE-FCRA LOANS

The Department has one loan outstanding as of September 30, 2024, and September 30, 2023, that was issued prior to the Federal Credit Reform Act of 1990 (FCRA). The loan is presented net of an allowance for loss of \$0.6 million as of September 30, 2024, and September 30, 2023. The balance is rounded on the face of this footnote.

### FCRA DIRECT LOANS AND LOAN GUARANTEES

The Department's direct loans and loan guarantees made and issued, post-FY 1991, are subject to FCRA. These FCRA loans and loan guarantees are valued at the net present value of expected future cash flows, discounted at the interest rate of Treasury marketable securities. The net present value of the FCRA loans and loan guarantees are not necessarily representative of proceeds that might be expected if these loans were sold on the open market.

The subsidy costs for FCRA loans and loan guarantees, which include interest rate differentials, delinquencies, defaults, fees, and other cash flow items, are intended to estimate the long-term cost to the U.S. government of such loans and loan guarantees. These costs are recognized in the year the loan or loan guarantee is disbursed. A subsidy reestimate is performed annually as of September 30. The subsidy reestimates take into account actual performance and/or estimated changes in future cash flows. Any increase in the subsidy resulting from the reestimate is recognized as a subsidy expense, and permanent indefinite budget authority (Section 504(f) of the FCRA) is available for upward reestimates.

For direct loans, interest revenue is accrued on a monthly basis on the loan balance outstanding at the interest rate assigned to that loan at the time of disbursement, net of any interest on non-performing loans over 90 days.

The Department operates the following FCRA direct loan and loan guarantee programs:

- ATVM Loan Program
- Title XVII Innovative Clean Energy Loan Guarantee Program:
  - Innovative Energy (Section 1703/Section 1705)
  - Innovative Supply Chain (Section 1703)
  - State Energy Financing Institution (SEFI, Section 1703)
  - EIR Program (Section 1706)
- Tribal Energy Loan Guarantee Program (TELGP)
- Carbon Dioxide Transportation Infrastructure Financing Innovation (CIFIA) Program – (IIJA Section 40304)
- Transmission Facility Financing program – (IRA Section 50151)

**ATVM**

Section 136 of the Energy Independence and Security Act of 2007, which established the ATVM Loan Program, authorized the Department to make direct loans to support the establishment of manufacturing facilities for the production of advanced technology vehicles and qualifying components for such vehicles. The ATVM direct loans to such manufacturers are available to finance the cost of reequipping, expanding, or establishing such manufacturing facilities and for the costs of engineering integration associated with such vehicles and components.

IIJA expanded the scope of the ATVM loan program to support not only facilities for the manufacturing of light-duty vehicles and their components, but also medium- and heavy-duty vehicles, locomotives, maritime vessels including offshore wind vessels, aviation, and hyperloop, subject to receipt of future appropriations.

The FY 2009 CR enacted on September 30, 2008, appropriated \$7.5 billion to support a maximum of \$25 billion in loans under the ATVM Loan Program.

The IRA removed the maximum loan authority cap provided by the 2009 CR and appropriated an additional \$3 billion available through September 30, 2028, to support the subsidy and administrative costs of direct loans under ATVM, including direct loans for the categories added by the IIJA.

The ATVM Loan Program makes direct loans that are funded by the FFB with interest rates that are equal to the cost of funds to the Treasury for obligations of comparable maturity. The subsidy cost for an ATVM direct loan is comprised of default subsidy, financing subsidy, and fees. The loan and subsidy are obligated at the time the Department offers a conditional commitment to an applicant.

In determining the credit subsidies, the Department estimates a base borrower interest rate from the budget assumption yield curve used to discount cash flows that generates a zero-financing subsidy when determining the final subsidy cost at the point of obligation. This base interest rate is used for calculating the subsidy cost only. Actual interest rates that borrowers pay are not affected. During the interest rate reestimate, the actual interest rates and the discount rates are updated and will true-up the difference in the Treasury interest rates assumed in the original subsidy cost, and the actual Treasury rates at the point of disbursement, when the borrower interest rates are set.

The Department received a contingent financial interest and warrants in connection with the sales of defaulted ATVM loans. The Department has determined that the contingent financial interest has no value until certain conditions occur. The warrants have been determined to have no value at this time.

The Department previously obligated \$7.3 billion representing five ATVM loans that are no longer active.

As of September 30, 2024, under the authority provided by the FY 2009 CR, DOE obligated approximately \$2.6 billion in closed loans for two borrowers active in the portfolio. Of this sum, the Department disbursed \$1.9 billion.

In FY 2024, under the authority provided by IRA, DOE obligated \$3.65 billion for three borrowers in the portfolio. Additionally, the Department disbursed \$73 million for one closed loan in FY 2024. In total, as of September 30, 2024, under the authority provided by IRA, DOE has obligated approximately \$17 billion to nine prospective borrowers via conditional commitments.

**Title XVII**

The *Energy Policy Act of 2005* (EPA05), P.L. 109-58, authorized the Department to issue loan guarantees to eligible projects that "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases" and "employ new or significantly improved technologies as compared to technologies in service in the U.S. at the time the guarantee is issued." Title XVII of EPA05 provided broad authority for the Department to guarantee loans for projects that satisfy the above criteria if "there is reasonable prospect of repayment of the principal and interest on the obligation by the borrower."

Since the introduction of Title XVII in 2005, further legislation has designed the program to support a number of emergent energy sectors via loan guarantees including fossil energy, nuclear energy generation, front-end nuclear, renewable energy, and energy efficiency. IIJA, enacted in FY 2022, expanded the scope of the Section 1703 program to target additional sectors, including critical minerals processing, manufacturing, recycling, and removing the innovation requirement for SEFI-supported projects.

The *Consolidated Appropriations Act, 2023*, Public Law 117-328, rescinded \$150 million of the unobligated balance from amounts made available in Public Law 112-10 for the cost of loan guarantees but provided additional authority to guarantee loans for eligible projects in the amount of \$15 billion.

The IRA provides \$40 billion in loan guarantee authority as well as \$3.5 billion for credit subsidy costs and \$0.1 billion for administrative expenses, available through September 30, 2026, to support these loans. This loan authority and corresponding appropriation is open to all currently eligible for Title XVII Innovative Clean Energy technology categories.

## FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

In addition to the program under Section 1703 of Title XVII, the American Recovery and Reinvestment Act established a program under Section 1705 of Title XVII that permitted the Department to issue loan guarantees for certain renewable energy systems, electric power transmission systems, and leading-edge biofuel projects that commenced construction on or before September 30, 2011, and also appropriated \$6 billion to pay for the subsidy costs for the loan guarantees of such projects.

Public Law 111-47 required \$2.0 billion of the subsidy funds to be transferred to the Department of Transportation to fund the Cash for Clunkers program. Public Law 111-226 required \$1.5 billion of the subsidy funds to be rescinded. Public Law 111-203 required \$0.5 billion of the subsidy to be rescinded and returned to the U.S. Treasury (Dodd-Frank). In FY 2021, Public Law 116-260 rescinded an additional \$0.4 billion of remaining Section 1705 subsidy funds. The loan guarantee authority for Sections 1703 and 1705 and the subsidy for loan guarantees issued under Section 1705 have historically been obligated at the time the loan guarantee was issued by the Department. However, the issuance of an Interim Final Rule in 2023 amended certain regulations of Title XVII, resulting in LPO obligating loan authority and subsidy at conditional commitment. Both the Section 1703 and 1705 programs are authorized to issue loan guarantees for up to 100% of a debt obligation, which must not exceed 80% of eligible project costs. In cases where the Department issues a 100% guarantee, the regulations implementing Title XVII require that FFB provide the funding. Guarantees by the Department of 100% of loans made by FFB constitute direct loans under FCRA.

For the purpose of determining the subsidy, the Department models these loan guarantees as direct loans to reflect the economic reality to the federal government as a whole. Under Title XVII, the subsidy cost for a direct loan or a loan guarantee is comprised of default subsidy and financing subsidy. The Department collects fees designed to offset the cost of administering the Title XVII loan program, and these fees are not considered when calculating the subsidy cost.

In implementing the Section 1705 program, the Department also established the Financial Institution Partnership Program (FIPP), which supported loans for conventional renewable energy generation projects with commercial financing. Under FIPP, the Department provided a guarantee for up to 80% of a loan. The goal of FIPP was to leverage the human and financial capital of private sector financial institutions in accelerating the loan application process, while balancing risk between the Department and private sector partners participating in the program. The subsidy related to FIPP loans was obligated at the time the loan guarantees closed.

In determining the subsidy for FFB direct loans, the Department estimates a base borrower interest rate from the budget assumption yield curve used to discount cash flows that generates a zero-financing subsidy when determining the final subsidy cost at the point of obligation. The Department then adds a spread to that interest rate estimate to reflect any spread that the FFB or DOE may charge. This base interest rate is used for calculating the subsidy cost only. Actual interest rates that borrowers pay are not affected. During the interest rate reestimate, the actual interest rates and the discount rates are updated and will true-up the difference in the Treasury interest rates assumed in the original subsidy cost, and the actual Treasury rates at the point of disbursement, when the interest rates payable by the borrower are set.

As of September 30, 2024, under the authority provided by Omnibus Appropriations Act, 2009 (P.L. 111-8), the Department has obligated and disbursed approximately \$11.6 billion for three borrowers. Under the authority provided by DOD and Full-Year Continuing Appropriations Act, 2011 (P.L. 112-10), the Department has obligated \$480 million for one project, of which \$407 million has been disbursed as of September 30, 2024. As of September 30, 2024, under the Section 1703 IRA program, the Department has obligated and closed \$3.3 billion in one loan guarantee, of which \$413 million has been disbursed. A further \$3.95 billion in conditional commitments for direct loans has been issued to six borrowers under the same program.

As of September 30, 2024, under the Section 1705 program, the Department has obligated approximately \$13.2 billion for 23 projects (the Department initially obligated approximately \$15.7 billion for 28 projects, but subsequently de-obligated approximately \$2.5 billion). Seventeen of 23 projects received 100% guarantees of loans and six projects received partial guarantees of loans under FIPP. The Department obligated and disbursed approximately \$9.1 billion to the projects receiving 100% guarantees under the Section 1705 program. The Department made loan guarantee commitments totaling \$4.2 billion to the six FIPP projects with disbursements of approximately \$4.1 billion.

### **EIR (1706)**

The IRA expands the scope of the original Title XVII language, which targets innovative energy projects that avoid, reduce, or sequester greenhouse gases, via a new loan program.

The EIR Program or Section 1706 is established to provide loan guarantees 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. The IRA appropriated \$5 billion through September 30, 2026, to carry out EIR, with a total loan authority cap of \$250 billion.

The Title XVII Interim Final Rule issued in 2023 established eligibility requirements for prospective EIR projects, stipulating that LPO can finance 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 greenhouse gas emissions. Additionally, these projects may include the remediation of environmental damage caused by energy infrastructure.

## FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

As of September 30, 2024, under the Section 1706 program, the Department has obligated approximately \$3.77 billion for three projects.

### TELGP

The TELGP, authorized under EPCA05 (25 USC 3502(c)), is a loan guarantee program that permits DOE to guarantee third-party and FFB loans made to a federally recognized Tribes including Alaska Native villages 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 for energy development. Under the Consolidated Appropriations Act, 2017, Public Law 115-31, Congress made initial appropriation of credit subsidy and loan guarantee authority available. A solicitation outlining the rules of the loan program was issued on June 12, 2018. The Consolidated Appropriations Act, 2023, Public Law 117-328, appropriated an additional \$2 million of credit subsidy.

After the enactment of the IRA in 2022, the TELGP program has received expanded loan guarantee authority of up to \$20 billion as well as \$75 million, available until September 30, 2028, to carry out the program. The IRA also allows TELGP borrowers to access FFB for loan proceeds while maintaining the option of working with third-party lenders as well.

As of September 30, 2024, under the TELGP, one loan guarantee has been made for \$100 million with \$52 million disbursed. For the one loan guarantee under TELGP, DOE guarantees up to \$73 million.

### CIFIA

Section 40304 of the IIJA established the CIFIA. CIFIA provides capital, including debt financing, to large-capacity, common-carrier CO<sub>2</sub> transport projects. These projects may include pipelines, rail, shipping, and other transport methods. Prospective CIFIA projects may apply for direct loans from the U.S. Treasury or loan guarantees of a third-party lender.

The IIJA appropriated \$3 million for administrative costs in FY 2022, which is available until expended. The IIJA further appropriated an additional \$2.097 billion to carry out the program, including administrative costs, in FY 2023, also available until expended.

LPO, in partnership with DOE's FECM, will implement the program. A guidance document for CIFIA Loan application was released on October 5, 2022, and revised on May 2, 2024.

# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

## Direct Loans and 100% Loan Guarantees Obligated and Disbursed Post-1991

(\$ IN MILLIONS)	FY 2024				
	LOANS RECEIVABLE, GROSS	INTEREST AND FEES RECEIVABLE	ALLOWANCE FOR SUBSIDY COST (PRESENT VALUE)	VALUE OF ASSETS RELATED TO LOANS, NET	DISBURSED IN FISCAL YEAR
ATVM	\$ 1,976	\$ 5	\$ 104	\$ 2,085	\$ 905
Title XVII	15,149	77	103	15,329	177
<b>Total</b>	<b>\$ 17,125</b>	<b>\$ 82</b>	<b>\$ 207</b>	<b>\$ 17,414</b>	<b>\$ 1,082</b>

(\$ IN MILLIONS)	FY 2023				
	LOANS RECEIVABLE, GROSS	INTEREST AND FEES RECEIVABLE	ALLOWANCE FOR SUBSIDY COST (PRESENT VALUE)	VALUE OF ASSETS RELATED TO LOANS, NET	DISBURSED IN FISCAL YEAR
ATVM	\$ 1,067	\$ 2	\$ 84	\$ 1,153	\$ 1,066
Title XVII	15,782	80	(252)	15,610	588
<b>Total</b>	<b>\$ 16,849</b>	<b>\$ 82</b>	<b>\$ (168)</b>	<b>\$ 16,763</b>	<b>\$ 1,654</b>

## Subsidy Expense for Direct Loans and 100% Loan Guarantees by Program and Component

(\$ IN MILLIONS)	FY 2024				
	INTEREST DIFFERENTIAL	DEFAULTS	FEES AND OTHER COLLECTIONS	OTHER	TOTAL
Subsidy Expense for New Direct Loans Disbursed*					
ATVM	\$ 1	\$ 50	\$ (1)	\$ —	\$ 50
Title XVII	(10)	4	—	—	(6)
<b>Total</b>	<b>\$ (9)</b>	<b>\$ 54</b>	<b>\$ (1)</b>	<b>\$ —</b>	<b>\$ 44</b>

(\$ IN MILLIONS)	INTEREST RATE REESTIMATES	TECHNICAL REESTIMATES	TOTAL REESTIMATES	TOTAL MODIFICATIONS	TOTAL DIRECT LOAN SUBSIDY EXPENSE
Reestimates and Modifications					
ATVM	\$ 11	\$ (143)	\$ (132)	\$ —	\$ (82)
Title XVII	—	(186)	(186)	—	(192)
<b>Total</b>	<b>\$ 11</b>	<b>\$ (329)</b>	<b>\$ (318)</b>	<b>\$ —</b>	<b>\$ (274)</b>

\* New disbursements of existing loan obligations

(\$ IN MILLIONS)	FY 2023				
	INTEREST DIFFERENTIAL	DEFAULTS	FEES AND OTHER COLLECTIONS	OTHER	TOTAL
Subsidy Expense for New Direct Loans Disbursed*					
ATVM	\$ 1	\$ 57	\$ (1)	\$ —	\$ 57
Title XVII	(27)	12	—	—	(15)
<b>Total</b>	<b>\$ (26)</b>	<b>\$ 69</b>	<b>\$ (1)</b>	<b>\$ —</b>	<b>\$ 42</b>

(\$ IN MILLIONS)	INTEREST RATE REESTIMATES	TECHNICAL REESTIMATES	TOTAL REESTIMATES	TOTAL MODIFICATIONS	TOTAL DIRECT LOAN SUBSIDY EXPENSE
Reestimates and Modifications					
ATVM	\$ —	\$ (161)	\$ (161)	\$ —	\$ (104)
Title XVII	—	(131)	(131)	—	(146)
<b>Total</b>	<b>\$ —</b>	<b>\$ (292)</b>	<b>\$ (292)</b>	<b>\$ —</b>	<b>\$ (250)</b>

\* New disbursements of existing loan obligations



# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

## Subsidy Rates for FCRA Direct Loans by Program and Component

	FY 2024				
	INTEREST DIFFERENTIAL	DEFAULTS	FEES AND OTHER COLLECTIONS	OTHER	TOTAL
ATVM	—%	8.644%	-0.100%	—%	8.544%
Title XVII	-4.843%	7.280%	-0.247%	—%	2.190%

	FY 2023				
	INTEREST DIFFERENTIAL	DEFAULTS	FEES AND OTHER COLLECTIONS	OTHER	TOTAL
ATVM	—%	3.480%	-0.100%	—%	3.380%
Title XVII	-0.812%	4.546%	—%	—%	3.734%

Rates are the weighted-average of the individual loan subsidy rates for that program. The subsidy rates disclosed pertain only to the current year's cohorts. These rates cannot be applied to the direct loans disbursed during the current reporting year to yield the subsidy expense.

The subsidy expense for new loans reported in the current year could result from disbursements of loans from both current year cohorts and prior-year(s) cohorts. The subsidy expense reported in the current year also includes reestimates.

## Schedule for Reconciling Subsidy Cost Allowance Balances (Post-1991 Direct Loans and 100% Loan Guarantees)

(\$ IN MILLIONS)	FY 2024	FY 2023
Beginning Balance of Subsidy Cost Allowance	\$ 168	\$ 311
Add: Subsidy Expense for Direct Loans Disbursed During Reporting Years by Component		
Interest Rate Differential Costs	\$ (9)	\$ (26)
Default Costs (Net of Recoveries)	54	69
Fees and Other Collections	(1)	(1)
<b>Total of the Above Subsidy Components</b>	<b>\$ 44</b>	<b>\$ 42</b>
Adjustments:		
(a) Subsidy Allowance Amortization	146	105
(b) Loans Written Off	(251)	—
(c) Fees Received	3	—
(d) Other	1	2
Ending Balance of Subsidy Cost Allowance Before Reestimates	\$ 111	\$ 460
Add or Subtract Subsidy Reestimates by Component:		
Interest Rate Reestimates	11	—
Technical/Default Reestimates	(329)	(292)
<b>Ending Balance of Subsidy Cost Allowance</b>	<b>\$ (207)</b>	<b>\$ 168</b>

## Guaranteed Loans Outstanding

(\$ IN MILLIONS)	FY 2024		FY 2023	
	PRINCIPAL OF GUARANTEED LOANS FACE VALUE	AMOUNT OF OUTSTANDING PRINCIPAL GUARANTEED	PRINCIPAL OF GUARANTEED LOANS FACE VALUE	AMOUNT OF OUTSTANDING PRINCIPAL GUARANTEED
Title XVII	\$ 1,795	\$ 1,476	\$ 1,530	\$ 1,224
Tribal	52	47	—	—
<b>Total</b>	<b>\$ 1,847</b>	<b>\$ 1,523</b>	<b>1,530</b>	<b>1,224</b>

# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

## New Guaranteed Loans Disbursed

(\$ IN MILLIONS)	FY 2024		FY 2023	
	PRINCIPAL OF GUARANTEED LOANS FACE VALUE	AMOUNT OF PRINCIPAL GUARANTEED	PRINCIPAL OF GUARANTEED LOANS FACE VALUE	AMOUNT OF PRINCIPAL GUARANTEED
Title XVII	\$ 413	\$ 372	\$ —	\$ —
Tribal	52	47	—	—
<b>Total</b>	<b>\$ 465</b>	<b>\$ 419</b>	<b>\$ —</b>	<b>\$ —</b>

## Liability for Loan Guarantees, Present Value Method

(\$ IN MILLIONS)	FY 2024	FY 2023
Title XVII	\$ 77	\$ 79
Tribal Energy	1	—
<b>Total</b>	<b>\$ 78</b>	<b>\$ 79</b>

## Subsidy Expense for New Loan Guarantees by Program and Component

FY 2024					
(\$ IN MILLIONS)	INTEREST DIFFERENTIAL	DEFAULTS	FEES AND OTHER COLLECTIONS	OTHER	TOTAL
Subsidy Expense for New Loan Guarantees					
Title XVII	\$ —	\$ 12	\$ (11)	\$ —	\$ 1
Tribal Energy	—	1	—	—	1
					TOTAL GUARANTEE SUBSIDY EXPENSE
	INTEREST REESTIMATES	TECHNICAL REESTIMATES	TOTAL REESTIMATES		
Reestimates					
Title XVII	\$ —	\$ (6)	\$ (6)		\$ (5)
Tribal Energy	—	—	—	—	1
FY 2023					
	INTEREST SUPPLEMENTS	DEFAULTS	FEES AND OTHER COLLECTIONS	OTHER	TOTAL
Subsidy Expense for New Loan Guarantees					
Title XVII	\$ —	\$ —	\$ —	\$ —	\$ —
Tribal Energy	—	—	—	—	—
					TOTAL GUARANTEE SUBSIDY EXPENSE
	INTEREST REESTIMATES	TECHNICAL REESTIMATES	TOTAL REESTIMATES		
Reestimates					
Title XVII	\$ —	\$ (13)	\$ (13)		\$ (13)
Tribal Energy	—	—	—	—	—

# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

## Subsidy Rates for FCRA Guarantee Loans by Program and Component

	FY 2024				
	INTEREST SUPPLEMENTS	DEFAULTS	FEES AND OTHER COLLECTIONS	OTHER	TOTAL
Title XVII	—%	—%	—%	—%	—%
Tribal Energy	—%	2.714%	—%	—%	2.714%

	FY 2023				
	INTEREST SUPPLEMENTS	DEFAULTS	FEES AND OTHER COLLECTIONS	OTHER	TOTAL
Title XVII	—%	2.967%	-2.795%	—%	0.172%
Tribal Energy	—%	—%	—%	—%	—%

Rates are the weighted-average of the individual loan subsidy rates for that program. The subsidy rates disclosed pertain only to the current year's cohorts. These rates cannot be applied to the direct loans disbursed during the current reporting year to yield the subsidy expense. The subsidy expense for new loans reported in the current year could result from disbursements of loans from both current year cohorts and prior-year(s) cohorts. The subsidy expense reported in the current year also includes re-estimates.

## Schedule for Reconciling Loan Guarantee Liability Balances (Post-1991 Loan Guarantees)

(\$ IN MILLIONS)	FY 2024	FY 2023
Beginning Balance of the Loan Guarantee Liabilities	\$ 79	\$ 89
Add Interest Expense on Entity Borrowings	3	3
Add Subsidy Expense Reestimates	2	—
Less Downward Reestimates	(6)	(13)
<b>Ending Balance of the Loan Guarantee Liabilities</b>	<b>\$ 78</b>	<b>\$ 79</b>

## Administrative Expenses

(\$ IN MILLIONS)	FY 2024	FY 2023
Direct Loan Program - ATVM	\$ 21	\$ 15
Loan Guarantee Program - Title XVII	111	63
Loan Guarantee Program - Tribal Energy	4	—

## Loans Receivable

(\$ IN MILLIONS)	FY 2024	FY 2023
Beginning Balance of Loans Receivable, Net	\$ 16,849	\$ 15,682
Add Loan Disbursements	1,082	1,654
Less Principal Payments Received	(533)	(434)
Less Loans Written Off	(251)	—
Add Loan Reinstatement	1	2
Less Capitalized Interest	(23)	(55)
<b>Ending Balance of Loans Receivable, Net</b>	<b>\$ 17,125</b>	<b>\$ 16,849</b>

**Note 7. Inventory, Net**

(\$ IN MILLIONS)	FY 2024	FY 2023
Strategic Petroleum, Northeast Home Heating Oil and Gasoline Supply Reserves	\$ 12,819	\$ 11,093
Nuclear Materials	34,426	32,517
Other Inventory	927	842
<b>Total Inventory, Net</b>	<b>\$ 48,172</b>	<b>\$ 44,452</b>

Inventory includes stockpile materials consisting of crude oil and gasoline held in the SPR, ultra-low sulfur diesel held in the Northeast Home Heating Oil Reserve, refined petroleum in the NGSR, and nuclear materials. Other inventory consists primarily of operating materials and supplies.

**STRATEGIC PETROLEUM RESERVE**

The SPR consists of crude oil stored in salt domes, terminals, and pipelines. As of September 30, 2024, the SPR contained crude oil with a historical cost of \$12.7 billion. The SPR provides a response mechanism should a severe oil disruption occur. Included in the SPR is 6 million barrels of crude oil held for future DOD use. The Department of Defense Appropriations Act, 1993, authorized DOE to acquire, transport, store, and prepare for ultimate drawdown of crude oil for DOD. Of the \$12.7 billion, the crude oil purchased with DOD funding is commingled with DOE's stock and is valued at its historical cost of \$123 million as of September 30, 2024 (see [Notes 2](#) and [15](#)).

Beginning in FY 2017 and ending in FY 2031, the Department will conduct a series of oil sales authorized by the Bipartisan Budget Act of 2015 (sections 403 and 404), 21st Century Cures Act of 2015, Fixing America's Surface Transportation Act of 2015 (FAST), Tax Cuts and Jobs Act of 2017, Bipartisan Budget Act of 2018, Consolidated Appropriations Act of 2018, America's Water Infrastructure Act of 2018, and IIJA. As of September 30, 2024, stockpile materials held for sale of crude oil are valued at \$33.77 per barrel.

**NORTHEAST HOME HEATING OIL RESERVE**

The Northeast Home Heating Oil Reserve was established in FY 2000 pursuant to the Energy Policy and Conservation Act of 1975. The Reserve contains petroleum distillate in the New England geographical area. The historical cost of the reserve was \$141 million as of September 30, 2024.

**NORTHEAST GASOLINE SUPPLY RESERVE (NGSR)**

NGSR was established in FY 2014 pursuant to the Energy Policy and Conservation Act of 1975. In U.S. funding legislation signed in March 2024, Congress authorized the sale of all gasoline stored in the NGSR. The sale was completed during the month of June 2024 and generated \$98.1 million in revenues.

**NUCLEAR MATERIALS**

Nuclear materials include plutonium (weapon-grade, and fuel-grade), uranium HEU, low-enriched uranium [LEU], natural uranium, and depleted uranium), tritium, and other materials, including those in the custody of the DOD, as allowed under Presidential Directive. Nuclear materials are used in weapons and components, naval and other reactors, and research and development.

As of September 30, 2024, the Department has natural uranium inventories of 3,717.1 metric tons (MTU) of uranium hexafluoride (UF<sub>6</sub>). This material can be divided into two stockpiles of material: U.S. origin (1,982.0 MTU of UF<sub>6</sub>) and Russian origin material (1,735.1 MTU of UF<sub>6</sub>). This includes the Reclassified U.S. Origin (414.5 MTU of UF<sub>6</sub>) to Canadian. The nuclear materials inventory includes numerous items for which future use and disposition decisions have not been made. Decisions will be made through analysis of the economic benefits and costs, and the environmental impacts of the various use and disposition alternatives. The carrying value of these items is not significant to the nuclear materials stockpile inventory balance. The Department will recognize disposition liabilities and record the material at net realizable value when disposal as waste is identified as the most likely alternative and disposition costs can be reasonably estimated. Inventory values are reduced by costs associated with disposition, decay, or damage.

Under a declaration by the Nuclear Weapons Council and an announcement by the president in 1995, 174.3 MTU of the Department's HEU was identified as excess to national security needs (S94). Analysis of this 174.3 MTU identified 154 MTU that was appropriate for downblending. In 2005, Secretary of Energy Bodman announced that, over the coming decades, another 200 MTU of HEU would be removed from use as fissile material in weapons. The majority of this 200 MTU was set aside for naval reactors and other HEU reactors, but analysis identified about 28 MTU for downblending. Finally, another 4 MTU of HEU not included in these declarations, has been identified for downblending. All totaled, 186 MTU HEU will be dispositioned through downblending, where 170.5 MTU has been completed at the end of FY 2024.

**Note 8. Property, Plant, and Equipment, Net**

(\$ IN MILLIONS)	FY 2024			FY 2023		
	ACQUISITION COSTS	ACCUMULATED DEPRECIATION	NET BOOK VALUE	ACQUISITION COSTS	ACCUMULATED DEPRECIATION	NET BOOK VALUE
Land and Land Improvements	\$ 2,764	\$ (1,333)	\$ 1,431	\$ 2,724	\$ (1,304)	\$ 1,420
Structures and Facilities	59,990	(39,620)	20,370	58,467	(38,841)	19,626
Internal Use Software	1,487	(937)	550	1,358	(927)	431
Equipment	25,665	(15,431)	10,234	24,080	(14,954)	9,126
Right-To-Use Lease Assets	1,470	(386)	1,084	—	—	—
Natural Resources	169	(22)	147	155	(22)	133
Construction Work in Process	28,009	—	28,009	21,355	—	21,355
<b>Total General Property, Plant, and Equipment</b>	<b>\$ 119,554</b>	<b>\$ (57,729)</b>	<b>\$ 61,825</b>	<b>\$ 108,139</b>	<b>\$ (56,048)</b>	<b>\$ 52,091</b>

Information concerning deferred maintenance and repairs and estimated land acreage is discussed in unaudited required supplementary information.

(\$ IN MILLIONS)	FY 2024	FY 2023
Balance Beginning of Year, Unadjusted	\$ 52,091	\$ 46,771
Effects of Implementation of SFFAS 54	1,049	—
Balance Beginning of Year, Adjusted	53,140	46,771
Capitalized Acquisitions	8,246	8,519
Right-To-Use Lease Assets, Current Year Activity	105	—
Current Year Amortization of Right-To-Use Lease Assets <a href="#">(Note 18)</a>	(202)	—
Revaluations	2,980	(1,089)
Depreciation Expense	(2,444)	(2,110)
<b>Balance at End of Year</b>	<b>\$ 61,825</b>	<b>\$ 52,091</b>

Beginning in FY 2024, SFFAS 54, requires the adoption of new lease accounting standards as a prospective change in accounting principle and new note disclosure for RTU lease and intragovernmental leases. An RTU lease includes an asset and lease liability for non-intragovernmental, non-short-term contracts or agreements when the entity has the right to obtain and control access to economic benefits or services from the leased PP&E asset for a period of time in exchange for consideration under the terms of the contract or agreement.

The Effects of Implementation of SFFAS 54 \$1,049 million consists of the net \$1.37 million of preexisting leases which are now considered RTU leases and removal of capital lease assets of \$316 million.

The accumulated depreciation for the RTU lease assets is different than the current year amortization of RTU lease assets due to (1) BPA following FASB ASC 842, (2) legacy waste RTU leases with a net book value of zero, and (3) a fully amortized RTU lease asset.

For FY 2024, PP&E dispositions totaled \$965 million.

**Note 9. Other Assets**

(\$ IN MILLIONS)	FY 2024	FY 2023
Other Than Intragovernmental		
Regulatory Assets <a href="#">(Note 10)</a>	\$ 8,365	\$ 8,596
Operating Non-Federal Generation	3,119	3,136
Other	1,550	1,629
<b>Total Other Assets</b>	<b>\$ 13,034</b>	<b>\$ 13,361</b>



**OPERATING NON-FEDERAL GENERATION**

BPA is party to long-term contracts for BPA to acquire all of the generating capability of Energy Northwest's Columbia Generating Station (CGS) and Lewis County Public Utility District's Cowlitz Falls Hydroelectric Project. CGS is a non-federal nuclear power plant owned and operated by Energy Northwest, a joint operating agency of the state of Washington. The current license termination dates for CGS and the Cowlitz Falls Project are in December 2043 and May 2036, respectively. BPA has acquired the output of CGS and the Cowlitz Falls Project through December 2043 and June 30, 2032, respectively. These contracts require BPA meet all of the facilities' operating, maintenance, and debt service costs (see [Note 15](#)). Operating non-federal generation assets are amortized on a straight-line basis. CGS is amortized through the current license termination date in 2043. Beginning of FY 2024, in alignment with the BP-24 rate case, the amortization period for Cowlitz Falls Project changed from the license termination date in 2036 to align with the period in which BPA is contracted to receive the output of the Cowlitz Falls Project, which ends in 2032.

**OTHER**

This amount includes BPA's assets for non-federal nuclear decommissioning trusts, lease-purchase trust funds, and derivative instruments that represent unrealized gains. The balance also includes oil owed to the SPR for loaning oil to oil companies during the FY 2021 Hurricane Ida Exchange and the FY 2022 Keystone Emergency exchanges. Amounts due include base and premium barrels.

In addition, this amount includes (WAPA's) long-term power rights, which are not directly identifiable to a specific WAPA-owned facility and are owned and used by WAPA in operations. Power rights are amortized over 40 years.

**Note 10. Regulatory Assets**

(\$ IN MILLIONS)	FY 2024	FY 2023
Refinanced and Additional Appropriated Capital	\$ 4,935	\$ 5,054
Residential Exchange Programs Scheduled and Refund Amounts	1,063	1,299
Terminated Non-Federal Generation	1,299	1,380
Other Regulatory Assets	1,068	863
<b>Total Regulatory Assets</b> <a href="#">(Note 9)</a>	<b>\$ 8,365</b>	<b>\$ 8,596</b>

The Department's PMAs record certain amounts as assets in accordance with the Financial Accounting Standards Board's Accounting Standards Codification (FASB ASC) 980, *Regulated Operations*. The provisions of this standard require that regulated enterprises reflect rate actions of the regulator in their financial statements, when appropriate. These rate actions can provide reasonable assurance of the existence of an asset, reduce or eliminate the value of an asset, or impose a liability on a regulated enterprise. To defer incurred costs under this standard, a regulated entity must have the statutory authority to establish rates that recover all costs, and those rates must be charged to, and collected from, customers.

**REFINANCED AND ADDITIONAL APPROPRIATED CAPITAL**

BPA is responsible for repaying the Treasury for transmission and power generating assets that were funded by appropriations, including those of the USACE and BOR. In accordance with accounting guidance for regulated operations, BPA records a regulatory asset based on this deferred cost that must be repaid to the Treasury for those assets owned by the USACE and BOR. This regulatory asset is amortized to program costs over a period of 50 years on a straight-line method based on the estimated service lives of the assets. BPA's trial balance also includes a regulatory asset and a corresponding intragovernmental debt for refinanced and additional appropriations owed to the Treasury. Under the BPA Refinancing Section of the Omnibus Consolidated Rescissions and Appropriations Act of 1996 (Refinancing Act), 16 U.S.C. 838(l), BPA refinanced its unpaid capital appropriations as of September 30, 1996, and is responsible for the repayment of additional appropriated capital investment after the Refinancing Act (see [Note 15](#)).

**RESIDENTIAL EXCHANGE PROGRAM (REP) SCHEDULED AND REFUND AMOUNTS**

Under the provisions of the 2012 Residential Exchange Program Settlement Agreement (2012 REP Settlement Agreement), BPA's Investor-Owned Utilities (IOU) customers receive a fixed schedule of benefit payments, i.e. Scheduled Amounts, that are being recovered in rates through 2028. These amounts amortize to program costs (see [Note 15](#)).

**TERMINATED NON-FEDERAL GENERATION**

BPA is responsible for the repayment of debt for terminated Energy Northwest Nuclear Projects 1 and 3. These assets are amortized to program costs through 2043. BPA is also responsible for the repayment of the Northern Wasco Hydro Project for which BPA ceased its participation as the recipient of the project's electric power. These assets are amortized to program costs through 2025 (see [Note 15](#)).

**OTHER REGULATORY ASSETS**

Other regulatory assets for BPA primarily include deferral of expenses related to the Phase 2 Implementation Plan (P2IP) Settlement Agreement signed in September 2023 (see [Note 16](#)); amounts to be recovered in future rates through 2045 in connection with the annual irrigation assistance payment made to Treasury (see [Note 16](#)); deferred fish and wildlife project expenses; deferral of expenses related to the Resilient Columbia Basin Agreement (RCBA)- Six Sovereigns signed in December 2023 between BPA and certain state and Tribal partners, collectively known as the Six

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Sovereigns (see Note 16); decommissioning and site restoration costs that reflect amounts to be recovered in future rates for funding the Asset Retirement Obligation (ARO) liability related to the former Trojan nuclear facility through 2059; spacer damper replacement program costs to replace deteriorated spacer dampers on certain transmission lines (amortized over a period of 25 or 30 years); deferred energy conservation measures to be recovered in future rates; costs to be recovered in future rates for preliminary construction and related activities for the former I-5 Corridor Reinforcement Project (amortized through FY 2024) and decommissioning and site restoration costs representing unrealized losses in the non-federal nuclear decommissioning trust assets for CGS.

## Note 11. Liabilities Not Covered by Budgetary Resources

(\$ IN MILLIONS)	FY 2024	FY 2023
Intragovernmental		
Debt	\$ 6,491	\$ 6,083
Appropriated Capital and Other Adjustments	4,242	4,305
Future Reimbursements to the Treasury Judgment Fund	410	410
Other	24	24
<b>Total Intragovernmental</b>	<b>\$ 11,167</b>	<b>\$ 10,822</b>
Federal Employee Benefits Payable	308	291
Environmental and Disposal Liabilities (Note 14)	541,364	531,322
Nuclear Waste Fund Deferred Revenues (Note 16)	52,179	50,241
Other Liabilities		
Contingencies and Commitments (Note 19)	37,731	34,221
Pension and Other Actuarial Liabilities (Notes 15 and 17)	13,479	12,329
Other Debt (Note 15)	5,090	5,130
BPA Lease-Purchase Program and Other Lease Liabilities (Note 15)	1,908	—
Residential Exchange - Scheduled Amounts (Note 15)	1,063	1,299
Environment, Safety, and Health Compliance Activities	1,934	1,878
Energy savings Performance Contracts and Utility Energy Service Contracts (Note 15)	340	390
Lessee Right-To-Use Lease Liability	851	—
Capital Leases	—	234
Other	46	55
<b>Total Liabilities Not Covered by Budgetary Resources</b>	<b>\$ 667,460</b>	<b>\$ 648,212</b>
Total Liabilities Covered by Budgetary Resources	35,521	35,470
Total Liabilities Not Requiring Budgetary Resources	1,101	1,167
<b>Total Liabilities</b>	<b>\$ 704,082</b>	<b>\$ 684,849</b>

## Note 12. Debt

(\$ IN MILLIONS)	FY 2024			FY 2023		
	BEGINNING BALANCE	NET BORROWINGS	ENDING BALANCE	BEGINNING BALANCE	NET BORROWINGS	ENDING BALANCE
Debt Owed to the Federal Financing Bank (FFB)	\$ 16,439	\$ 497	\$ 16,936	\$ 15,219	\$ 1,220	\$ 16,439
Debt Owed to Treasury Other Than FFB	6,545	249	6,794	6,442	103	6,545
<b>Total Debt</b>	<b>\$ 22,984</b>	<b>\$ 746</b>	<b>\$ 23,730</b>	<b>\$ 21,661</b>	<b>\$ 1,323</b>	<b>\$ 22,984</b>

### DEBT OWED TO THE FFB

To finance its loan programs, the Department is required to use the FFB for the ATVM program and the 100% loan guarantees of the Title XVII program. As of September 30, 2024 and 2023, the maturity range of the debt was from February 20, 2029, to June 14, 2052, and October 2, 2023, to June 14, 2052, respectively. The interest rate range was from 0.818% to 3.00% as of September 30, 2024, and as of September 30, 2023. All debt from the FFB is considered covered by budgetary resources, as there is no congressional action necessary to pay the debt.

**DEBT OWED TO TREASURY OTHER THAN FFB**

BPA is authorized by Congress to issue and sell bonds to the Treasury and to have outstanding at any time up to \$13.7 billion aggregate principal amount of bonds. Beginning in FY 2028, an additional \$4.0 billion of Treasury borrowing authority will be available. Of the \$13.7 billion in borrowing authority currently available, \$1.2 billion is available for electric power conservation and renewable resources, including capital investment at the Federal Columbia River Power System (FCRPS) hydroelectric facilities owned by the USACE and BOR, and \$12.5 billion is available for BPA's transmission capital program and to implement BPA's authorities under the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act). Of the total Treasury borrowing authority available at any one time (\$13.7 billion through FY 2027 and \$17.7 billion beginning in FY 2028), \$750 million can be issued to finance Northwest Power Act-related expenses. The interest on BPA's outstanding bonds is set at rates comparable to rates on debt issued by other comparable federal government institutions at the time of issuance. Bonds can be issued with call options.

As of September 30, 2024 and 2023, BPA had no bonds outstanding related to Northwest Power Act expenses.

As of September 30, 2024, \$392 million of variable-rate bonds were callable by BPA at par value on their interest repricing dates, which occur every three or six months. The remaining \$5.6 billion of bonds are callable by BPA at a premium or discount, which is calculated based on the current government agency rates for the remaining term to maturity at the time the bonds are called. As of September 30, 2023, \$495 million of variable-rate bonds were outstanding.

In FY 2024, BPA called \$274 million of bonds it had previously issued to the Treasury. As a result, BPA recognized a net loss of \$100,000. Additionally, in FY 2023, BPA called \$323 million of bonds it had previously issued to Treasury and recognized a related net gain of \$5 million.

WAPA has authority to borrow up to \$3.3 billion from the Treasury for planning, constructing, financing, operating, or maintaining new or upgraded electric power transmission lines and facilities; and for delivering or facilitating the delivery of power generated by renewable energy.

The Department is authorized to borrow from Treasury if cash previously collected is not enough to cover interest expense and other items related to the ATVM and Title XVII loan programs. As of September 30, 2024, the maturity range of the debt was September 30, 2025, to September 30, 2053, and the interest rate range was 1.356% to 3.00%. As of September 30, 2023, the maturity range of the debt was September 30, 2045, to September 30, 2053, and the interest rate range was 1.356% to 3.00%. Borrowings from Treasury related to ATVM and Title XVII loan programs are considered covered by budgetary resources, as there is no congressional action necessary to pay the debt.

**Note 13. Federal Employee Salary, Leave, and Benefits Payable**

(\$ IN MILLIONS)	FY 2024	FY 2023
Accrued Funded Payroll and Leave	\$ 1,988	\$ 1,764
Unfunded leave	216	201
Employer Contributions and Payroll Taxes Payable	5	1
<b>Total Federal Employee Salary, Leave, and Benefits Payable</b>	<b>\$ 2,209</b>	<b>\$ 1,966</b>

This represents amounts owed to the Department's federal and contractor employees for accrued payroll and funded and unfunded leave.

**Note 14. Environmental and Disposal Liabilities**

(\$ IN MILLIONS)	FY 2024	FY 2023
Beginning Balance	\$ 534,314	\$ 519,660
Changes to Environmental Cleanup and Disposal Liability Estimates	18,719	22,905
Costs Applied to Reduction of Legacy Environmental Liabilities <a href="#">(Note 21)</a>	(7,127)	(7,075)
Capital Expenditures Related to Remediation Activities	(1,365)	(1,176)
<b>Ending Environmental Cleanup and Disposal Liabilities</b>	<b>\$ 544,541</b>	<b>\$ 534,314</b>
Unfunded Environmental Liabilities <a href="#">(Note 11)</a>	\$ 541,364	\$ 531,322
Funded Environmental Liabilities	3,177	2,992
<b>Total Environmental Cleanup and Disposal Liabilities</b>	<b>\$ 544,541</b>	<b>\$ 534,314</b>

After World War II, the U.S. developed a massive industrial complex to research, produce, and test nuclear weapons and commercial nuclear power reactors. The nuclear complex was comprised of nuclear reactors, chemical processing buildings, metal machining plants, laboratories, and maintenance facilities.

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At all sites where these activities took place, some environmental contamination occurred. This contamination was caused by the production, storage, and use of radioactive materials and hazardous chemicals, which resulted in contamination of soil, surface water, or groundwater. In particular, the environmental legacy of nuclear weapons production also included thousands of contaminated buildings and large volumes of waste and SNM requiring treatment, stabilization, and disposal.

NWPA established the federal government's responsibility to provide for permanent disposal of the nation's high-level radioactive waste and SNF. The Act requires all owners and generators of high-level nuclear waste and SNF, including the Department, to pay their respective shares of the full cost of disposal. The Department's liability for disposal reflects its share of the estimated future costs of the disposal of its inventory of high-level waste and SNF. The Department's liability does not include the portion of the cost attributable to commercial owners and generators.

The Department has estimated environmental cleanup liability for the environmental contamination and waste disposition obligations discussed above. The estimates provide for a site-by-site projection of the work required to safely complete all EM projects, while complying with regulatory agreements, statutes, and regulations. Project estimates include projections of the technical scope, schedule, and estimable costs at each site for their cleanup.

In addition to the assumptions and uncertainties discussed above, the following key assumptions and uncertainties relate to the Department's estimates:

- The Department has identified approximately 11,740 potential release sites from which contaminants could migrate into the environment. Although virtually all sites have been at least partially characterized, final remedial action and regulatory decisions have not been made for many sites. Site-specific assumptions regarding the amount and type of contamination and the remediation technologies that will be utilized were used in estimating the environmental liabilities related to these sites.
- Cost estimates for management of the Department's high-level waste and SNF have been predicated upon assumptions as to the timing of permanent disposition. Changes in high-level waste and SNF disposition plans could cause Departmental projected costs to change.
- Estimates are based on remedies considered technically and environmentally reasonable and achievable by local project managers and appropriate regulatory authorities.
- Estimated cleanup costs at sites for which there are no current feasible remediation approaches are excluded from the estimates, although applicable stewardship and monitoring costs for these sites are included. The Department has not been required via regulation to establish remediation activities for these sites.

Changes to the Department's environmental liabilities estimates in FY 2024 resulted from inflation adjustments to reflect constant dollars for the current year; improved and updated estimates for the same scope of work, including changes resulting from deferral or acceleration of work and/or changes to funding assumptions; revisions in technical approach or scope, including additional contamination; updated estimates of projected waste volumes; legal and regulatory changes; and cleanup activities performed.

The Department's liabilities also include the estimated cleanup and post-closure responsibilities, including surveillance and monitoring activities, soil and groundwater remediation, and disposition of excess material for sites. The Department is responsible for the post-closure activities at many of the closure sites, as well as other sites, such as former uranium mills and certain sites remediated by the USACE. The costs for these post-closure activities are estimated for a period of 75 years after the balance sheet date, i.e., through FY 2099 in FY 2024 and through FY 2098 in FY 2023. While some post-cleanup monitoring and other long-term stewardship activities post-FY 2099 are included, there are others the Department expects to continue beyond FY 2099 for which the costs cannot reasonably be estimated.

A portion of the environmental liability at various field sites includes anticipated costs for facilities managed by the Department's ongoing program operations which will ultimately require stabilization, deactivation, and decommissioning. These estimates are largely based upon a cost-estimating model. Site-specific estimates are used, in lieu of the cost-estimating model, when available. Cost estimates for ongoing program facilities are updated each year. For facilities newly contaminated since FY 1997, costs are allocated to the periods benefiting from the operations of the facilities. Facilities' cleanup costs allocated to future periods and not included in the liability amounted to \$1.18 billion at September 30, 2024, and \$1.14 billion at September 30, 2023.

Estimating the Department's environmental cleanup liability requires making assumptions about future activities and is inherently uncertain. The future course of the Department's environmental cleanup and disposal will depend on a number of fundamental technical and policy choices, many of which have not been made. The cost and environmental implications of alternative choices can be profound. For example, some contaminated sites and facilities could be restored to a condition suitable for any desired use; they could also be restored to a point where they pose no near-term health risks to surrounding communities but are essentially secured, monitored, and left in place. Achieving the former condition would have a higher cost but may or may not warrant the cost or be legally required. The estimates reflect applicable decisions and current expectations as to the extent of cleanup and site and facility reuse, which include consideration of legal requirements and stakeholder input. The environmental liability estimate includes contingency estimates intended to account for the uncertainties associated with the technical cleanup scope of the program. Congressional appropriations at lower-than-anticipated levels or lack of congressional approval, unplanned delays in project completions, unforeseen technical issues, obtaining regulatory approval, among other things, could cause increases in life-cycle costs. All environmental liabilities as of September 30,

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2024, and September 30, 2023, are stated in FY 2024 dollars and FY 2023 dollars, respectively, as required by generally accepted accounting principles for federal entities. Future inflation could cause actual costs to be substantially higher than the recorded liability.

### HANFORD SITE

The Department's Hanford Site covers 580 square miles in the desert of southeastern Washington state. The area is home to nine former production reactors and their associated processing facilities. The major activities comprising the environmental liability at Hanford include the following:

- The Waste Treatment Plant is a multi-year construction project that, once complete, will provide the primary treatment capability to immobilize the radioactive and chemical tank waste at the Hanford site.
- The Tank Farm project includes activities required to manage and stabilize approximately 56 million gallons of radioactive waste stored in 177 underground tanks, including retrieval, treatment, disposal, and closure.
- Waste Treatment Plant Operations is responsible for the operational scope for the Waste Treatment Plant Low-Activity Waste Facility, the Analytical Laboratory, and the Balance of Facilities starting with hot commissioning but after project completion for those facilities.
- The River Corridor Closure Project addresses the remediation of contaminated soils and facilities adjacent to the Columbia River. Much of this work has been completed, but remediation activities continue for the soil beneath the 324 Building; the treatment and packaging of radioactive sludge to interim storage; and in the future, the remediation of 618-11 burial grounds.
- Solid Waste Operations in the central plateau in support of remediation activities on the Hanford Site.
- Soil and groundwater, as well as D&D activities, which addresses the remediation of contaminated soils and facilities in the central plateau.
- Infrastructure services in support of the operations on the Hanford Site including safeguards and security, utility operations, and fire operations.

### SAVANNAH RIVER SITE

The SRS, located in South Carolina, is 310 square miles in size with 1,000 facilities concentrated within 10% of the total land area. The SRS environmental liability estimate reflects the mission of safely storing, treating, and disposing of a variety of radioactive and hazardous waste streams, remediating the environment, deactivating and decommissioning excess facilities, stabilization and immobilization of high-level waste (HLW), and the secure storage of foreign and domestic nuclear materials, including spent nuclear fuel and plutonium at the site. The major activities comprising the environmental liability at SRS include the following:

The Radioactive Liquid Waste (LW) Stabilization and Disposition program is a highly integrated operation involving safely storing LW in underground storage tanks; removing, treating, and dispositioning of approximately 34 million gallons of legacy radioactive HLW stored in 43 of 51 underground storage tanks. To date, eight tanks have achieved regulatory operational closure and have been grouted in place. Most of the liquid tank waste is a solution of salt processed through the SWPF which produces two waste streams - HLW strip effluent containing fission products and actinides and LLW decontaminated salt solution (DSS). The HLW stream is combined with the radioactive HLW sludge stored in the liquid waste storage tanks and sent to the DWPF for vitrification. The vitrified HLW glass is poured into stainless steel canisters, which are temporarily stored on-site in the GWSBs. The DSS is sent to the Saltstone Production facility where it is combined with slag and fly ash to form a LLW grout called saltstone. The LLW saltstone is sent to one of 12 (three are still under construction) on-site SDU for permanent storage.

### IDAHO NATIONAL LABORATORY SITE

INL is a research and engineering complex that occupies 890 square miles in southeastern Idaho and has been the center of nuclear energy research since 1949. Idaho has fulfilled numerous DOE missions, including the design and testing of 52 nuclear reactors and reprocessing spent nuclear fuel to recover fissile materials. These activities resulted in inventories of waste managed as high-level, transuranic, mixed low-level, and low-level wastes. The major activities comprising the environmental liability at the INL include the following:

- The Spent Nuclear Fuel Stabilization and Disposition project includes stabilizing legacy spent nuclear fuel and managing the receipt of off-site spent nuclear fuel from research reactors.
- The Radioactive Liquid Tank Waste Stabilization and Disposition Project will treat and disposition the sodium-bearing tank wastes, close the underground waste tanks and maintain the Idaho Nuclear Technology and Engineering Center.
- The Solid Waste Stabilization and Disposition Project disposes stored transuranic waste, low-level radioactive waste, Resource Conservation and Recovery Act hazardous waste, and mixed low-level radioactive waste in compliance with the Idaho Settlement Agreement requirements and closes on-site low-level radioactive waste disposal facilities at the Radioactive Waste Management Complex.
- The Soil and Water Remediation project is responsible for remediation of contaminated soil and groundwater and closure of legacy Comprehensive Environmental Response, Compensation, and Liability Act sites at INL. Completion of this project will contribute to reducing the footprint and the completion of the Idaho Cleanup Project.



**GASEOUS DIFFUSION PLANTS**

The Department constructed and formerly operated three gaseous diffusion plants (GDPs) located in Oak Ridge, Tennessee; Portsmouth, Ohio; and Paducah, Kentucky, to enrich uranium which resulted in radioactive and chemical contamination at the sites. The major activities comprising the environmental liabilities at the GDPs include the following:

- The Oak Ridge, Portsmouth, and Paducah Nuclear Facility D&D projects include environmental cleanup and surveillance and maintenance activities, demolition and disposal, and decontamination and decommissioning of inactive or excess facilities. Oak Ridge completed D&D of all facilities not supporting soil remediation at ETPP in FY 2020. Oak Ridge completed all major soil remediation in FY 2024 and continues to support future site closure.
- The Portsmouth and Paducah Nuclear Material Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion projects include the operation of the depleted uranium hexafluoride conversion facilities at the Portsmouth and Paducah sites. These facilities convert the material into a more stable form of depleted uranium oxide suitable for reuse or disposition.

**OAK RIDGE OFFICE OF ENVIRONMENTAL MANAGEMENT OTHER THAN GASEOUS DIFFUSION PLANT**

The Oak Ridge EM, located in Tennessee, includes deactivation and demolition on excess contaminated facilities at the Y-12 National Security Site and ORNL, construction of Mercury Treatment Facility and onsite CERCLA disposal facility to support D&D activities and disposition of U-233 material and transuranic waste.

**ENVIRONMENTAL LIABILITIES ESTIMATE FOR OTHER SITES**

Environmental liabilities exist for other sites and activities across the Department. The cleanup activities at these sites are similar to those mentioned above, including, depending on the site, soil and groundwater remediation; waste retrieval, treatment, and disposal; and decontamination and decommissioning of nuclear reactors and other facilities.

**Note 15. Other Liabilities**

(\$ IN MILLIONS)	FY 2024	FY 2023
Intragovernmental		
Appropriated Capital	\$ 2,402	\$ 2,376
Refinanced and Additional Appropriations	1,082	1,106
Capitalization Adjustment	758	823
Other	923	1,077
<b>Total Intragovernmental</b>	<b>\$ 5,165</b>	<b>\$ 5,382</b>
Other Than Intragovernmental		
Pension and Other Actuarial Liabilities (Notes 11 and 17)	\$ 13,479	\$ 12,329
Obligations Under Capital Leases	—	2,259
Contingencies and Commitments (Note 19)	37,731	34,221
Environment, Safety, and Health Compliance Activities (Note 22)	1,938	1,888
Residential Exchange Program (REP) (Note 11)	1,063	1,299
Other Debt (Note 11)	5,090	5,130
BPA Lease-Purchase Program and Other Lease Liabilities (Note 11)	1,908	—
Asset Retirement Obligations	1,118	1,015
Lessee Right-To-Use Lease Liability (Note 18)	1,035	—
Energy Savings Performance Contracts and Utility energy Service Contracts (Note 11)	340	390
Other	901	830
<b>Total Other Than Intragovernmental</b>	<b>\$ 64,603</b>	<b>\$ 59,361</b>
<b>Total Other Liabilities</b>	<b>\$ 69,768</b>	<b>\$ 64,743</b>

**APPROPRIATED CAPITAL**

Appropriated capital owed represents the balance of appropriations provided to WAPA, SWPA, and SEPA for construction, operation, and maintenance of power facilities that will be repaid to the Treasury General Fund. The amount owed includes accumulated and current year interest on the net unpaid federal investment in the power projects. The federal investment in these facilities is to be repaid within 50 years from the time the facilities are placed in service or are commercially operational. Replacements of federal investments are generally expected to be repaid over their useful service lives. There is no requirement for repayment of a specific amount of federal investment on an annual basis.

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SEPA receives annual appropriations from the Treasury's General Fund for operating expenses. Annual program costs are repaid from offsetting collections from the sale of federal hydroelectric power during the current year, resulting in a net-zero appropriation.

SWPA receives annual appropriations from the Treasury's General Fund for capital, operation, and maintenance expenses. Annual operation and maintenance costs are repaid from offsetting collections from the sale of federal hydroelectric power during the current year, interest is recovered annually, and construction costs are generally repaid over their estimated useful lives. WAPA receives annual appropriations from the Reclamation Fund for construction, operation and maintenance expenses: additional detail on WAPA's debt owed to the Reclamation Fund and corresponding elimination are found in annual operation and maintenance costs are repaid from offsetting collections during the current year, interest is recovered annually and construction costs are generally repaid over their estimated useful lives. Funding received from the Reclamation Fund is not reported as appropriated capital owed since the Reclamation Fund is managed by WAPA and all inter-fund activity is eliminated for combined reporting.

WAPA has also received appropriations from the Treasury's General Fund, as noted in the first paragraph of this section, the unpaid balance of these appropriations are reported as appropriated capital owed Treasury.

Except for the appropriation refinancing asset described in [Note 10](#) and in the next section, the Department's financial statements do not reflect the federal investment in power-generating facilities owned by the USACE; DOI, BOR; and DOS, International Boundary and Water Commission (IBWC). BPA makes annual payments to Treasury from its net proceeds.

### REFINANCED AND ADDITIONAL APPROPRIATED CAPITAL

As discussed in [Note 10](#), BPA refinanced its unpaid capital appropriations as of September 30, 1996. Federal appropriations reflect the responsibility that BPA has to repay Treasury for congressionally appropriated amounts in the FCRPS. Federal appropriations repayment obligations consist of the remaining unpaid power portion of USACE and BOR capital investments funded through congressional appropriations.

BPA is obligated to establish rates to repay appropriations for federal generation and transmission plant investments within a specified repayment period, which is the reasonably expected service life of the facilities, not to exceed 50 years. Federal appropriations may be repaid early without penalty at their par value, i.e. carrying value for federal appropriations, as part of BPA's payment to Treasury. BPA repaid appropriations earlier than their due date in FY 2024 and FY 2023. BPA establishes schedules for the repayment of federal appropriations when it establishes its power and transmission rates. These schedules can change depending on whether appropriations have been prepaid or deferred. Interest on appropriated amounts begins accruing when the related assets are placed into service, unless repayment obligation is deferred by specific legislation.

### CAPITALIZATION ADJUSTMENT

The capitalization adjustment is the difference between the outstanding balance of federal appropriations, plus \$100 million, before and after refinancing under the Refinancing Act. Consistent with treatment in BPA's power and transmission rate cases, this adjustment is amortized over a 40-year period through FY 2036. Amortization of the capitalization adjustment was \$65 million for FY 2024 and FY 2023 (see [Note 10](#)).

### OTHER INTRAGOVERNMENTAL

Other Intragovernmental Liabilities "Other" represents the amount due to the Treasury Judgment Fund, liability for non-entity assets, custodial liability, and various other miscellaneous liabilities.

### ENVIRONMENT, SAFETY, AND HEALTH COMPLIANCE ACTIVITIES

The Department's environment, safety, and health (ES&H) liability represents those activities necessary to bring facilities and operations into compliance with existing ES&H laws and regulations, e.g., the Occupational Safety and Health Act, Clean Air Act, and Safe Drinking Water Act. Types of activities included in the estimate relate to the following: upgrading site-wide fire and radiological programs, nuclear safety upgrades, industrial hygiene and industrial safety, safety-related maintenance, emergency preparedness programs, life safety code improvements, and transportation of radioactive and hazardous materials. The estimate covers corrective actions expected to be performed in future years for programs outside the purview of the Department's EM program. ES&H activities within the purview of the EM program are included in the environmental liabilities estimate.

### RESIDENTIAL EXCHANGE PROGRAM (REP)

In 1981, and as provided in the Northwest Power Act, BPA began to implement the REP through various contracts with eligible regional utility customers. BPA's implementation of the REP has been the subject of various litigations and settlement agreements.

Beginning in April 2010, over 50 litigants and other regional parties entered into mediation to resolve numerous disputes over the REP. In FY 2011, the parties reached a final settlement agreement – the 2012 REP Settlement Agreement. As a result of the settlement, BPA recorded an associated long-term IOU exchange benefits liability and corresponding regulatory asset of \$3.1 billion. Under the 2012 REP Settlement Agreement, the IOUs' REP benefits were determined for FYs 2012-2028, also referred to herein as Scheduled Amounts. The Scheduled Amounts started at \$182 million for FY 2012 and increase over time to \$286 million for FY 2028. As provided in the 2012 REP Settlement Agreement, the Scheduled Amounts are established for each IOU based on the IOU's average system cost, its residential exchange load, and BPA's applicable Priority Firm Exchange rate. The Scheduled Amounts total \$4.1 billion over the 17-year period through FY 2028, with remaining Scheduled Amounts as of September 30, 2024,

## FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

totaling \$1.1 billion. Amounts recorded of \$1.1 billion at September 30, 2024, represent the present value of future cash outflows for these IOU exchange benefits.

### OTHER DEBT

Other debt primarily includes liabilities associated with BPA purchased generating capability, discussed in [Note 9](#); terminated non-federal facilities for which BPA bears repayment responsibility discussed in [Note 10](#); and customer prepaid power purchases.

During FY 2013, BPA entered into agreements with four regional consumer-owned utilities for the advance payment of portions of their power purchases. Under this program, customers purchased prepaid power in blocks through FY 2028. For each block purchased, BPA repays the prepayment, with interest, as monthly fixed credits on the customers' power bills.

In March 2013, BPA received \$340 million representing \$474 million in scheduled credits for blocks purchased by customers. BPA accounts for the prepayment proceeds as a financing transaction and reports the value of the obligations associated with the fixed credits as a prepayment liability. Interest expense is recognized using a weighted-average effective interest rate of 4.5%. The prepaid liability is reduced and the credits are applied as power is delivered through FY 2028. As of September 30, 2024, BPA's remaining liability is \$112 million.

### BPA LEASE-PURCHASE PROGRAM AND OTHER LEASE LIABILITIES

#### Lease-Purchase Program

Under the Lease-Purchase Program, BPA has incurred financial liabilities for lease-purchase transactions with certain third-party entities. These transactions are primarily with the Port of Morrow, a port district located in Morrow County, Oregon, and the Idaho Energy Resources Authority (IERA), an independent public instrumentality of the state of Idaho, for transmission facilities, including lines, substations, and general plant assets. These financial liabilities are paid from the rental payments made by BPA. The facilities are not security for the payment of these obligations. The lease-purchase agreements contain provisions that allow BPA to purchase the related assets at any time during each lease term for a bargain purchase price plus the value of the related outstanding debt instrument. During FY 2024, BPA recorded a \$2 million gain when certain lease-purchase liabilities were extinguished via the issuance of long-term debt.

Under the Lease-Purchase Program, BPA consolidates one special purpose corporation, Northwest Infrastructure Financing Corporation, or NIFC. The rental payments from BPA are pledged to the payment of the debt, but the facilities do not secure the debt. The NIFC bonds are reported as NIFC debt and are subject to redemption by NIFC, in whole or in part, at any date, at the higher of the principal amount of the bonds or the present value of the bonds discounted using the Treasury rate plus a premium of 12.5 basis points.

#### Finance Lease Liability

Included among this liability are finance lease agreements for transmission lines and equipment.

#### Other Financial Liability

This agreement is with a transmission customer. BPA is deemed the accounting owner of the assets. The agreement contains provisions that allow BPA to purchase the related assets at any time during the contract term, with ownership transferring to BPA at the end of the term.

### ASSET RETIREMENT OBLIGATIONS

BPA recognizes AROs based on the future retirement of certain tangible, long-lived assets. BPA's AROs are recognized based on the estimated fair value of the dismantlement and restoration costs, primarily associated with the retirement of CGS. BPA also has AROs for a 30% share of the former Trojan nuclear power plant decommissioning activities and for certain Energy Northwest-related site restoration activities. ARO liabilities are adjusted for any revisions, expenditures, and the passage of time.

As a result of a 2024 site-specific decommissioning study for CGS, BPA management increased the estimate for the CGS ARO liability by \$59 million. This change in estimate was largely driven by higher labor costs, increases in low-level radioactive waste disposal rates and increases in spent fuel cask procurement and management costs. Actual decommissioning costs may vary from this estimate because of various factors including future decommissioning dates, requirements, costs, and technology.

Based on agreements in place, BPA directly funds Eugene Water and Electric Board's 30% share of the former Trojan nuclear power plant decommissioning activities that consist of long-term operation and decommissioning of the Independent Spent Fuel Storage Installation (ISFSI). BPA funds these costs through current rates. Trojan decommissioning primarily relates to the storage of spent nuclear fuel through 2059 at the former nuclear plant site. Decommissioning of the ISFSI and final site restoration activities are not expected to occur before 2059, which is the year the NRC extended the fuel storage license through. In FY 2024, BPA management revised the estimate for the Trojan ARO liability by \$3 million. This change in estimate was driven by the aging management program, headcount and frequency of cask inspections. In fiscal year 2023, BPA management revised the estimate for the Trojan ARO liability by \$15 million. This change in estimate was driven by increases in expected annual ISFSI operating costs primarily due to additional personnel and construction-related expenses.

BPA also has tangible long-lived assets without an associated ARO because no legal obligation exists to remove these assets.

**ENERGY SAVINGS PERFORMANCE CONTRACTS AND UTILITY ENERGY SERVICE CONTRACTS**

Beginning in FY 2019, SFFAS 49, *Public-Private Partnerships*, requires the disclosure of risk-sharing arrangements with expected lives greater than five years between public and private sector entities. Per SFFAS 49, "Such arrangements or transactions provide a service or an asset for government and/or general public use where in addition to the sharing of resources, each party shares in the risks and rewards of said arrangements or transactions." DOE has determined that Energy Savings Performance Contracts (ESPC) and Utility Energy Service Contracts (UESC) meet the P3 criteria outlined in SFFAS 49; the disclosure details for DOE's ESPC and UESC arrangements are provided below.

Initially authorized by the Energy Policy Act of 1992 and subsequently codified as 42 U.S.C. 8287 and 42 U.S.C. 8256, respectively, ESPCs and UESCs represent partnerships with energy service companies (ESCOs) and utility companies in the form of fixed-price, performance-based arrangements that are paid back over time through generated energy cost savings. In particular, ESPCs enable DOE to partner with an ESCO for a period not to exceed 25 years to improve energy efficiency in one or more DOE facilities at no direct capital cost to the U.S. government and without special congressional appropriations. The ESCO finances the upfront costs of implementing energy conservation measures — often borrowing the necessary funding for the investment from a third-party financier — and receives, in return, a contractually determined share of the cost savings that result. The ESCO provides a guarantee that the improvements will generate sufficient energy cost savings to pay for the project over the expected life of the arrangement, and after the arrangement ends, DOE fully retains all subsequent cost savings. Ultimately, ESPCs and UESCs provide DOE with the overall ability to implement energy efficient infrastructure upgrades at little to no upfront expense to the government and to generate future energy cost savings. Similar to ESPCs, UESCs are partnerships between a federal agency and its serving utility company in which the utility company arranges financing to cover the upfront costs of energy efficiency projects and the agency's subsequent payments are based on energy cost savings; unlike ESPCs, however, cost savings are not guaranteed by the utility company.

Although ESPC and UESC arrangements are structured to minimize the level of risk to which DOE and the government are exposed, general processes such as a mutual understanding of each entity's role and responsibilities within the partnership, proper and timely project planning, installation and functionality oversight, and participation in the measurement and verification of equipment performance are all key components to helping ensure that energy cost savings are successfully realized. Failure to appropriately conduct these types of processes could potentially result in lost or unachieved energy cost savings and/or reduced payments to ESCOs in the case of ESPCs, payments being made by DOE in excess of the amount of actual energy cost savings achieved, or costs related to future contract or infrastructure modifications. Additionally, though standard contract language generally allows DOE to terminate ESPC and UESC arrangements for convenience, any such action is considered by DOE to be remote and often requires, at a minimum, payment by DOE of the remaining unamortized principal, the total of which, as of September 30, 2024, is primarily represented by the "Energy savings performance contracts and utility energy service contracts" liability figure above, as well as other termination fees based on the financial details of each arrangement. Further, because title to infrastructure improvement systems and equipment is typically transferred to DOE upon project acceptance, early termination could potentially lead to increased costs related to ownership — for example, maintenance and repairs previously performed by the ESCO or utility company needing to be performed by DOE or another contractor. Lastly, some arrangements contain contractual clauses specifically clarifying that the government will be responsible for losses due to remote risks such as accidents or "force majeure" events.

As of September 30, 2024, DOE has 18 ESPC arrangements/modifications that are active or for which implementation is currently in process and one active UESC arrangement. The period of performance range for the 19 total arrangements is between 10 and 24 years in length, with the calculation of the period of performance largely dependent upon the amount of predicted annual cost savings in conjunction with the amount of annual payments, not to exceed the amount of annual cost savings in the case of ESPCs, required to eventually fund the overall value of the project. Payments related to these types of arrangements are generally made by DOE indirectly to the ESCO or utility company through a trustee on an annual basis.

The below table provides the amount of funding related to the non-federal partners' implementation of DOE's ESPC and UESC arrangements; the combined total DOE payments to be made over the expected life of arrangements, including principal repayment, interest, and performance period expenses, and the total cumulative amount of payments made by DOE as of September 30, 2024.

(\$ IN MILLIONS)	NON-FEDERAL PARTNERS' IMPLEMENTATION AMOUNT	TOTAL DOE PAYMENTS TO BE MADE OVER THE EXPECTED LIFE OF ARRANGEMENT	TOTAL CUMULATIVE PAYMENTS
ESPCs	\$ 613	\$ 1,969	\$ 1,133
UESCs	7	9	5
<b>Total</b>	<b>\$ 620</b>	<b>\$ 1,978</b>	<b>\$ 1,138</b>

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The following table presents the actual payments in FY 2024 and FY 2023, and the estimated amount to be paid in FY 2025 and beyond.

(\$ IN MILLIONS)	FY 2024	FY 2023	FUTURE PERIODS
	ACTUAL AMOUNT PAID	ACTUAL AMOUNT PAID	ESTIMATED AMOUNT TO BE PAID IN FY 2025+
AGREEMENTS/CONTRACTS			
ESPCs	\$ 87	\$ 101	\$ 836
UESCs	—	3	4
<b>Total</b>	<b>\$ 87</b>	<b>\$ 104</b>	<b>\$ 840</b>

### OTHER LIABILITIES

Other than Intragovernmental Liabilities, "Other" represents right-to-use leases liabilities contract holdbacks, limited payroll related liabilities, undistributed advances, and various other miscellaneous liabilities.

## Note 16. Advances from Others and Deferred Revenue

(\$ IN MILLIONS)	FY 2024	FY 2023
Intragovernmental	\$ 1,569	\$ 1,502
Nuclear Waste Fund <a href="#">(Note 11)</a>	\$ 52,179	\$ 50,241
Power Marketing Administrations	2,291	1,874
Reimbursable Work Advances	668	432
Other	312	294
<b>Subtotal</b>	<b>\$ 55,450</b>	<b>\$ 52,841</b>
<b>Total Advances From Others and Deferred Revenue</b>	<b>\$ 57,019</b>	<b>\$ 54,343</b>

### NUCLEAR WASTE FUND

NWF revenues are accrued based on interest earned on charges assessed against owners and generators of high-level radioactive waste and SNF and interest accrued on investments in U.S. Treasury securities. These revenues are recognized as a financing source as costs are incurred for NWF activities. Revenues that exceed the NWF expenses are deferred.

### POWER MARKETING ADMINISTRATIONS

BPA's deferred revenues and other credits make up the majority of the deferred revenues and other credits for the PMAs. BPA's deferred revenues and other credits primarily represent the following:

- Regulatory liabilities are amounts previously collected through rates for accumulated plant removal costs as part of depreciation expense, unrealized gains in the non-federal nuclear decommissioning trust assets for CGS, and the unrealized gains from BPA's derivative portfolio, which are deferred over the corresponding underlying contract delivery months.
- Interconnection agreements are advances for requested new network upgrades and interconnections. These advances accrue interest and will be returned as cash or credits against future transmission service on the new or upgraded lines.
- P2IP settlement agreements represents the undiscounted long-term portion of future payments to be made to certain Upper Columbia River Tribes as agreed to in the P2IP Settlement Agreement signed in September 2023. Per the terms of the agreement, BPA will provide \$10 million per year, beginning in FY 2024 for the 20-year duration of the agreement, for a total of \$200 million (adjusted for inflation). These funds are to be used to test the feasibility of, and ultimately reintroduce salmon in blocked habitats in the Upper Columbia River Basin. The settlement agreement became effective in October 2023 upon the dismissal of the related Tribal litigation.
- Irrigation Assistance represents the long-term portion of future payments to be made to the Treasury in connection with the original construction costs of certain Pacific Northwest irrigation facilities. Amount owed are representative of construction costs that are deemed to be beyond the irrigators' ability to pay.
- Deferred project revenue funded in advance consisting of third-party advances received where BPA will own the resulting transmission assets. The balance is amortized over the life of the assets so that the balance prevents any stranded costs in case of impairment as prescribed by the transmission rate process.
- RCBA — Six Sovereigns represents the undiscounted long-term portion of future payments to be made to certain Lower Columbia River Tribes and states, collectively known as the Six Sovereigns, in alignment with the settlement agreement signed in December 2023. Per the terms of this agreement, BPA will make available \$10 million per year over ten years, beginning in FY 2024 for a total of \$100 million (adjusted for inflation). These funds are to be used for projects that contribute to the restoration of salmon and other native fish populations as prioritized by the Six Sovereigns. The \$10 million associated with FY 2024 has not yet been disbursed and BPA expects to make the FY 2024 payment in FY 2025.



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- Third Alternating Current (AC) Intertie capacity agreements reflecting unearned revenues from customers related to the Third AC Intertie transmission line capacity project. Revenue is recognized over an estimated 51-year life of the related assets, which are generally added and retired each year.
- Service deposits reflect required deposits for BPA products or services. The majority of these amounts are expected to be returned to the customer after a period of service.
- Unearned revenue from customer deposits consists of advances received from customers for projects or studies undertaken at their request. Revenue is recognized as expenditures are incurred.
- Fiber optic leasing fees reflect unearned revenue related to the leasing of fiber optic cables. BPA recognizes revenue over the lease terms, which extend through 2025.
- Derivative instruments reflect the unrealized loss from BPA's derivative portfolio, which primarily includes physical power purchase and sale transactions.

### Note 17. Pension and Other Actuarial Liabilities

(\$ IN MILLIONS)	FY 2024	FY 2023
Contractor Pension Plans	\$ 7,132	\$ 6,365
Contractor Postretirement Benefits Other Than Pensions	6,325	5,943
Contractor Disability and Life Insurance Plans	22	21
<b>Total Pension and Other Actuarial Liabilities</b> (Notes 11 and 15)	<b>\$ 13,479</b>	<b>\$ 12,329</b>

Most of the Department's major contractors sponsor defined benefit pension plans which promise to pay specified benefits, such as a percentage of the final average pay for each year of service, to their employees. The Department's allowable costs under these contracts include reimbursement of annual contractor contributions to these pension plans. Most of the contractors also sponsor PRB, consisting of predominantly postretirement health care benefits. The Department approves, for cost reimbursement purposes, these contractor pension and postretirement benefit plans and is responsible for the allowable costs of funding the plans. The Department also reimburses these contractors for employee disability insurance plans, and estimates are recorded as unfunded liabilities for these plans.

For accounting measurements, the Department follows FASB ASC 715, *Compensation - Retirement Benefits*, for reporting contractor pension and Postretirement Benefit plans for which the Department has a continuing obligation to reimburse allowable costs. Because the Department reports under federal accounting requirements, newly measured net prior service costs/(credits) and net (gains)/losses are recognized immediately as components of net periodic cost rather than classified as other comprehensive income under FASB ASC 715 and later amortized and included as components of net periodic cost. All components of the net periodic cost are recognized in the *Consolidated Statements of Net Cost*. Service costs are recorded by program and all other net periodic costs are recorded as costs not assigned (see [Note 22](#)).

#### CONTRACTOR PENSION PLANS

As of September 30, 2024, the Department reports contractor pension assets, i.e., aggregate of net assets for all contractor plans with plan assets in excess of the projected benefit obligation, of \$389 million and contractor pension liabilities, i.e., aggregate of net liabilities for all contractor plans with projected benefit obligations in excess of the plan assets, of \$7.1 billion. The Department has a continuing obligation to reimburse allowable costs for a variety of contractor-sponsored pension plans (32 qualified and 11 nonqualified).

Contractors are required to make contributions to their plans as required by the Internal Revenue Code and ERISA, as amended. For qualified defined benefit pension plans, the Department's current funding policy is to reimburse contractors for the minimum required contributions made, absent the Department's agreement to reimburse at a different level. For nonqualified plans, the funding policy is pay-as-you-go.

**Assumptions and Methods** – Contractors use their own actuarial assumptions for determining required contributions to employee pension plans. However, in order to provide consistency among the Department's various contractors, the Department requires the use of certain standardized actuarial assumptions for financial reporting purposes. These standardized assumptions include the discount rates, mortality assumptions, and an expected long-term inflation rate of 2.25% used consistently in the expected long-term rate of return on assets, salary scale, and other relevant economic assumptions affected by inflation, with adjustments to the 2.25% inflation rate to reflect regional or industry rates as appropriate. In most cases, except for the standardized mortality assumption, the demographic assumptions used for the ERISA valuation were used for these purposes.

The following specific assumptions and methods were used to determine the net benefit cost. The weighted average discount rate was 5.60% for FY 2024 and 5.10% for FY 2023, the weighted average long-term rate of return on assets was 6.74% for FY 2024 and 6.85% for FY 2023, and the average rate of compensation increase was 3.7% for FY 2024 and 3.2% for FY 2023. The average long-term rate of return on assets shown above is the average rate for the contractor plans. Each contractor develops its own average long-term rates of return on assets based on the specific investment profiles of the specific plans it sponsors. Therefore, there is no one overall approach to setting the rate of return for each of the contractor

plans. The weighted average discount rates used to determine the benefit obligations as of September 30, 2024, and September 30, 2023, were 4.80% and 5.60%, respectively.

The aggregate accumulated benefit obligation and aggregate fair value of plan assets for plans with accumulated benefit obligations in excess of plan assets are \$46.1 billion and \$41.8 billion as of September 30, 2024, and \$35.7 billion and \$31.7 billion as of September 30, 2023. The aggregate projected benefit obligation and aggregate fair value of plan assets for plans with projected benefit obligations in excess of plan assets are \$49 billion and \$41.8 billion as of September 30, 2024, and \$41.5 billion and \$35.2 billion as of September 30, 2023, respectively.

#### CONTRACTOR POSTRETIREMENT BENEFITS OTHER THAN PENSIONS

The Department's contractors sponsor a variety of postretirement benefits other than pensions. As of September 30, 2024, the Department reports contractor PRB assets, i.e., aggregate of net assets for all contractor plans with plan assets in excess of the benefit obligation, of \$19 million and contractor PRB liabilities, i.e., aggregate of net liabilities for all contractor plans with benefit obligations in excess of the plan assets, of \$6.3 billion. The Department accrues the cost of PRB during the years that the employees render service. Generally, the PRB plans are unfunded, and the Department's funding policy is to fund on a pay-as-you-go basis. There are five contractors, however, that are partially prefunding benefits as permitted by law.

**Assumptions and Methods** – In order to provide consistency among the Department's various contractors, certain standardized actuarial assumptions were used.

These standardized assumptions include medical and dental trend rates, discount rates, and mortality assumptions.

The following specific assumptions and methods, with respect to trends in the costs of medical and dental benefit plans, were used in determining the PRB estimates. The projected medical trend rates for a point of service plan, Health Maintenance Organization (HMO), Preferred Provider Organization (PPO), or similar plan grade, i.e., decrease or increase, from 7.27% in 2024 down to 5.00% in 2039 and later for under age 65; and 5.14% in 2024 down to 5.00% in 2039 and later for age 65 and older. The medical trend rates for a traditional indemnity or similar plan grade from 7.38% in 2024 down to 5.00% in 2039 and later for under age 65; and 5.36% in 2024 down to 5.00% in 2039 and later for age 65 and older. Separate trend rates were used for a Medicare Advantage plan, a Part D Prescription Drug Plan (PDP), and a Non-Part D PDP. Trend rates for Medicare Advantage plans at all per-member, per-month levels of employer costs grade from 5.07% in 2024 down to 5.00% by 2039 and later. The trend rates for a Part D PDP grade from 7.28% in 2024 down to 5.00% in 2039 and later, and for a Non-Part D PDP grade from 9.55% in 2024 down to 5.00% in 2039 and later. The medical trend rates or combination of rates used to determine the PRB estimates are dependent on each contractor's specific plan design and impact of health care reform, if applicable. The projected dental trend rates at all ages grade from 3.83% in 2024 down to 3.00% in 2039 and later.

The weighted average discount rates of 5.60% for FY 2024 and 5.10% for FY 2023, and the weighted average long-term rate of return on assets of 3.38% for FY 2024 and 3.27% for FY 2023 were used to determine the net periodic cost. The rate of compensation increase was the same rate as each contractor used to determine pension contributions. The average long-term rate of return on assets shown above is the average rate for the contractor plans. Each contractor develops its own average long-term rate of return on assets based on the specific investment profile of the specific plans it sponsors. Therefore, there is no one overall approach to setting the rate of return for each of the contractor plans.

The weighted average discount rates used to determine the benefit obligations as of September 30, 2024, and September 30, 2023, were 4.80% and 5.60%, respectively.

The aggregate accumulated postretirement benefit obligation and aggregate fair value of plan assets for plans with accumulated postretirement benefit obligations in excess of plan assets are \$6.4 billion and \$104 million as of September 30, 2024, and \$6.1 billion and \$109 million as of September 30, 2023.

# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

(\$ IN MILLIONS)	PENSION BENEFITS		OTHER POSTRETIREMENT BENEFITS	
	FY 2024	FY 2023	FY 2024	FY 2023
<b>NET AMOUNT RECOGNIZED IN THE BALANCE SHEET</b>				
Accumulated Benefit Obligation	\$ 48,853	\$ 43,674		
Effect of Future Compensation Increases	2,963	2,485		
Benefit Obligation	\$ 51,816	\$ 46,159	\$ 6,431	\$ 6,054
Plan Assets	45,073	40,105	125	127
<b>Net Amount Recognized in the Balance Sheet (Net Funded Status)</b>	<b>\$ (6,743)</b>	<b>\$ (6,054)</b>	<b>\$ (6,306)</b>	<b>\$ (5,927)</b>
<b>RECONCILIATION OF AMOUNTS RECOGNIZED IN THE BALANCE SHEET</b>				
Asset (Prepaid Plan Costs)	\$ 389	\$ 311	\$ 19	\$ 16
Liability	(7,132)	(6,365)	(6,325)	(5,943)
<b>Net Amount Recognized in the Balance Sheet (Net Funded Status)</b>	<b>\$ (6,743)</b>	<b>\$ (6,054)</b>	<b>\$ (6,306)</b>	<b>\$ (5,927)</b>
<b>COMPONENTS OF NET PERIODIC COSTS</b>				
Service Costs	\$ 645	\$ 691	\$ 80	\$ 85
Interest Costs	2,553	2,407	318	317
Expected Return on Plan Assets	(2,618)	(2,644)	(4)	(4)
(Gain)/Loss due to Curtailments, Settlements or Special Termination Benefits	—	(2)	—	—
Net Prior Service Cost/(Credit)	2	—	14	(4)
Net (Gain)/Loss	1,148	(1,698)	330	(415)
<b>Total Net Periodic Costs</b>	<b>\$ 1,730</b>	<b>\$ (1,246)</b>	<b>\$ 738</b>	<b>\$ (21)</b>
<b>CONTRIBUTIONS AND BENEFIT PAYMENTS</b>				
Employer Contributions	\$ 1,041	\$ 920	\$ 358	\$ 363
Participant Contributions	95	94	76	79
Benefit Payments	2,835	2,839	445*	452*
*Includes \$10 million paid from plan assets for FY 2024, and \$11 million paid from plan assets for FY 2023. For FY 2024, gross benefit payments were \$446 million including \$1.4 million of federal Medicare subsidy. This resulted in net benefit payments of \$445 million for FY 2024. For FY 2023, gross benefit payments were \$453 million including \$1.3 million of federal Medicare subsidy. This resulted in net benefit payments of \$452 million for FY 2023.				

(\$ IN MILLIONS)	PENSION BENEFITS	OTHER POSTRETIREMENT BENEFITS
Expected Contributions for Fiscal Year Ending September 30, 2024		
Employer Contributions	\$946	\$402
Participant Contributions	94	72

# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

(\$ IN MILLIONS)	OTHER POSTRETIREMENT BENEFITS			
	PENSION BENEFITS	GROSS PAYMENT	LESS FEDERAL MEDICARE PART D SUBSIDY *	NET PAYMENT
ESTIMATED FUTURE BENEFIT PAYMENTS FY:				
2025	\$ 3,015	\$ 479	\$ 4	\$ 475
2026	3,096	491	4	487
2027	3,181	500	4	496
2028	3,248	506	4	502
2029	3,290	511	4	507
2030 to 2034	17,104	2,569	16	2,553

\*Under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, a federal subsidy is provided to sponsors of retiree healthcare benefit plans that provide a benefit at least actuarially equivalent to the benefit established by law. Generally, the Department has reflected the impact of the subsidy as a reduction to the employers' cost of the benefits.

**Explanation of Significant Gains and Loss Related to Changes in the Benefit Obligation** – The Department's FY 2024 net costs and unfunded liability estimates increased by \$0.7 billion for contractor pension plans and increased by \$0.4 billion for contractor PRB plans. The most significant component of the change in the contractor pension plan net costs and liabilities resulted from (1) a decrease to the rate used to discount liabilities and (2) different asset returns than expected. The 80 basis point decrease in the discount rate increased the unfunded liability by approximately \$4.4 billion, and asset returns being different than expected decreased the unfunded liability by \$4.0 billion. The most significant components of the change in contractor PRB net costs and liabilities resulted from a decrease in the rate used to discount the liability to present value. The 80 basis point decrease in the discount rate increased the unfunded liability by approximately \$0.5 billion. This was offset slightly by significant changes in the PRB net costs and liabilities due to (1) assumption changes for per capita claims and medical trends, totaling a decrease of \$0.1 billion and (2) actual demographic experience, totaling a decrease of \$0.1 billion. The discount rate is based on the yields of high-quality fixed income securities as of September 30, 2024, and September 30, 2023.

## FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

The following chart shows the average target allocation for the 32 pension benefit plans and five other postretirement benefit plans with assets. The weighted average actual FY 2024 and FY 2023 allocations of assets are also shown.

	PENSION BENEFITS			OTHER POSTRETIREMENT BENEFITS		
	TARGET ALLOCATION	PERCENT OF PLAN ASSETS AT END FY 2024	PERCENT OF PLAN ASSETS AT END FY 2023	TARGET ALLOCATION	PERCENT OF PLAN ASSETS AT END FY 2024	PERCENT OF PLAN ASSETS AT END FY 2023
Cash and Equivalents	3.3 %	4.4 %	3.0 %	0.2 %	0.2 %	0.1 %
U.S. Government Bonds	10.5 %	9.8 %	8.0 %	3.1 %	3.1 %	3.3 %
State and Municipal Government Bonds	0.2 %	0.2 %	0.2 %	0.6 %	0.6 %	0.8 %
Foreign Government Bonds	0.5 %	0.6 %	0.4 %	0.0 %	0.0 %	0.0 %
High-Yield Corporate Bonds	2.2 %	1.0 %	1.0 %	0.0 %	0.0 %	0.0 %
Corporate Bonds Other Than High-Yield	18.7 %	21.2 %	20.0 %	3.7 %	3.7 %	3.1 %
Domestic Equities	19.6 %	15.9 %	16.1 %	2.9 %	2.9 %	2.1 %
International Equities	14.8 %	10.9 %	12.6 %	1.4 %	1.4 %	1.1 %
Real Estate Investment Funds	6.4 %	4.9 %	6.3 %	0.0 %	0.0 %	0.0 %
Other Real Estate	0.3 %	0.3 %	0.4 %	0.0 %	0.0 %	0.0 %
Mortgage-Backed Securities	0.7 %	0.6 %	0.5 %	0.6 %	0.6 %	0.3 %
Asset-Backed Commercial Paper	0.2 %	0.1 %	0.0 %	0.0 %	0.0 %	0.0 %
Bonds/Notes Issued by Structured Investment Vehicles	0.4 %	0.3 %	0.2 %	0.0 %	0.0 %	0.0 %
Derivatives, Including Collateralized Debt Obligations and Credit Default Swaps	0.1 %	0.1 %	0.1 %	4.1 %	4.1 %	3.7 %
Private Investment Funds, Including Hedge Funds	3.8 %	4.6 %	5.4 %	0.0 %	0.0 %	0.0 %
Insurance Contracts (General Accounts)	0.1 %	0.2 %	0.2 %	77.2 %	77.2 %	79.0 %
Insurance Contracts (Separate Accounts)	0.8 %	0.0 %	0.0 %	6.1 %	6.1 %	6.4 %
Employer Securities	0.4 %	0.5 %	0.5 %	0.0 %	0.0 %	0.0 %
Aggregate Bond Index, Long Bond Index	1.6 %	0.9 %	0.8 %	0.0 %	0.0 %	0.0 %
Other	15.4 %	23.5 %	24.3 %	0.1 %	0.1 %	0.1 %
<b>Total</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>

Each contractor develops its own investment policies and strategies for the plans it sponsors. Therefore, there is no one overall investment policy for the contractor plans.

Generally, their objectives provide for benefit security for plan participants through the maximization of total returns while limiting risk and providing liquidity coverage of benefit payments.



# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

The following chart shows the allocation of the assets for FY 2024 and FY 2023 among the levels in the fair value hierarchy and net asset values (NAV) as a practical expedient for the pension benefit plans with assets. The allocation of assets among the fair value hierarchy reflects the implementation of *Accounting Standards Update* (ASU) No. 2015-07 for reporting investments using the net asset value per share (or its equivalent) as a practical expedient, as applicable.

(\$ IN MILLIONS)			QUOTED PRICES IN ACTIVE MARKETS FOR IDENTICAL ASSETS		SIGNIFICANT OBSERVABLE INPUTS		SIGNIFICANT UNOBSERVABLE INPUTS		NET ASSET VALUE, AS A PRACTICAL EXPEDIENT			
	ASSET CLASS		TOTAL		LEVEL 1		LEVEL 2		LEVEL 3		NAV	
	FY 2024	FY 2023	FY 2024	FY 2023	FY 2024	FY 2023	FY 2024	FY 2023	FY 2024	FY 2023		
Cash and Equivalents	\$ 1,969	\$ 1,192	\$ 212	\$ 442	\$ 1,317	\$ 466	\$ —	\$ —	\$ 440	\$ 284		
U.S. Government Bonds	4,429	3,212	1,680	1,215	2,263	1,167	—	—	486	830		
State and Municipal Government Bonds	106	97	—	—	105	96	—	—	1	1		
Foreign Government Bonds	286	177	73	55	152	75	—	—	61	47		
High-Yield Corporate Bonds	472	418	23	5	156	162	—	—	293	251		
Corporate Bonds Other Than High-Yield	9,558	8,039	600	575	6,182	5,080	—	—	2,776	2,384		
Domestic Equities	7,183	6,442	2,856	2,743	641	1,104	—	—	3,686	2,595		
International Equities	4,934	5,069	1,125	1,011	267	390	—	—	3,542	3,668		
Real Estate Investment Funds	2,188	2,522	2	1	—	—	—	3	2,186	2,518		
Other Real Estate	148	156	—	—	—	—	76	80	72	76		
Mortgage-Backed Securities	279	218	3	3	200	144	1	1	75	70		
Asset-Backed Commercial Paper	63	19	—	—	—	—	—	—	63	19		
Bonds/Notes Issued by Structured Investment Vehicles	129	72	—	—	—	—	—	—	129	72		
Derivatives	44	37	2	(18)	12	17	—	—	30	38		
Private Investment Funds	2,096	2,162	—	—	—	—	7	17	2,089	2,145		
Insurance Contracts (General Accounts)	79	80	—	—	1	1	78	79	—	—		
Insurance Contracts (Separate Accounts)	19	20	—	—	19	20	—	—	—	—		
Employer Securities	236	212	236	212	—	—	—	—	—	—		
Aggregate Bond Index, Long Bond Index	389	333	—	—	389	333	—	—	—	—		
Other	10,466	9,628	(21)	(326)	55	119	104	95	10,328	9,741		
Total Assets	\$ 45,073	\$ 40,105	\$ 6,791	\$ 5,918	\$ 11,759	\$ 9,174	\$ 266	\$ 275	\$ 26,257	\$ 24,739		

# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

The following chart shows the reconciliation of the Level 3 assets for FY 2024 and FY 2023 for the pension benefit plans with assets.

(\$ IN MILLIONS)	FY 2024					
	REAL ESTATE INVESTMENT FUNDS	OTHER REAL ESTATE	PRIVATE INVESTMENT FUNDS	INSURANCE CONTRACTS (GENERAL ACCOUNTS)	OTHER	TOTAL
Beginning Balance	\$ 3	\$ 80	\$ 17	\$ 79	\$ 95	\$ 274
Actual Return on Plan Assets:						
Relating to Assets Still Held at the Reporting Date	—	(9)	(14)	1	(2)	(24)
Relating to Assets Sold During the Period	—	—	(1)	(1)	12	10
Purchases, Sales, and Settlements	—	7	(2)	(1)	10	14
Transfers In and/or Out of Level 3	(3)	—	7	—	(19)	(15)
Other	—	(3)	—	—	10	7
<b>Ending Balance</b>	<b>\$ —</b>	<b>\$ 75</b>	<b>\$ 7</b>	<b>\$ 78</b>	<b>\$ 106</b>	<b>\$ 266</b>
	FY 2023					
	REAL ESTATE INVESTMENT FUNDS	OTHER REAL ESTATE	PRIVATE INVESTMENT FUNDS	INSURANCE CONTRACTS (GENERAL ACCOUNTS)	OTHER	TOTAL
Beginning Balance	\$ 2	\$ 70	\$ 59	\$ 81	\$ 94	\$ 306
Actual Return on Plan Assets:						
Relating to Assets Still Held at the Reporting Date	(1)	7	—	—	(5)	1
Relating to Assets Sold During the Period	—	—	5	(1)	—	4
Purchases, Sales, and Settlements	2	11	14	(1)	7	33
Transfers In and/or Out of Level 3	—	(4)	(59)	—	(12)	(75)
Other	—	(4)	(2)	—	11	5
<b>Ending Balance</b>	<b>\$ 3</b>	<b>\$ 80</b>	<b>\$ 17</b>	<b>\$ 79</b>	<b>\$ 95</b>	<b>\$ 274</b>

Pension assets included in Level 1 of the fair value hierarchy are valued daily based on quoted prices in active markets. Assets included in Level 2 are valued using significant observable inputs other than quoted prices in active markets. U.S. Government Bonds and Corporate Bonds included in Level 2 assets are generally part of collective investment funds valued at the net asset values of the commingled funds based on the quoted prices of the underlying investments as a readily determinable fair value that is published by investors and is the basis for current transactions or valued based on other observable inputs such as market indices or other comparable investments. Other bonds in these categories are valued based on interest rates and yield curves observable at commonly quoted intervals or at bid evaluation prices for securities traded on over-the-counter markets as provided by independent pricing vendors. Domestic and International Equities included in Level 2 assets are generally part of collective investment funds valued at the net asset values of the commingled funds based on the quoted prices of the underlying investments as a readily determinable fair value that is published by investors and is the basis for current transactions. Assets included in Level 3 are valued using significant unobservable inputs. Private Investment Funds and Real Estate Funds included in Level 3 assets are generally priced by the fund general partners or investment managers, verified by independent third-party appraisers, and audited by independent auditing firms. The actual market values are generally determinable by investment managers and verified by third parties, or by negotiations between independent parties pursuant to sales transactions. Assets held in Life Insurance Company General Accounts under Level 3 are generally credited guaranteed interest rates under the contracts or are valued based on the values of the underlying asset holdings of the accounts.

There are two pension plans that have securities of the employer or related parties included in the plan assets. No assets are expected to be returned to the employers during the next fiscal year.

The \$125 million of assets in the five other postretirement benefit plans include \$96 million of investments in insurance contracts (General Accounts) of which \$59 million is valued using significant unobservable inputs (Level 3). The balance of the Level 3 insurance contracts decreased by \$7 million during FY 2024 from \$66 million to \$59 million. Assets held in Life Insurance Company General and Separate Accounts under Levels 2 and 3 of the fair value hierarchy are generally credited guaranteed interest rates based on customized fixed-income indices.

## FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

The remaining assets in the other postretirement benefit plans are invested in asset classes similar to the assets of the pension plans. None of the other assets in the other postretirement benefit plans were valued using unobservable inputs, and none were valued based on the net asset value as a practical expedient of fair value.

Some of the Department's contractor plan assets are invested in investment funds, which are recorded based on the NAV per share, or its equivalent, and reported by the underlying funds without further adjustment, as a practical expedient of fair value.

Generally, the fair value of the investment in a privately offered investment fund represents the amount that the investor could reasonably expect to receive from the investment fund if the investment is withdrawn at the measurement date based on the NAV. These investments are redeemable at NAV under ordinary terms of the agreements and based on the operation of the underlying funds. However, it is possible that these redemption rights may be restricted or eliminated by the funds in the future in accordance with the underlying fund agreements. The terms of any fund agreements may vary by contractor.

### Note 18. Leases

(\$ IN MILLIONS)			
FISCAL YEAR 2024	PRINCIPAL	INTEREST	TOTAL
<b>Future Right-To-Use Lease Payments:</b>			
2025	202	39	241
2026	142	31	173
2027	143	26	169
2028	114	20	134
2029	83	16	99
2030-2034	266	42	308
2035-2039	49	13	62
2040-2044	21	5	26
2045 and After	15	3	18
<b>Total Right-To-Use Future Lease Payments</b>	<b>\$ 1,035</b>	<b>\$ 195</b>	<b>\$ 1,230</b>

(\$ IN MILLIONS)		FY 2024
<b>Right-To-Use Lease Expenses</b>		
Interest		\$ 42
Amortization <a href="#">(Note 8)</a>		202
<b>Total Right-To-Use Lease Expenses</b>		<b>\$ 244</b>

(\$ IN MILLIONS)		FY 2024
<b>Summary of Intragovernmental Leases</b>		
Buildings and Structures		\$ 153
Vehicles and Equipment		43
<b>Total Expenses</b>		<b>\$ 196</b>

Beginning in 2024, SFFAS 54, *Leases*, requires the adoption of new lease accounting standards as a prospective change in accounting principle and new note disclosure for RTU leases and intragovernmental leases. An RTU lease includes an asset and a lease liability for non-intragovernmental, non-short-term contracts or agreements, when the entity has the right to obtain and control access to economic benefits or services from an underlying PP&E asset for a period of time in exchange for consideration under the terms of the contract or agreement. DOE has established a RTU lease capitalization threshold of \$5 million. DOE's RTU leases are predominately for buildings and office spaces. The discount rates used to calculate the lease liability range from 3.8%-6.07%.

At the lease commencement date, lease RTU assets (see [Note 8](#)) and other liabilities (see [Note 15](#)) are recorded based upon the discounted present value of lease payments over the lease terms, including initial direct costs for non-intragovernmental, non-short-term contracts, or agreements if they meet the Department's RTU lease capitalization threshold. For RTU leases not meeting this threshold, the leases are expensed like short-term leases.

## FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

BPA follows FASB ASC 842 Leases. In FY 2024, BPA reclassified approximately \$2 billion in capital leases to other general PP&E, and other liabilities (see [Note 15](#)).

### Note 19. Contingencies and Commitments

(\$ IN MILLIONS)	FY 2024	FY 2023
Unfunded Contingencies <a href="#">(Note 11)</a>		
Spent Nuclear Fuel Litigation	\$ 37,561	\$ 34,145
Other	170	76
<b>Subtotal</b>	<b>\$ 37,731</b>	<b>\$ 34,221</b>
Funded Contingencies		
Other	—	—
<b>Total Contingencies</b>	<b>\$ 37,731</b>	<b>\$ 34,221</b>

	ACCRUED LIABILITIES	ESTIMATED RANGE OF LOSS		ACCRUED LIABILITIES	ESTIMATED RANGE OF LOSS	
		LOWER END	UPPER END		LOWER END	UPPER END
(\$ IN MILLIONS)		FY 2024			FY 2023	
<b>Legal Contingencies:</b>						
Probable	\$ 37,580	\$ 37,580	\$ 44,517	\$ 34,164	\$ 34,164	\$ 41,052
Reasonably Possible	—	560	2,650	—	60	150
<b>Environmental Contingencies:</b>						
Probable	92	92	92	—	—	—
Reasonably Possible	—	85	220	—	113	142
<b>Other Contingencies:</b>						
Probable	59	59	59	57	57	57
Reasonably Possible	—	—	—	—	—	—
<b>Total Contingencies</b>	<b>\$ 37,731</b>	<b>\$ 38,376</b>	<b>\$ 47,538</b>	<b>\$ 34,221</b>	<b>\$ 34,394</b>	<b>\$ 41,401</b>

The Department is a party in various administrative proceedings, legal actions, and tort claims, which may ultimately result in settlements or decisions adverse to the federal government. The Department has accrued contingent liabilities where losses are determined to be probable and the amounts can be estimated. Other significant contingencies exist where a loss is reasonably possible or where the loss is probable and an estimate cannot be determined. In some cases, a portion of any loss that may occur may be paid from Treasury's Judgment Fund and reported as Costs Not Assigned (see [Note 22](#)).

The Judgment Fund is a permanent, indefinite appropriation available to pay judgments against the government. The following are significant contingencies:

#### SPENT NUCLEAR FUEL LITIGATION

In accordance with the NWPA, the Department entered into more than 69 standard contracts with utilities in which, in return for payment of fees into the NWF, the Department agreed to begin disposal of SNF by January 31, 1998. Because the Department has no facility available to receive SNF under the NWPA, it has been unable to begin disposal of the utilities' SNF as required by the contracts. Significant litigation claiming damages for partial breach of contract has ensued as a result of this delay.

To date, 44 suits have been settled involving utilities that collectively own 85% of the nuclear reactors subject to litigation for partial breach of contract. Under the terms of the settlements, the Judgment Fund, 31 U.S.C. 1304, paid \$8.4 billion as of September 30, 2024, to the settling utilities for delay damages they have incurred through September 30, 2024. In addition, 77 cases have been resolved by 69 final unappealable judgments and eight voluntary withdrawals with no damages. Eight of the unappealable judgments resulted in an award of no damages by the trial court and the 61 remaining cases resulted in a total of \$2.7 billion in damages that have been paid by the Judgment Fund as of September 30, 2024. An additional 13 cases remain pending in the Court of Federal Claims. Liability is probable in these cases, and in many of these cases orders have already been entered establishing the government's liability and the only outstanding issue to be litigated is the amount of damages to be awarded.

The Department uses settlements as the basis for estimating the government's aggregate SNF litigation. The Department's SNF litigation liability is updated to include the effects of final judgments and settlements as well as payments to date from the Judgment Fund. Additional payments under these settled and adjudicated cases may be made if the utilities incur additional costs resulting from the Department's delay in acceptance of SNF.

The Department believes its assumptions and methodology provide a reasonable basis for the contingent liability estimate. Based on these settlement estimates, the total liability estimate as of September 30, 2024, was in the range of between \$48.7 billion and \$55.6 billion. After deducting the cumulative amount paid of \$11.1 billion as of September 30, 2024, under these settlements and as a result of final judgments, the remaining liability is estimated to be in the range of between \$37.6 billion and \$44.5 billion. A key input to the estimate is the duration that each operating reactor will continue to operate. Given that a longer operating duration results in an increased amount of SNF generated, a longer operating duration also increases liability. Currently, most reactors are licensed to operate for 60 years. NRC may also grant a subsequent license renewal, which would extend a license by 20 years, for a total of 80 years. The liability estimate reflects a range of possible scenarios regarding the duration reactors will continue to operate. The Department has recognized as a liability the low end of that range. Under current law, any damages or settlements in this litigation will be paid out of the Judgment Fund. The Department's contingent liability estimate for SNF litigation is reported net of amounts paid to date from the Judgment Fund.

Under the Nuclear Waste Disposal Appropriation account, Congress appropriated \$20 million for both FY 2021 and FY 2022 for the Department to proceed with planning a consent-based approach to federal consolidated interim storage. Accordingly, the Department completed planning activities for a consent-based approach to site one or more federal consolidated interim storage facilities in the near term, which would be followed by a disposal facility some years after. For FY 2023 and FY 2024, Congress appropriated \$53 million and \$55 million, respectively, for NE's Integrated Waste Management System (IWMS) subprogram within the Fuel Cycle R&D program. The appropriations covered ongoing IWMS activities and also reflected funding for federal consolidated interim storage activities that were previously funded under the Nuclear Waste Disposal Appropriation account, as well as a ramp-up in activities to develop a consent-based process for federal consolidated interim storage.

Given that the Department intends to fulfill its contractual obligations upon the acceptance of SNF and HLW for transport from the reactor facilities, a preliminary operational date of federal consolidated interim storage is factored into the liability calculation. The liability estimate is contingent upon Congress providing adequate ongoing appropriations and amending the NWPA. While the consent-based process is adaptive and further actions are required by Congress, this is the best information available upon which to base the liability estimate. Future determinations on how the Department will meet its obligations under the standard contracts and litigation outcomes could materially decrease or increase the SNF litigation liability.

#### **ALLEGED EXPOSURES TO RADIOACTIVE AND/OR TOXIC SUBSTANCES**

A number of class action and/or multiple plaintiff tort suits have been filed against current and former DOE contractors in which the plaintiffs seek damages for alleged exposures to radioactive and/or toxic substances as a result of the historic operations of the Department's nuclear facilities. The most significant of these cases arise out of operations of the facilities at Brookhaven, New York. Collectively, in these cases, damages of \$1.2 billion are currently sought by the plaintiffs. However, the Department believes that if any damages are ultimately awarded, the amounts would be significantly less than what the plaintiffs seek.

In the Brookhaven litigation, two class action cases, *Osarczuk v. Associated Universities and Tarzia v. Associated Universities (AUI)*, were filed in which residents and property owners near BNL asserted claims for negligence, gross negligence, abnormally dangerous activity, and private nuisance and sought damages, primarily for air and groundwater contamination, as a result of the release of hazardous substances stemming from lab operations. In addition, one toxic tort case, *McGowan, et al. v. AUI*, was filed in which a former worker at BNL asserted claims for negligence, abnormally dangerous activity, gross negligence, and loss of consortium and sought damages as a result of the release of Trichloroethylene stemming from lab operations. In *Osarczuk*, the parties have settled all of the cases in the first cohort of 20 bellwether cases and all of the cases in the second cohort of 20 bellwether cases. In addition to the 18 bellwether plaintiff groups, there are 35 remaining bellwether groups in this action. Settlement offers for the third cohort were exchanged, but no agreements were reached. AUI filed individual motions for summary judgment against the remaining plaintiffs, and the parties filed a stipulation to extend the time to prepare opposition and reply papers. On March 17, 2022, the trial court granted the defense motions for summary judgment, dismissing all remaining cases. On March 31, 2022, plaintiffs filed a notice of appeal. On April 18, 2022, plaintiffs filed a motion for leave with the trial court to re-argue the court's decision granting summary judgment. On September 16, 2022, the Appellate Division granted plaintiffs' application to extend the time to perfect the appeal to October 31, 2022. On September 19, 2023, the trial court denied plaintiffs' motion. On October 17, 2023, plaintiffs filed a notice of appeal of the trial court's September 19, 2023, order. Neither the trial court nor the Appellate Division have yet issued dispositive rulings on plaintiffs' recent filings. In *Tarzia*, the plaintiffs filed on April 6, 2018, with the Appellate Division of the New York Supreme Court, a notice of appeal of the trial court's February 22, 2018, Order granting AUI's motion to dismiss with prejudice the plaintiffs' complaint in this action for failure to prosecute, after the plaintiffs failed to comply with the judge's earlier Order requiring them to serve their responses to AUI's discovery demands. The plaintiffs failed to perfect that appeal, and the Appellate Division dismissed the appeal. The plaintiffs subsequently filed an appeal brief with the Appellate Division. On September 23, 2020, the Appellate Division issued an opinion affirming the trial court. Plaintiffs filed a motion with the Appellate Division seeking re-argument, which the Appellate Division denied. Then on May 6, 2021, the New York City Court of Appeals dismissed plaintiffs' motion for leave to appeal. In *McGowan*, a complaint was filed on May 19, 2020, and AUI responded to the complaint on February 19, 2021. The case is in discovery.

#### **HANFORD SITE NATURAL RESOURCES DAMAGES**

The Confederated Tribes of the Yakama Nation filed suit in September 2002 against DOE and DOD, alleging natural resources damages in the 1100 area of the Hanford site. The Yakama Nation has since amended its complaint to add the 100 and 300 areas to the suit, alleging additional natural resources damages. In addition, the states of Washington and Oregon, as well as the Confederated Tribes of the Umatilla and the Nez Perce Tribe, have joined the suit. Two of the four claims have been settled, the third claim remains stayed, and the fourth has been dismissed. The government



reimbursed the Yakama Nation for its past response costs under claim one of the complaint. Under the settlement for claim two, the Trustees use the Trustee Council's administrative process to conduct a natural resource damage assessment through consensus activities, and DOE provides funding as appropriate through discretionary financial assistance agreements. Claim three, which seeks natural resource damages recovery, remains stayed, until the issue of resource damages (if any) is resolved. Claim four was dismissed. The case is still pending.

#### **LOS ALAMOS ENVIRONMENTAL CLEAN-UP COMPLIANCE**

Nuclear Watch New Mexico (NWNM) filed suit in May 2016 in the U.S. District Court for the District of New Mexico against DOE and Los Alamos National Security, LLC (LANS), the operating contractor for LANL, pursuant to the citizen suit provision of the RCRA. Nuclear Watch alleges that DOE and LANS are in violation of a Compliance Order on Consent entered into in 2005 between the New Mexico Environment Department (NMED), DOE, and LANS, which established various milestones for environmental cleanup activity at Los Alamos. A new Compliance Order on Consent between DOE and NMED was entered into in June 2016, shortly after Nuclear Watch filed its lawsuit, which explicitly supersedes the 2005 order. In its complaint, Nuclear Watch sought declaratory and injunctive relief to bring DOE and LANS into compliance with the 2005 order and sought civil penalties under RCRA, which Nuclear Watch estimated to total up to \$300 million. NMED intervened as a defendant, and Nuclear Watch twice amended its complaint. In late 2016, the defendants moved to dismiss the suit. In July 2018, the district court granted the motions to dismiss in part, dismissing all claims for declaratory and injunctive relief, but denied the motions to dismiss with respect to claims seeking civil penalties for alleged past violations. All parties filed cross-motions for summary judgment, which the court denied for Nuclear Watch and DOE but granted for LANS in November 2019. The parties commenced discovery and continued settlement discussions. The parties informed the court of a settlement agreement in principle. A status conference was held on October 5, 2021 and the parties continue to work toward finalizing a settlement. In February 2022, the parties fully executed a settlement agreement, which requires DOE to undertake certain environmental-related projects over the coming years. On March 17, 2022, the district court administratively closed the case at the parties' request and further ordered DOE to submit status reports at six-month intervals on the progress of its settlement performance. On September 16, 2022, DOE submitted its first status report noting DOE's ongoing compliance with the settlement agreement. On March 17, 2023, DOE submitted its second status report noting DOE's ongoing compliance with the settlement agreement. On September 15, 2023, DOE submitted its third status report noting DOE's ongoing compliance with the settlement agreement. On October 10, 2023, DOE and NWNM executed a minor amendment to the attachment to the settlement agreement pertaining to one of the environmental-related projects. On March 15, 2024, DOE submitted its fourth status report, noting certain challenges with two of the environmental-related projects provided for in the settlement agreement, and that DOE and NWNM were negotiating appropriate modifications to the settlement agreement to address those challenges. On September 16, 2024, DOE submitted its fifth status report, in which DOE noted that it remains in discussions with NWNM about modifications to the settlement agreement.

#### **21st CENTURY CENTENNIAL INS. CO., et al. v. BONNEVILLE POWER ADMINISTRATION, LANE ELECTRIC COOPERATIVE (LEC), AND EUGENE WATER & ELECTRIC BOARD (EWEB)**

Over the Labor Day holiday weekend in September 2020, what became known as the Holiday Farm Fire (HFF) started in the vicinity of Eugene, Oregon. The fire burned over 170,000 acres, causing property damage, personal injuries, and one known death. As a result of the HFF, and pursuant to the requirements of the Federal Tort Claims Act (FTCA), BPA received more than 2,000 administrative tort claims, totaling more than \$2 billion. Plaintiffs alleged that BPA had a duty to operate, monitor, maintain, and repair its electric utility infrastructures to ensure that it did not cause fires. Plaintiffs allege the duty required BPA to deenergize its power lines during the dry and windy conditions when the HFF started. Plaintiffs also allege that BPA breached its duty by failing to remove vegetation that impacted power lines and led to the HFF. Plaintiffs allege that two BPA electric utility customers, LEC and EWEB, also breached a duty of care and thereby caused the Holiday Farm Fire. They are codefendants in the lawsuit. In January and February of 2024, three separate suits under the FTCA were filed in the United States District Court for the District of Oregon. The cases have been consolidated. On August 2, 2024, the United States moved to dismiss the lawsuits because it is protected by discretionary immunity. Any monetary amount awarded to the plaintiffs would be the responsibility of and disbursed from the Treasury's Judgement Fund. BPA has no financial liability for these tort claims.

#### **KEVIN ALLARD, et al. v UNITED STATES**

The complaint is based on the same operative facts as the claims under the FTCA in the 21st Century case discussed above. Plaintiffs allege the HFF resulted in takings of their property without just compensation that are compensable under the Fifth Amendment of the United States Constitution.

#### **PADUCAH AND PORTSMOUTH NATURAL RESOURCE DAMAGES**

As a result of releases of hazardous substances at the Paducah and Portsmouth sites, the states of Ohio and Kentucky have potential claims against DOE under the CERCLA for damages to natural resources, e.g., groundwater, caused by such releases.

At the Paducah site, Kentucky has indicated that it desires a "tolling" agreement with respect to potential claims for natural resource damages. A tolling agreement would suspend the statute of limitations for the filing of the state's claims for a mutually agreeable period of time. As of September 30, 2024, Kentucky has not pursued executing a tolling agreement. It is possible that DOE will be liable for some natural resource damages at this site. DOE is unable to prepare an estimate of such damages and has not included a provision for damages in the consolidated financial statements.

At the Portsmouth site, DOE and Ohio EPA have executed a Director's Final Findings and Order settling the claims for natural resource damages. DOE will continue discussions with the remaining federal trustees to resolve any potential claims for natural resource damages to be pursued by them.

#### **PURCHASE POWER AND TRANSMISSION COMMITMENTS AND IRRIGATION ASSISTANCE**

The PMAs have entered into commitments to sell expected generation for future dates. When the PMAs forecast a resource shortage, they take a variety of operational and business steps to cover a potential shortage including entering into power purchase commitments. If appropriate, the PMAs will enter into long-term commitments to purchase power for future delivery. The PMAs record expenses associated with these purchases in the periods that power is received.

As directed by law, WAPA is required to establish rates sufficient to make cash distributions to the Treasury for the portion of BOR's original capital construction costs allocated to irrigation purposes, which were determined by the Secretary of the Interior to be beyond the ability of the irrigation customers to pay. These irrigation distributions do not specifically relate to power generation. In establishing power rates, particular statutory provisions guide the assumptions that WAPA make as to the amount and timing of such distributions. As a result, WAPA includes a schedule of irrigation assistance costs in each respective power system's power repayment study to demonstrate repayment of principal within the allowable repayment period. These repayment amounts do not incur or accumulate interest from the date that BOR determines the irrigators' inability to pay. Future WAPA irrigation assistance payments are scheduled to total \$780 million to the General Fund and \$695 million to the Reclamation Fund.

Although these repayments will be recovered through power sales, they do not represent an operating cost of the individual power systems nor a liability on the consolidated balance sheets until the due date established by the Secretary of Interior.

The following table summarizes future purchase power and transmission commitments and irrigation assistance. The table includes firm purchase power agreements of known costs that are currently in place to assist in meeting expected future obligations under long-term power sales contracts. BPA has several power purchase agreements with wind-powered and other generating facilities that are not included in the table below as payments are based on the variable amount of future energy generated and as such no minimum payments required. The irrigation assistance table does not include WAPA's future irrigation assistance of \$695 million due to the Reclamation Fund since the Reclamation Fund is a component of WAPA and eliminated upon combination.

(\$ IN MILLIONS)	POWER AND TRANSMISSION (ALL PMAs)	IRRIGATION ASSISTANCE (WAPA)
FISCAL YEAR		
2025	152	106
2026	123	18
2027	73	—
2028	75	—
2029	78	1
2030+	136	655
<b>Total</b>	<b>\$ 637</b>	<b>\$ 780</b>

#### **INTEGRATED FISH AND WILDLIFE PROGRAM**

The Northwest Power Act directs BPA to protect, mitigate, and enhance fish and wildlife and their habitats to the extent they are affected by the federal hydroelectric projects on the Columbia River and its tributaries from which BPA markets power. BPA makes expenditures and incurs other costs for fish and wildlife protection and mitigation that are consistent with the purposes of the Northwest Power Act and the Pacific Northwest Power and Conservation Council's Columbia River Basin Fish and Wildlife Program. In addition, certain fish and wildlife species that inhabit the Columbia River Basin are listed under the Endangered Species Act (ESA) as threatened or endangered. BPA makes expenditures and incurs other costs related to power purchases to comply with the ESA and implement certain biological opinions (BiOp) prepared by the National Oceanic and Atmospheric Administration Fisheries Service and the U.S. Fish and Wildlife Service in furtherance of the ESA, including results from the Columbia River System Operations (CRSO) Environmental Impact Statement. BPA's total commitment, including timing of payments under the Northwest Power Act, ESA, and BiOp, including CRSO Environmental Impact Statement impacts, is not fixed or determinable.

As of September 30, 2024, BPA has long-term fish and wildlife agreements with estimated contractual commitments of \$1.0 billion, which are likely to result in future expenses or regulatory assets. These agreements include the Columbia Basin Fish Accords, two non-accord long-term funding agreements with certain Tribal partners, and an agreement to fund certain Lower Snake River Compensation Plan (LSRCP) hatchery costs and other miscellaneous fish and wildlife agreements. BPA anticipates these agreements will result in future expenses or regulatory assets in the future as work progresses by the agreement partners in accordance with contractual terms.

**Columbia Basin Fish Accords**

BPA and its federal partners, USACE and BOR, have agreements with Accords partners, namely certain states and Tribes, for fish and wildlife protection and mitigation. 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 ESA, and that benefit Columbia River Basin fish and wildlife. As of September 30, 2024, existing accord agreements commit approximately \$502 million through September 30, 2025. In October 2024, BPA signed an extension to an existing accord agreement which commits an additional \$89 million through September 30, 2034. These accord agreements will result in future expenses or regulatory assets as work progresses by accord partners in accordance with contractual terms.

**Long-Term Funding Agreements**

In FY 2024, and as a result of commitments made in September 2023 P2IP Settlement Agreement, BPA signed two separate 10-year agreements with the Spokane Tribe of Indians and Coeur d'Alene Tribe to implement projects that promote the protection and restoration of fish and wildlife in the upper Columbia River Basin. Together these agreements originally committed approximately \$311 million, after adjustment for inflation, expire in 2033 and will result in future expenses or regulatory assets. As of September 30, 2024, approximately \$306 million is available under these agreements. BPA anticipates recording liabilities and associated expenses or regulatory assets related to these agreements in the future as work progresses by the agreement partners in accordance with contractual terms.

**U.S. Government Commitments in Support of the U.S. Fish and Wildlife Services for the Lower Snake River Compensation Plan**

Additionally, in December 2023 the United States (including BPA and other federal partners), the states of Washington and Oregon, the Confederates Tribes of the Warm Springs Reservation, the Nez Perce Tribe, and certain environmental non-profit organizations signed an agreement to further the restoration of native fish populations, while also providing reliable, affordable, and economic power and transmission. In connection with this agreement, BPA committed to make available \$200 million over 10 years to the U.S. Fish and Wildlife Service for LSRCP hatchery modernization, upgrades, and maintenance. The use of these funds is guided by the priorities of the fishery managers including the states and Tribal partners outlined above. BPA anticipates recording liabilities and associated regulatory assets related to these agreements in the future as work progresses by the state and Tribal partners in accordance with contractual terms.

## Note 20. Dedicated Collections

(\$ IN MILLIONS)	FY 2024						
	NUCLEAR WASTE FUND	D&D FUND	PMA's	OTHER	TOTAL (COMBINED)	ELIMINATIONS	TOTAL (CONSOLIDATED)
<b>BALANCE SHEET</b>							
<b>ASSETS</b>							
Intragovernmental:							
Fund Balance With Treasury	\$ 14	\$ 100	\$ 5,767	\$ 1,012	\$ 6,893	\$ —	\$ 6,893
Investments, Net	49,488	622	494	—	50,604	—	50,604
Accounts Receivable, Net	—	—	277	—	277	(90)	187
Loans Receivable, Net	—	—	3,418	—	3,418	(3,418)	—
Advances and Prepayments	—	1	3	—	4	(3)	1
<b>Total Intragovernmental Assets</b>	<b>\$ 49,502</b>	<b>\$ 723</b>	<b>\$ 9,959</b>	<b>\$ 1,012</b>	<b>\$ 61,196</b>	<b>\$ (3,511)</b>	<b>\$ 57,685</b>
Cash	—	—	2	—	2	—	2
Accounts Receivable, Net	2,691	—	634	15	3,340	—	3,340
Loans Receivable, Net	—	—	1	—	1	—	1
Inventory, Net	—	—	184	229	413	—	413
General Property, Plant, and Equipment, Net	—	21	12,254	740	13,015	—	13,015
Advances and Prepayments	—	—	78	—	78	—	78
Other Assets	—	—	12,199	—	12,199	—	12,199
<b>Total Assets</b>	<b>\$ 52,193</b>	<b>\$ 744</b>	<b>\$ 35,311</b>	<b>\$ 1,996</b>	<b>\$ 90,244</b>	<b>\$ (3,511)</b>	<b>\$ 86,733</b>
<b>LIABILITIES AND NET POSITION</b>							
Intragovernmental:							
Accounts Payable	\$ —	\$ —	\$ 124	\$ —	\$ 124	\$ (90)	\$ 34
Debt	—	—	9,487	—	9,487	(3,418)	6,069
Advances From Others and Deferred Revenue	—	—	4	—	4	(3)	1
Other Intragovernmental Liabilities	—	7	4,275	—	4,282	—	4,282
<b>Total Intragovernmental Liabilities</b>	<b>\$ —</b>	<b>\$ 7</b>	<b>\$ 13,890</b>	<b>\$ —</b>	<b>\$ 13,897</b>	<b>\$ (3,511)</b>	<b>\$ 10,386</b>
Accounts Payable	—	142	720	35	897	—	897
Federal Employee Salary, Leave, and Benefits Payable	1	—	88	—	89	—	89
Post Employment-Related Benefits	—	—	36	—	36	—	36
Environmental and Disposal Liabilities	—	30,049	34	—	30,083	—	30,083
Advances From Others and Deferred Revenue	52,179	—	2,291	7	54,477	—	54,477
Other Liabilities	—	18	9,343	53	9,414	—	9,414
<b>Total Liabilities</b>	<b>\$ 52,180</b>	<b>\$ 30,216</b>	<b>\$ 26,402</b>	<b>\$ 95</b>	<b>\$ 108,893</b>	<b>\$ (3,511)</b>	<b>\$ 105,382</b>
Unexpended Appropriations	13	—	12	11	36	—	36
Cumulative Results of Operations	—	(29,472)	8,897	1,890	(18,685)	—	(18,685)
<b>Total Liabilities and Net Position</b>	<b>\$ 52,193</b>	<b>\$ 744</b>	<b>\$ 35,311</b>	<b>\$ 1,996</b>	<b>\$ 90,244</b>	<b>\$ (3,511)</b>	<b>\$ 86,733</b>
<b>STATEMENT OF NET COST</b>							
Program Costs	\$ 15	\$ 5,106	\$ 6,237	\$ 234	\$ 11,592	\$ (849)	\$ 10,743
Less Earned Revenues	(13)	(332)	(6,335)	(566)	(7,246)	849	(6,397)
<b>Net Program Costs</b>	<b>\$ 2</b>	<b>\$ 4,774</b>	<b>\$ (98)</b>	<b>\$ (332)</b>	<b>\$ 4,346</b>	<b>\$ —</b>	<b>\$ 4,346</b>
Costs Not Assigned	—	(13)	—	(3)	(16)	—	(16)
<b>Net Cost of Operations</b>	<b>\$ 2</b>	<b>\$ 4,761</b>	<b>\$ (98)</b>	<b>\$ (335)</b>	<b>\$ 4,330</b>	<b>\$ —</b>	<b>\$ 4,330</b>
<b>STATEMENT OF CHANGES IN NET POSITION</b>							
Unexpended Appropriations, Beginning Balance	\$ 19	\$ (3)	\$ 181	\$ 10	\$ 207	\$ —	\$ 207
Appropriations Received	—	—	—	7	7	—	7
Other Adjustments	—	—	—	—	—	—	—
Appropriations Used	(6)	3	(169)	(6)	(178)	—	(178)
<b>Unexpended Appropriations, Ending Balance</b>	<b>13</b>	<b>—</b>	<b>12</b>	<b>11</b>	<b>36</b>	<b>—</b>	<b>36</b>
Cumulative Results of Operations, Beginning Balance	\$ —	\$ (24,708)	\$ 9,094	\$ 1,646	\$ (13,968)	\$ —	\$ (13,968)
Appropriations Used	6	(3)	169	6	178	—	178
Intragovernmental Non-Exchange Revenue	—	—	—	—	—	—	—
Transfers - (in)/out Without Reimbursement	(4)	—	(590)	—	(594)	—	(594)
Donations and Forfeitures of Property	—	—	7	—	7	—	7
Imputed Financing	—	—	18	—	18	—	18
Other	—	—	101	(97)	4	—	4
<b>Net Cost of Operations</b>	<b>(2)</b>	<b>(4,761)</b>	<b>98</b>	<b>335</b>	<b>(4,330)</b>	<b>—</b>	<b>(4,330)</b>
<b>Cumulative Results of Operations, Ending Balance</b>	<b>\$ —</b>	<b>\$ (29,472)</b>	<b>\$ 8,897</b>	<b>\$ 1,890</b>	<b>\$ (18,685)</b>	<b>\$ —</b>	<b>\$ (18,685)</b>
<b>Net Position, End of Period</b>	<b>\$ 13</b>	<b>\$ (29,472)</b>	<b>\$ 8,909</b>	<b>\$ 1,901</b>	<b>\$ (18,649)</b>	<b>\$ —</b>	<b>\$ (18,649)</b>

# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

## Dedicated Collections (continued)

(\$ IN MILLIONS)	FY 2023						
	NUCLEAR WASTE FUND	D&D FUND	PMA's	OTHER	TOTAL (COMBINED)	ELIMINATIONS	TOTAL (CONSOLIDATED)
<b>BALANCE SHEET</b>							
<b>ASSETS</b>							
Intragovernmental:							
Fund Balance With Treasury	\$ 21	\$ 100	\$ 5,379	\$ 1,057	\$ 6,557	\$ —	\$ 6,557
Investments, Net	47,689	1,105	1,598	—	50,392	—	50,392
Accounts Receivable, Net	—	—	247	—	247	(67)	180
Loans Receivable, Net	—	—	3,138	—	3,138	(3,138)	—
Advances and Prepayments	—	1	3	—	4	(3)	1
<b>Total Intragovernmental Assets</b>	<b>\$ 47,710</b>	<b>\$ 1,206</b>	<b>\$ 10,365</b>	<b>\$ 1,057</b>	<b>\$ 60,338</b>	<b>\$ (3,208)</b>	<b>\$ 57,130</b>
Cash	—	—	129	—	129	—	129
Accounts Receivable, Net	2,550	—	537	5	3,092	—	3,092
Loans Receivable, Net	—	—	1	—	1	—	1
Inventory, Net	—	—	158	202	360	—	360
General Property, Plant, and Equipment, Net	—	9	11,516	480	12,005	—	12,005
Advances and Prepayments	—	—	65	—	65	—	65
Other Assets	—	—	12,384	—	12,384	—	12,384
<b>Total Assets</b>	<b>\$ 50,260</b>	<b>\$ 1,215</b>	<b>\$ 35,155</b>	<b>\$ 1,744</b>	<b>\$ 88,374</b>	<b>\$ (3,208)</b>	<b>\$ 85,166</b>
<b>LIABILITIES AND NET POSITION</b>							
Intragovernmental:							
Accounts Payable	\$ —	\$ —	\$ 115	\$ —	\$ 115	\$ (67)	\$ 48
Debt	—	—	9,031	—	9,031	(3,138)	5,893
Advances From Others and Deferred Revenue	—	—	5	—	5	(3)	2
Other Intragovernmental Liabilities	—	6	4,473	—	4,479	—	4,479
<b>Total Intragovernmental Liabilities</b>	<b>\$ —</b>	<b>\$ 6</b>	<b>\$ 13,624</b>	<b>\$ —</b>	<b>\$ 13,630</b>	<b>\$ (3,208)</b>	<b>\$ 10,422</b>
Accounts Payable	—	132	724	29	885	—	885
Federal Employee Salary, Leave, and Benefits Payable	—	—	79	—	79	—	79
Post Employment-Related Benefits	—	—	35	—	35	—	35
Environmental and Disposal Liabilities	—	25,769	34	—	25,803	—	25,803
Advances From Others and Deferred Revenue	50,241	—	1,874	5	52,120	—	52,120
Other Liabilities	—	19	9,510	54	9,583	—	9,583
<b>Total Liabilities</b>	<b>\$ 50,241</b>	<b>\$ 25,926</b>	<b>\$ 25,880</b>	<b>\$ 88</b>	<b>\$ 102,135</b>	<b>\$ (3,208)</b>	<b>\$ 98,927</b>
Unexpended Appropriations	19	(3)	181	10	207	—	207
Cumulative Results of Operations	—	(24,708)	9,094	1,646	(13,968)	—	(13,968)
<b>Total Liabilities and Net Position</b>	<b>\$ 50,260</b>	<b>\$ 1,215</b>	<b>\$ 35,155</b>	<b>\$ 1,744</b>	<b>\$ 88,374</b>	<b>\$ (3,208)</b>	<b>\$ 85,166</b>
<b>STATEMENT OF NET COST</b>							
Program Costs	\$ 15	\$ 760	\$ 6,114	\$ 184	\$ 7,073	\$ (564)	\$ 6,509
Less Earned Revenues	(12)	(636)	(6,232)	(1,590)	(8,470)	564	(7,906)
<b>Net Program Costs</b>	<b>\$ 3</b>	<b>\$ 124</b>	<b>\$ (118)</b>	<b>\$ (1,406)</b>	<b>\$ (1,397)</b>	<b>\$ —</b>	<b>\$ (1,397)</b>
Costs Not Assigned	—	15	—	(2)	13	—	13
<b>Net Cost of Operations</b>	<b>\$ 3</b>	<b>\$ 139</b>	<b>\$ (118)</b>	<b>\$ (1,408)</b>	<b>\$ (1,384)</b>	<b>\$ —</b>	<b>\$ (1,384)</b>
<b>STATEMENT OF CHANGES IN NET POSITION</b>							
Unexpended Appropriations, Beginning Balance	\$ 25	\$ —	\$ 166	\$ 9	\$ 200	\$ —	\$ 200
Appropriations Received	—	—	520	7	527	—	527
Other Adjustments	—	—	(1)	1	—	—	—
Appropriations Used	(6)	(3)	(504)	(7)	(520)	—	(520)
<b>Unexpended Appropriations, Ending Balance</b>	<b>19</b>	<b>(3)</b>	<b>181</b>	<b>10</b>	<b>207</b>	<b>—</b>	<b>207</b>
Cumulative Results of Operations, Beginning Balance	\$ —	\$ (25,189)	\$ 9,434	\$ 2,753	\$ (13,002)	\$ —	\$ (13,002)
Appropriations Used	6	3	504	7	520	—	520
Non-Exchange Revenue	—	—	—	6	6	—	6
Transfers - (in)/out Without Reimbursement	(3)	617	(513)	(618)	(517)	—	(517)
Donations and Forfeitures of Property	—	—	19	—	19	—	19
Imputed Financing	—	—	14	—	14	—	14
Other	—	—	(482)	(1,910)	(2,392)	—	(2,392)
<b>Net Cost of Operations</b>	<b>(3)</b>	<b>(139)</b>	<b>118</b>	<b>1,408</b>	<b>1,384</b>	<b>—</b>	<b>1,384</b>
<b>Cumulative Results of Operations, Ending Balance</b>	<b>\$ —</b>	<b>\$ (24,708)</b>	<b>\$ 9,094</b>	<b>\$ 1,646</b>	<b>\$ (13,968)</b>	<b>\$ —</b>	<b>\$ (13,968)</b>
<b>Net Position, End of Period</b>	<b>\$ 19</b>	<b>\$ (24,711)</b>	<b>\$ 9,275</b>	<b>\$ 1,656</b>	<b>\$ (13,761)</b>	<b>\$ —</b>	<b>\$ (13,761)</b>



**NUCLEAR WASTE FUND**

The NWPA requires the owners and generators of nuclear waste to pay their share of disposal costs into the NWF and, to that end, establishes a fee for electricity generated and sold by civilian nuclear power. A special fund within Treasury was created to account for the collection of those fees. Fees collected are invested in Treasury securities and any interest collected is available to pay expenditures related to radioactive waste disposal activities covered by the NWF. The NWPA requires preparation of annual financial statements. On March 9, 2024, the president signed into law the Consolidated Appropriations Act, 2024, which authorized \$12 million for nuclear waste disposal activities. The funds were derived from the NWF.

**DECONTAMINATION AND DECOMMISSIONING FUND**

The Energy Policy Act of 1992 established the D&D Fund to pay for the costs of decontamination and decommissioning of gaseous diffusion facilities through collection of revenues derived from domestic utility assessments and government appropriations. As part of that Act, funds in excess of current needs are invested in U.S. Treasury securities, and the interest earned is available to pay the costs of the environmental remediation. The Consolidated Appropriations Act, 2024 required the transfer of funds into the D&D account, of which \$285 million was transferred from the Defense Environmental Cleanup account.

**POWER MARKETING ADMINISTRATIONS**

The PMAs have been funded primarily from four sources. These have included contract authority, borrowing authority, direct receipts generated from the sale of power and transmission services, and annual appropriations. SEPA and SWPA receive an annual appropriation from Treasury's General Fund. WAPA receives an annual appropriation from a receipt fund within the Reclamation Fund and may also receive funding from the General Fund.

**Note 21. Program Costs and Earned Revenues by Major Program**

(\$ IN MILLIONS)	FY 2024	FY 2023
Nuclear Security and NNSA		
Program Costs	\$ 17,049	\$ 16,644
Earned Revenues	(14)	(21)
Changes to Environmental Cleanup and Disposal Liability Estimates	7,878	1,168
<b>Net cost of Nuclear Security and NNSA</b>	<b>\$ 24,913</b>	<b>\$ 17,791</b>
Science		
Program Costs	\$ 13,926	\$ 13,616
Earned Revenues	(200)	(128)
Changes to Environmental Cleanup and Disposal Liability Estimates	11,314	20,981
<b>Net Cost of Science</b>	<b>\$ 25,040</b>	<b>\$ 34,469</b>
Energy		
Program Costs	\$ 13,566	\$ 14,128
Earned Revenues	(6,121)	(11,695)
Changes to Environmental Cleanup and Disposal Liability Estimates	(473)	743
<b>Net Cost of Energy</b>	<b>\$ 6,972</b>	<b>\$ 3,176</b>
<b>Net Cost of Major Programs</b>	<b>\$ 56,925</b>	<b>\$ 55,436</b>
Other Programs		
Reimbursable Programs		
Program Costs	\$ 6,554	\$ 5,934
Earned Revenues	(6,552)	(6,068)
<b>Net Cost of Reimbursable Programs</b>	<b>\$ 2</b>	<b>\$ (134)</b>
Other Programs		
Program Costs	\$ 3,245	\$ 2,837
Earned Revenues	(560)	(514)
<b>Net Cost of Other Programs</b>	<b>\$ 2,685</b>	<b>\$ 2,323</b>
Costs Applied to Reduction of Legacy Environmental Liabilities <a href="#">(Note 14)</a>	\$ (7,127)	\$ (7,075)
Costs Not Assigned to Programs <a href="#">(Note 22)</a>	\$ 21,908	\$ 23,329
<b>Net Cost of Operations</b>	<b>\$ 74,393</b>	<b>\$ 73,879</b>

## MAJOR PROGRAMS

### Nuclear Security and NNSA

The general program costs and revenues related to Nuclear Security and NNSA allow the Department to strengthen national security by maintaining a safe, secure, and effective nuclear weapons stockpile that will deter any adversary and guarantee the defense of the nation and its allies; managing the research, development, and production activities and associated infrastructure needed to meet national nuclear security requirements; accelerating and expanding efforts to reduce the global threat posed by nuclear weapons, nuclear proliferation, and unsecured or excess nuclear materials; and providing safe and effective nuclear propulsion for the U.S. Navy.

For the Department's environmental cleanup and disposal liability cost estimates attributable to the Nuclear Security and NNSA program, the change between FY 2024 and FY 2023 is due to inflation adjustments to reflect constant dollars for the current year; updated estimates for the same scope of work, including changes resulting from deferral or acceleration of work; and revisions in technical approach or scope, including additional contamination and landlord duties transitioned from EM (included under Energy) to NNSA at the Savannah River Site (see [Note 14](#)).

### Science

The general program costs and revenues related to Science enable the Department to lead the world in research in the physical, chemical, biological, and computational sciences; contribute fundamental scientific discoveries and technological solutions that support American preeminence in science and innovation; and lead the national effort to maintain primacy in high-performance computing.

For the Department's environmental cleanup and disposal liability cost estimates attributable to the Science program, the change between FY 2024 and FY 2023 resulted from improved and updated estimates for the same scope of work, including changes resulting from deferral or acceleration of work; revisions in technical approach or scope, including additional contamination; updated estimates of projected waste volumes; changes in the Department's allocable percentage share of future costs; legal and regulatory changes; and cleanup activities performed (see [Note 14](#)).

### Energy

The general program costs and revenues related to Energy allow the Department to lead the nation in cutting-edge research and development of an extensive range of energy technologies and identify and promote transformational technological advances to increase energy affordability and efficiency. The Energy program also enables the Department to lead national efforts to develop technologies to modernize the electric grid to improve its reliability and resilience; enhance the security, reliability, and resilience of energy infrastructure; improve domestic energy production and use; and expedite recovery from energy supply disruptions.

For the Department's environmental cleanup and disposal liability cost estimates attributable to the Energy program, the change between FY 2024 and FY 2023 resulted from improved and updated estimates for the same scope of work, including changes resulting from deferral or acceleration of work; revisions in technical approach or scope, including additional contamination and landlord duties transitioned to NNSA; updated estimates of projected waste volumes; changes in the Department's allocable percentage share of future costs; legal and regulatory changes; and cleanup activities performed (see [Note 14](#)).

## OTHER PROGRAMS

### Reimbursable Programs

The Department performs work for, and provides services to, other federal agencies and private companies on a reimbursable work basis and a cooperative work basis.

For research and other activities, including the provision of materials and services for the benefit of non-DOE entities, the Department's general pricing policy is to charge full cost as defined in section 3137 of the Strom Thurmond National Defense Authorization Act for FY 1999, 42 U.S.C. § 7259a. The general pricing policy does not apply when prices or charges are otherwise established or prohibited by statute or regulation, and in some cases the full cost information provided by the Department in accordance with SFFAS 4, *Managerial Cost Accounting Concepts and Standards for the Federal Government*, may exceed revenues.

### Other Programs

The Department's other programs allow the agency to employ effective management and refine operational and support capabilities to support Departmental missions. Costs included in the Other Programs line support the activities reported in all of the Department's major programs.

### Costs Applied to Reduction of Legacy Environmental Liabilities

The costs applied to reduction of legacy environmental liabilities are current year operating expenditures for the remediation of contaminated facilities and wastes generated from past operations. These amounts are excluded from the current year environmental liabilities estimate since the expenses have been accrued.

**Note 22. Costs Not Assigned to Programs**

(\$ IN MILLIONS)	FY 2024	FY 2023
Spent Nuclear Fuel Contingency <a href="#">(Note 19)</a>		
Judgment Fund Payments	\$ 491	\$ 540
Change in Estimate	3,416	3,121
<b>Current Year Spent Nuclear Fuel Contingency Costs</b>	<b>\$ 3,907</b>	<b>\$ 3,661</b>
Changes in Contractor Pension and PRB Estimates	1,743	(2,039)
Change in Unfunded Safety and Health Liabilities <a href="#">(Note 15)</a>	50	231
Change in Occupational Illness Program	19,275	21,690
Other	(3,067)	(214)
<b>Total Costs Not Assigned to Programs <a href="#">(Note 21)</a></b>	<b>\$ 21,908</b>	<b>\$ 23,329</b>

**CHANGES IN CONTRACTOR PENSION AND PRB ESTIMATES**

The changes in contractor pension and PRB estimates are comprised of all the components of contractor pension and PRB net periodic costs except for service costs, i.e., interest costs; expected return on plan assets; (gain)/loss due to curtailments, settlements, or special termination benefits; net prior service cost/(credit); and net (gain)/loss including impacts of changes in actuarial assumptions. Service costs are not included since they are recorded by program (see [Notes 17](#) and [23](#)).

**COMPENSATION PROGRAM FOR OCCUPATIONAL ILLNESSES**

The Energy Employees Occupational Illness Compensation Program Act (EEOICPA) authorized compensation for certain illnesses suffered by employees of the Department, its predecessor agencies, and contractors who performed work for the nuclear weapons program (see [Note 23](#)). EEOICPA covers illnesses associated with exposure to radiation, beryllium, or silica. In general, each eligible employee and survivors of deceased employees will receive compensation for the disability or death of that employee in the amount of \$150,000 plus the costs of medical care.

The National Defense Authorization Act of 2005 amended the EEOICPA to grant workers' compensation benefits to covered employees and their families for illness and death arising from exposure to toxic substances at the Department's facilities. The amendment also makes it possible for uranium workers, as defined under Section 5 of the Radiation Exposure Compensation Act, to receive compensation for illnesses due to toxic substance exposure at a uranium mine or mill covered under that Act.

As of September 30, 2005, the law makes payments under these programs the responsibility of the DOL. Therefore, the liability is recorded by the DOL, and changes in the total liability are recognized by the Department as an imputed cost and an imputed financing source.

**OTHER**

This is composed primarily of costs related to repurposing a facility and writing on the SRPPF. The Mixed Oxide Fuel Fabrication Facility was previously considered a legacy waste asset with no Net Book Value. Converting the facility to the new SRPPF required writing on the value of the construction in progress.

**Note 23. Inter-Entity Costs**

Goods and services are received from other federal entities at no cost or at a cost less than the full cost to the providing federal entity. Consistent with accounting standards, certain costs of the providing entity that are not fully reimbursed by the Department are recognized as imputed cost in the Statement of Net Cost and are offset by imputed financing in the Statement of Changes in Net Position. Such imputed costs and financing relate to EEOICPA payments by the DOL (see [Note 22](#)), employee benefits, and claims paid by the Treasury Judgment Fund (see [Note 22](#)).

## Note 24. Combined Statements of Budgetary Resources

The *Statements of Budgetary Resources* are presented on a combined, rather than consolidated, basis in accordance with OMB guidance.

### Net Adjustments to Unobligated Balance, Brought Forward, October 1:

(\$ IN MILLIONS)	FY 2024	FY 2023
Unobligated Balance Brought Forward, October 1	\$ 78,322	\$ 72,672
Unobligated Balance Transferred to Other Accounts	(91)	(9)
Unobligated Balance Transferred From Other Accounts	130	18
Adjustment to Unobligated Balance Brought Forward, October 1	36	—
Recoveries of Prior Year Unpaid Obligations	1,277	816
Unobligated Balances Applied to Repay Debt	(224)	(214)
Other Balances Withdrawn to Treasury	(29)	(8)
Recoveries of Prior Year Paid Obligations	6	5
<b>Total Adjusted Unobligated Balance Brought Forward</b>	<b>\$ 79,427</b>	<b>\$ 73,280</b>

### BORROWING AUTHORITY

The Department's borrowing authority reflected in the Combined Statements of Budgetary Resources represents the amount of borrowing authority for the current FY's obligations, which may or may not have been converted to cash. The amount of borrowing authority available as of September 30, 2024, for the Department's loan program is \$25.5 billion, WAPA is \$3.2 billion, BPA is \$7.7 billion, and the Transmission Facilitation Program is \$1.8 billion. The amounts available are authority that has not been converted to cash.

### CONTRACT AUTHORITY

Congress intended BPA to operate in a businesslike manner and to carry out its mission free from the uncertainty inherent in the annual appropriations process.

Therefore, Congress permitted BPA to enter into (multiyear) contracts (including when BPA received annual appropriations). The Bonneville Project Act provides the following authority:

832a(f) - "Subject only to the provisions of this chapter, the Administrator is authorized to enter into such contracts, agreements and arrangements, including the amendment, modification, adjustment, or (cancellation) thereof and the compromise or final settlement of any claim arising thereunder, and to make such expenditures, upon, such terms and conditions and in such manner as he may deem necessary."

The amount of contract authority reflected as available in the Combined Statements of Budgetary Resources has decreased from \$1.9 billion as of September 30, 2023, to \$1.0 billion as of September 30, 2024.

### Undelivered Orders at the End of the Period

(\$ IN MILLIONS)	FY 2024		FY 2023	
	FEDERAL	NON-FEDERAL	FEDERAL	NON-FEDERAL
Undelivered Orders - Unpaid	\$ 6,271	\$ 85,094	\$ 5,155	\$ 60,459
Undelivered Orders - Paid	93	527	116	536
<b>Total Undelivered Orders</b>	<b>\$ 6,364</b>	<b>\$ 85,621</b>	<b>\$ 5,271</b>	<b>\$ 60,995</b>

### Permanent Indefinite Appropriations

(\$ IN MILLIONS)	FY 2024	FY 2023
Definite Appropriations	\$ 61,466	\$ 50,151
Permanent Indefinite Mandatory Appropriations	—	—
<b>Total Appropriations</b>	<b>\$ 61,466</b>	<b>\$ 50,151</b>

The Department is authorized to use indefinite appropriations per the FCRA. These amounts are used to fund upward reestimates on the FCRA loans. Permanent indefinite mandatory appropriations are appropriations that are available until expended. The permanent indefinite mandatory appropriations are attributable to the Title 17 Innovative Technology Loan Guarantee Program and the ATVM Loan Program.



## Legal Arrangements Affecting the Use of Unobligated Balances

(\$ IN MILLIONS)	FY 2024	FY 2023
Loan Funds Reserved for Future Defaults	\$ 1,575	\$ 1,216
Unapportioned Amounts	353	633
Expired Authority	140	120
<b>Total Unobligated Balances Not Available</b>	<b>\$ 2,068</b>	<b>\$ 1,969</b>

## Explanation of Differences Between the SBR and the Budget of the U.S. Government

(\$ IN MILLIONS)	TOTAL BUDGETARY RESOURCES	NEW OBLIGATIONS AND UPWARD ADJUSTMENTS (TOTAL)	DISTRIBUTED OFFSETTING RECEIPTS	NET OUTLAYS
Combined Statements of Budgetary Resources as Published	\$ 164,324	\$ 86,002	\$ (4,875)	\$ 40,614
OMB Adjustments Made to Exclude:				
U.S. Enrichment Corporation Fund	—	—	—	10
Expired Accounts	(120)	—	—	—
Other	(5)	(1)	—	(2)
<b>Budget of the United States Government</b>	<b>\$ 164,199</b>	<b>\$ 86,001</b>	<b>\$ (4,875)</b>	<b>\$ 40,622</b>

The FY 2023 *Combined Statements of Budgetary Resources* are reconciled to the President's Budget that was published in April 2024. Budgetary resources, new obligations and upward adjustments, and net outlays are reconciled to the Departmental balances as published in the Appendix to the Budget; distributed offsetting receipts is reconciled to the Departmental balances in the Federal Budget by Agency and Account section of the Analytical Perspectives Volume of the President's Budget.

U.S. Enrichment Corporation Fund is reported in the SBR but is reported in the President's Budget outside DOE.

Unobligated balances in expired accounts are reported in the SBR but are not included in the President's Budget. The FY 2024 SBR will be reconciled to the President's Budget in the FY 2025 AFR.

## Note 25. Custodial Activities

(\$ IN MILLIONS)	FY 2024	FY 2023
<b>SOURCES OF COLLECTIONS:</b>		
Cash Collections:		
Power Marketing Administrations	\$ 411	\$ 495
Federal Energy Regulatory Commission	66	62
<b>Total Cash Collections</b>	<b>\$ 477</b>	<b>\$ 557</b>
Accrual Adjustment	—	(2)
<b>Total Custodial Revenue</b>	<b>\$ 477</b>	<b>\$ 555</b>
<b>DISPOSITION OF REVENUE:</b>		
Transferred to Others:		
Bureau of Reclamation	\$ (198)	\$ (183)
Department of the Treasury	(203)	(223)
Army Corps of Engineers	(74)	(161)
Others	(4)	(3)
Decrease/(Increase) in Amounts to be Transferred	2	15
<b>Net Custodial Activity</b>	<b>\$ —</b>	<b>\$ —</b>

### **POWER MARKETING ADMINISTRATIONS**

The SEPA, SWPA, and WAPA are responsible for collecting and remitting to Treasury, USACE, and the DOI revenues attributable to the hydroelectric power projects owned and operated by the DOD, USACE; DOI, BOR; and the state, IBWC. These revenues are reported as custodial activities of the Department.

### **FEDERAL ENERGY REGULATORY COMMISSION**

FERC is responsible for billing regulated companies annual charges as a custodian for certain federal agencies. These include: (1) the USACE for licensees to provide maintenance and operations of dams owned by the U.S. and maintenance for operations of headwater or other navigable waters owned by the U.S.; (2) the BOR for the occupancy and use of public lands and national parks owned by the U.S. and for Indian Tribal Trust Funds from licensees for the reservation of Indian land; (3) Treasury for revenues collected based on penalties, interest, and administrative charges for overdue accounts receivables and for civil penalties; and (4) payments to states collected from licensees for the occupancy and use of national forests and public lands from development within the boundaries of any state.

## Note 26. Reconciliation of Net Cost to Net Outlays

(\$ IN MILLIONS)	FY 2024			FY 2023		
	INTRA-GOVERNMENTAL	OTHER THAN INTRA-GOVERNMENTAL	TOTAL	INTRA-GOVERNMENTAL	OTHER THAN INTRA-GOVERNMENTAL	TOTAL
<b>Net Cost</b>	\$ 14,359	\$ 60,034	\$ 74,393	\$ 17,129	\$ 56,750	\$ 73,879
Components of Net Operating Cost Not Part of the Budgetary Outlays						
Depreciation and Amortization	\$ —	\$ (2,437)	\$ (2,437)	\$ —	\$ (2,105)	\$ (2,105)
Property, Plant, and Equipment Disposal & Reevaluation	—	2,363	2,363	—	(954)	(954)
Lessee Lease Amortization	—	(202)	(202)	—	—	—
Cost of Goods Sold	—	(44)	(44)	—	(2,367)	(2,367)
Cost Capitalization Offset	—	389	389	—	379	379
Year-End Credit Reform Subsidy Reestimates	269	—	269	274	—	274
President's Adjustment to Reestimates	58	—	58	31	—	31
Gains/Losses on all Other Investments	—	(1)	(1)	—	(3)	(3)
Other	—	342	342	—	(219)	(219)
Increase/(Decrease) in Assets:						
Cash	\$ —	\$ (127)	\$ (127)	\$ —	\$ 1	\$ 1
Accounts Receivable	18	298	316	32	(2,102)	(2,070)
Investments	(69)	—	(69)	40	—	40
Advances and Prepayments	(21)	82	61	113	183	296
Other Assets	—	(179)	(179)	—	(379)	(379)
(Increase)/Decrease in Liabilities:						
Accounts payable	\$ (21)	\$ (310)	\$ (331)	\$ 5	\$ (1,127)	\$ (1,122)
Loan Guarantee Liability (Non-FCRA)	245	—	245	235	—	235
Lessee Lease Liability	—	(705)	(705)	—	—	—
Environmental and Disposal Liabilities	—	(10,227)	(10,227)	—	(14,653)	(14,653)
Federal Employee Salary, Leave, and Benefits Payable	—	(243)	(243)	—	(83)	(83)
Post-Employment Benefits Payable	—	(2)	(2)	—	2	2
Advances From Others and Deferred Revenue	(67)	(685)	(752)	(1,286)	(385)	(1,671)
Other Liabilities	195	(4,374)	(4,179)	146	(694)	(548)
Financing Sources						
Imputed Cost	\$ (20,003)	\$ —	\$ (20,003)	\$ (22,408)	\$ —	\$ (22,408)
Other	(134)	—	(134)	(115)	—	(115)
<b>Total Components of Net Operating Cost Not Part of Budget Outlays</b>	<b>\$ (19,530)</b>	<b>\$ (16,062)</b>	<b>\$ (35,592)</b>	<b>\$ (22,933)</b>	<b>\$ (24,506)</b>	<b>\$ (47,439)</b>
Components of the Budget Outlays Not Part of Net Operating Cost						
Acquisition of Capital Assets	\$ 45	\$ 8,928	\$ 8,973	\$ 10	\$ 7,969	\$ 7,979
Acquisition of Inventory	—	3,788	3,788	—	2,049	2,049
Effect of Prior Year Agencies Credit Reform Subsidy Reestimate	(333)	—	(333)	(305)	—	(305)
Other	(1,819)	(141)	(1,960)	(1,695)	(114)	(1,809)
Financing Sources:						
Donated Revenue	\$ —	\$ (21)	\$ (21)	\$ —	\$ (11)	\$ (11)
Transfers Out (In) Without Reimbursement	264	—	264	251	—	251
<b>Total Components of the Budget Outlays Not Part of Net Operating Cost</b>	<b>\$ (1,843)</b>	<b>\$ 12,554</b>	<b>\$ 10,711</b>	<b>\$ (1,739)</b>	<b>\$ 9,893</b>	<b>\$ 8,154</b>
Miscellaneous Items:						
Custodial/Non-Exchange Revenue	\$ —	\$ (195)	\$ (195)	\$ (6)	\$ (181)	\$ (187)
Non-Entity Activity	—	—	—	6	—	6
Other adjustments	—	5	5	—	—	—
<b>Total Other Reconciling Items</b>	<b>\$ —</b>	<b>\$ (190)</b>	<b>\$ (190)</b>	<b>\$ —</b>	<b>\$ (181)</b>	<b>\$ (181)</b>
<b>Total Net Outlays (Calculated Total)</b>	<b>\$ (7,014)</b>	<b>\$ 56,336</b>	<b>\$ 49,322</b>	<b>\$ (7,543)</b>	<b>\$ 41,956</b>	<b>\$ 34,413</b>
Related Amounts on the Statement of Budgetary Resources:						
Outlays, Net (Total)			\$ 52,319			\$ 39,288
Distributed Offsetting Receipts			(2,997)			(4,875)
<b>Agency Outlays, Net</b>			<b>\$ 49,322</b>			<b>\$ 34,413</b>

## FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

This reconciliation explains the relationship between the entity's net outlays on a budgetary basis and the net cost of operations during the reporting period. It serves not only to identify costs paid for in the past, and those that will be paid for in the future, but also to assure integrity between budgetary and financial accounting. According to OMB Circular A-136, FCRA financing fund activity is excluded from this reconciliation.

The table illustrates the key reconciling items between net operating cost and net outlays, which includes three sections: (1) The components of net cost not part of budgetary outlays includes proprietary accounts that do not result in net outlays during the current fiscal year. This includes items such as depreciation, cost of goods sold, credit reform items, changes to certain assets and liabilities, and imputed financing. (2) The components of the budget outlays that are not part of net operating cost accounts for budgetary outlays that do not result in proprietary costs for the current fiscal year. This includes acquisition of capitalized assets, and inventory, both of which have disbursements without associated costs, as well as the effect of prior year agencies credit reform subsidy reestimates and transfers. (3) The miscellaneous items section includes the custodial/non-exchange revenue, non-entity activity.

**Note 27. Reclassification of Financial Statement Line Items for Financial Report Compilation Process**

(\$ IN MILLIONS)						
FY 2024 STATEMENT OF NET COST		FY 2024 RECLASSIFIED				LINE ITEMS USED TO PREPARE FY 2024 GOVERNMENTWIDE STATEMENT OF NET COST
FINANCIAL STATEMENT LINE	AMOUNTS	DEDICATED COLLECTIONS COMBINED	DEDICATED COLLECTIONS ELIMINATIONS	ALL OTHER AMOUNTS (W/ ELIMINATIONS)	TOTAL	RECLASSIFIED FINANCIAL STATEMENT LINE
Gross Costs (Note 21)	\$ 87,840	\$ 10,252	\$ —	\$ 55,181	\$ 65,433	Non-Federal Gross Cost
						<b>Intragovernmental Costs</b>
		\$ 58	\$ —	\$ 445	\$ 503	Benefit Program Costs
		18	—	19,985	20,003	Imputed Costs
		928	(742)	956	1,142	Buy/Sell Costs
		2	—	43	45	Purchase of Assets
		318	(107)	423	634	Borrowing and Other Interest Expense
		—	—	123	123	Other Expenses (Without Reciprocals)
		\$ 1,324	\$ (849)	\$ 21,975	\$ 22,450	<b>Total Intragovernmental Costs</b>
Total Gross Costs	\$ 87,840	\$ 11,576	\$ (849)	\$ 77,156	\$ 87,883	<b>Total Reclassified Gross Costs</b>
Earned Revenue (Note 21)	\$ 13,447	\$ 4,035	\$ —	\$ 1,755	\$ 5,790	Non-Federal Earned Revenue
						<b>Intragovernmental Revenue</b>
		\$ 1,200	\$ (742)	\$ 5,268	\$ 5,726	Buy/Sell Revenue
		2	—	43	45	Purchase of Asset Offset
		1,901	—	—	1,901	Federal Securities Interest Revenue Including Associated Gains/Losses (Exchange)
		108	(107)	27	28	Borrowing and Other Interest Revenue
		\$ 3,211	\$ (849)	\$ 5,338	\$ 7,700	<b>Total Intragovernmental Revenues</b>
Total Earned Revenue	\$ 13,447	\$ 7,246	\$ (849)	\$ 7,093	\$ 13,490	<b>Total Reclassified Earned Revenue</b>
Net Cost	\$ 74,393	\$ 4,330	\$ —	\$ 70,063	\$ 74,393	
Exchange Statement of Custodial Activity						
Exchange Custodial Collections From the SCA		\$ 153	\$ —	\$ 106	\$ 259	Non-Federal Earned Revenue
Total Exchange Custodial Collections		\$ 153	\$ —	\$ 106	\$ 259	<b>Total Reclassified Exchange Custodial Collections</b>
		\$ 146	\$ —	\$ 105	\$ 251	Custodial Collections Transferred to a TAS Other Than the General Fund - Exchange
		—	—	1	1	Accrual of Custodial Collections Yet to be Transferred to a TAS Other Than the General Fund - Exchange
Total Disposition of Exchange Custodial Collections		\$ 146	\$ —	\$ 106	\$ 252	<b>Total Reclassified Disposition of Custodial Collections</b>
		\$ 7	\$ —	\$ —	\$ 7	<b>Net Custodial Activity</b>
		\$ 4,323	\$ —	\$ 70,063	\$ 74,386	<b>Total Reclassified Net Cost</b>

# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

(\$ IN MILLIONS)						
FY 2024 STATEMENT OF CHANGES IN NET POSITION		FY 2024 RECLASSIFIED				LINE ITEMS USED TO PREPARE FY 2024 GOVERNMENT-WIDE STATEMENTS OF CHANGES IN NET POSITION
FINANCIAL STATEMENT LINE	AMOUNTS	DEDICATED COLLECTIONS COMBINED	DEDICATED COLLECTIONS ELIMINATIONS	ALL OTHER AMOUNTS (WITH ELIMINATIONS)	TOTAL	RECLASSIFIED FINANCIAL STATEMENT LINE
<b>UNEXPENDED APPROPRIATIONS</b>						<b>UNEXPENDED APPROPRIATIONS</b>
Beginning Balances	\$ 96,110	\$ 207	\$ —	\$ 95,903	\$ 96,110	Net Position, Beginning of Period
Appropriations Received (Note 24)	60,483	7	—	60,476	60,483	Appropriations Received as Adjusted
Appropriations Transferred In/(Out)	32	—	\$ —	32	32	Non-Expenditure Transfers-In of Unexpended Appropriations and Financing Sources
Other Adjustments	(28)	—	—	(28)	(28)	Appropriations Received as Adjusted
Appropriations Used	(49,438)	(178)	—	(49,260)	(49,438)	Appropriations Used
<b>Total Unexpended Appropriations</b>	<b>\$ 107,159</b>	<b>\$ 36</b>	<b>\$ —</b>	<b>\$ 107,123</b>	<b>\$ 107,159</b>	<b>Total Unexpended Appropriations</b>
<b>CUMULATIVE RESULTS OF OPERATIONS</b>						<b>CUMULATIVE RESULTS OF OPERATIONS</b>
Beginning Balances	\$ (469,669)	\$ (13,968)	\$ —	\$ (455,701)	\$ (469,669)	Net Position, Beginning of Period
Change in Accounting Principle	(63)	—	—	(63)	(63)	Changes in accounting principles
Beginning Balances, as adjusted	(469,732)	(13,968)	—	(455,764)	(469,732)	Beginning Balances, as adjusted
Other Adjustments (Rescissions)	(1)	—	—	(1)	(1)	Revenue and Other Financing Sources - Cancellations
Appropriations Used	49,438	178	—	49,260	49,438	Appropriations Expended
Donations and Forfeitures of Property	7	7	—	—	7	Other Taxes and Receipts
Transfers - In/(Out) Without Reimbursement	\$ (287)	\$ (112)	\$ —	\$ —	\$ (112)	Appropriation of Unavailable Special/Trust Fund Receipts Transfers-Out
		(4)	—	—	(4)	Non-Expenditure Transfers-Out of Unexpended Appropriations and Financing Sources
		(258)	—	(2)	(260)	Expenditure Transfers-Out of Financing Sources
		—	—	4,322	4,322	Transfers-In Without Reimbursement
		(220)	—	(4,013)	(4,233)	Transfers-Out Without Reimbursement
<b>Total Transfers In/Out w/o Reimbursement- Other</b>	<b>\$ (287)</b>	<b>\$ (594)</b>	<b>\$ —</b>	<b>\$ 307</b>	<b>\$ (287)</b>	
Other	\$ (410)	\$ (149)	\$ —	\$ (420)	\$ (569)	Non-entity Collections Transferred to the General Fund
		116	—	—	116	Other Financing Sources with Budgetary Impact
		19	—	—	19	Other Non-Budgetary Financing Sources for Debt Accruals/Amortization
		18	—	—	18	Other Non-Budgetary Financing Sources
<b>Total Other</b>	<b>\$ (410)</b>	<b>\$ 4</b>	<b>\$ —</b>	<b>\$ (414)</b>	<b>\$ (410)</b>	
Donations and Forfeitures of Cash	21	—	—	21	21	Other Taxes and Receipts
Imputed Financing	20,003	18	—	19,985	20,003	Imputed Financing Sources
<b>Total Donations, Transfers, Other and Imputed Financing</b>	<b>\$ 19,334</b>	<b>\$ (565)</b>	<b>\$ —</b>	<b>\$ 19,899</b>	<b>\$ 19,334</b>	
Net Cost of Operations	\$ (74,393)	\$ (4,330)	\$ —	\$ (70,063)	\$ (74,393)	
<b>Total Cumulative Results of Operations</b>	<b>\$ (475,354)</b>	<b>\$ (18,685)</b>	<b>\$ —</b>	<b>\$ (456,669)</b>	<b>\$ (475,354)</b>	<b>Cumulative Results of Operations</b>
<b>Net Position</b>	<b>\$ (368,195)</b>	<b>\$ (18,649)</b>	<b>\$ —</b>	<b>\$ (349,546)</b>	<b>\$ (368,195)</b>	<b>Net Position</b>
					\$ 7	Net Custodial Activity Reclassified From Net Cost
Non-Exchange Custodial Collections from the SCA		\$ 175	\$ —	\$ 40	\$ 215	Other Taxes and Receipts
Disposition of Non-Exchange Custodial Collections From the SCA		(22)	—	—	(22)	Collections Transferred to a TAS Other Than the General Fund
		(162)	—	(40)	(202)	Non-Entity Collections Transferred to the General Fund
		1	—	1	2	Accrual for Non-Entity Amounts to be Collected and Transferred to the General Fund
		<b>(183)</b>	<b>\$ —</b>	<b>\$ (39)</b>	<b>\$ (222)</b>	<b>Total Reclassified Disposition of Non-Exchange Custodial Collections</b>
					<b>(7)</b>	<b>Net Custodial Activity</b>
					<b>\$ (368,195)</b>	<b>Total Reclassified Net Position</b>

To prepare the Financial Report of the U.S. Government (Financial Report), Treasury requires agencies to submit an adjusted trial balance, which is a listing of amounts by USSGL account that appear in the financial statements. Treasury uses the trial balance information reported in the GTAS to develop a Reclassified Statement of Net Cost and a Reclassified Statement of Changes in Net Position for each agency, which are accessed using



## FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

GTAS. Treasury eliminates all intragovernmental balances from the reclassified statements and aggregates lines with the same title to develop the Financial Report statements. This note shows the Department's financial statements and the Department's reclassified statements prior to elimination of intragovernmental balances and prior to aggregation of repeated Financial Report line items. A copy of the 2023 Financial Report can be found on the BFS's website and a copy of the 2024 Financial Report will be posted to Department's website as soon as it is released.

The term "intragovernmental" is used in this note to refer to amounts that result from other components of the federal government.

The term "non-federal" is used in this note to refer to federal government amounts that result from transactions with non-federal entities. These include transactions with individuals, businesses, non-profit entities, and state, local, and foreign governments.

## Consolidating and Combining Schedules

## U.S. Department of Energy Consolidating Schedules - Balance Sheets

As of September 30, 2024 and 2023

(See independent auditors' report)

(\$ IN MILLIONS)	FY 2024				
	FEDERAL ENERGY REGULATORY COMMISSION	POWER MARKETING ADMINISTRATIONS	ALL OTHER DOE PROGRAMS	ELIMINATIONS	CONSOLIDATED
<b>ASSETS:</b>					
<b>Intragovernmental Assets:</b>					
Fund Balance with Treasury	\$ 286	\$ 5,778	\$ 133,605	\$ —	\$ 139,669
Investments, Net	—	494	50,110	—	50,604
Accounts Receivable, Net	—	187	887	(386)	688
Advances and Prepayments	—	—	210	(114)	96
Other Assets	—	—	2	(2)	—
<b>Total Intragovernmental Assets</b>	<b>\$ 286</b>	<b>\$ 6,459</b>	<b>\$ 184,814</b>	<b>\$ (502)</b>	<b>\$ 191,057</b>
<b>Other than Intragovernmental:</b>					
Cash	\$ —	\$ 2	\$ —	\$ —	\$ 2
Accounts Receivable, Net	37	643	2,807	—	3,487
Loans Receivable, Net	—	1	17,414	—	17,415
Inventory, Net	—	184	47,988	—	48,172
Property, Plant, and Equipment, Net	57	12,254	49,514	—	61,825
Advances and Prepayments	3	78	814	—	895
Other Assets	—	12,199	835	—	13,034
<b>Total Other than Intragovernmental</b>	<b>\$ 97</b>	<b>\$ 25,361</b>	<b>\$ 119,372</b>	<b>\$ —</b>	<b>\$ 144,830</b>
<b>Total Assets</b>	<b>\$ 383</b>	<b>\$ 31,820</b>	<b>\$ 304,186</b>	<b>\$ (502)</b>	<b>\$ 335,887</b>
<b>LIABILITIES:</b>					
<b>Intragovernmental Liabilities:</b>					
Accounts Payable	\$ 1	\$ 34	\$ 203	\$ (101)	\$ 137
Debt	—	6,069	17,661	—	23,730
Advances from Others and Deferred Revenue	—	1	1,682	(114)	1,569
Other Liabilities	4	4,290	1,158	(287)	5,165
<b>Total Intragovernmental Liabilities</b>	<b>\$ 5</b>	<b>\$ 10,394</b>	<b>\$ 20,704</b>	<b>\$ (502)</b>	<b>\$ 30,601</b>
<b>Other than Intragovernmental:</b>					
Accounts Payable	\$ 31	\$ 720	\$ 5,758	\$ —	\$ 6,509
Federal Employee Salary, Leave, and Benefits Payable	30	88	2,091	—	2,209
Post Employment Benefits Payable	3	36	52	—	91
Environmental and Disposal Liabilities	—	34	544,507	—	544,541
Loan Guarantee Liabilities	—	—	78	—	78
Advances from Others and Deferred Revenue	—	2,291	53,159	—	55,450
Other Liabilities	5	9,348	55,250	—	64,603
<b>Total Liabilities Other than Intragovernmental</b>	<b>\$ 69</b>	<b>\$ 12,517</b>	<b>\$ 660,895</b>	<b>\$ —</b>	<b>\$ 673,481</b>
<b>Total Liabilities</b>	<b>\$ 74</b>	<b>\$ 22,911</b>	<b>\$ 681,599</b>	<b>\$ (502)</b>	<b>\$ 704,082</b>
<b>NET POSITION:</b>					
Unexpended Appropriations - Funds from Dedicated Collections	\$ —	\$ 12	\$ 24	\$ —	\$ 36
Unexpended Appropriations - Funds from Other than Dedicated Collections	99	—	107,024	—	107,123
<b>Total Unexpended Appropriations (Consolidated)</b>	<b>\$ 99</b>	<b>\$ 12</b>	<b>\$ 107,048</b>	<b>\$ —</b>	<b>\$ 107,159</b>
Cumulative Results of Operations - Funds from Dedicated Collections	—	8,897	(27,582)	—	(18,685)
Cumulative Results of Operations - Funds from Other than Dedicated Collections	210	—	(456,879)	—	(456,669)
<b>Total Cumulative Results (Consolidated)</b>	<b>\$ 210</b>	<b>\$ 8,897</b>	<b>\$ (484,461)</b>	<b>\$ —</b>	<b>\$ (475,354)</b>
<b>Total Net Position</b>	<b>\$ 309</b>	<b>\$ 8,909</b>	<b>\$ (377,413)</b>	<b>\$ —</b>	<b>\$ (368,195)</b>
<b>Total Liabilities and Net Position</b>	<b>\$ 383</b>	<b>\$ 31,820</b>	<b>\$ 304,186</b>	<b>\$ (502)</b>	<b>\$ 335,887</b>

# FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

	FY 2023				
(\$ IN MILLIONS)	FEDERAL ENERGY REGULATORY COMMISSION	POWER MARKETING ADMINISTRATIONS	ALL OTHER DOE PROGRAMS	ELIMINATIONS	CONSOLIDATED
<b>ASSETS:</b>					
<b>Intragovernmental Assets:</b>					
Fund Balance with Treasury	\$ 295	\$ 5,386	\$ 123,620	\$ —	\$ 129,301
Investments, Net	—	1,598	48,795	—	50,393
Accounts Receivable, Net	—	180	902	(403)	679
Advances and Prepayments	—	—	230	(113)	117
Other Assets	—	—	10	(10)	—
<b>Total Intragovernmental Assets</b>	<b>\$ 295</b>	<b>\$ 7,164</b>	<b>\$ 173,557</b>	<b>\$ (526)</b>	<b>\$ 180,490</b>
<b>Other than Intragovernmental:</b>					
Cash	\$ —	\$ 129	\$ —	\$ —	\$ 129
Accounts Receivable, Net	9	545	2,635	—	3,189
Loans Receivable, Net	—	1	16,763	—	16,764
Inventory, Net	—	158	44,294	—	44,452
Property, Plant, and Equipment, Net	59	11,516	40,516	—	52,091
Advances and Prepayments	—	65	749	—	814
Other Assets	—	12,384	977	—	13,361
<b>Total Other than Intragovernmental</b>	<b>\$ 68</b>	<b>\$ 24,798</b>	<b>\$ 105,934</b>	<b>\$ —</b>	<b>\$ 130,800</b>
<b>Total Assets</b>	<b>\$ 363</b>	<b>\$ 31,962</b>	<b>\$ 279,491</b>	<b>\$ (526)</b>	<b>\$ 311,290</b>
<b>LIABILITIES:</b>					
<b>Intragovernmental Liabilities:</b>					
Accounts Payable	\$ 3	\$ 48	\$ 191	\$ (113)	\$ 129
Debt	—	5,893	17,091	—	22,984
Advances from Others and Deferred Revenue	—	2	1,613	(113)	1,502
Other Liabilities	5	4,486	1,191	(300)	5,382
<b>Total Intragovernmental Liabilities</b>	<b>\$ 8</b>	<b>\$ 10,429</b>	<b>\$ 20,086</b>	<b>\$ (526)</b>	<b>\$ 29,997</b>
<b>Other than Intragovernmental:</b>					
Accounts Payable	\$ 22	\$ 724	\$ 5,455	\$ —	\$ 6,201
Federal Employee Salary, Leave, and Benefits Payable	28	79	1,859	—	1,966
Post Employment Benefits Payable	3	34	53	—	90
Environmental and Disposal Liabilities	—	34	534,280	—	534,314
Loan Guarantee Liabilities	—	—	79	—	79
Advances from Others and Deferred Revenue	—	1,874	50,967	—	52,841
Other Liabilities	16	9,513	49,832	—	59,361
<b>Total Liabilities Other than Intragovernmental</b>	<b>\$ 69</b>	<b>\$ 12,258</b>	<b>\$ 642,525</b>	<b>\$ —</b>	<b>\$ 654,852</b>
<b>Total Liabilities</b>	<b>\$ 77</b>	<b>\$ 22,687</b>	<b>\$ 662,611</b>	<b>\$ (526)</b>	<b>\$ 684,849</b>
<b>NET POSITION:</b>					
Unexpended Appropriations - Funds from Dedicated Collections	\$ —	\$ 181	\$ 26	\$ —	\$ 207
Unexpended Appropriations - Funds from Other than Dedicated Collections	99	—	95,804	—	95,903
<b>Total Unexpended Appropriations (Consolidated)</b>	<b>\$ 99</b>	<b>\$ 181</b>	<b>\$ 95,830</b>	<b>\$ —</b>	<b>\$ 96,110</b>
Cumulative Results of Operations - Funds from Dedicated Collections	—	9,094	(23,062)	—	(13,968)
Cumulative Results of Operations - Funds from Other than Dedicated Collections	187	—	(455,888)	—	(455,701)
<b>Total Cumulative Results (Consolidated)</b>	<b>\$ 187</b>	<b>\$ 9,094</b>	<b>\$ (478,950)</b>	<b>\$ —</b>	<b>\$ (469,669)</b>
<b>Total Net Position</b>	<b>\$ 286</b>	<b>\$ 9,275</b>	<b>\$ (383,120)</b>	<b>\$ —</b>	<b>\$ (373,559)</b>
<b>Total Liabilities and Net Position</b>	<b>\$ 363</b>	<b>\$ 31,962</b>	<b>\$ 279,491</b>	<b>\$ (526)</b>	<b>\$ 311,290</b>

# U.S. Department of Energy Consolidating Schedules of Net Cost

For the Years Ended September 30, 2024 and 2023

(See independent auditors' report)

(\$ IN MILLIONS)	FY 2024				
	FEDERAL ENERGY REGULATORY COMMISSION	POWER MARKETING ADMINISTRATIONS	ALL OTHER DOE PROGRAMS	ELIMINATIONS	CONSOLIDATED
<b>MAJOR PROGRAMS:</b>					
Nuclear Security and NNSA					
Program Costs	\$ —	\$ —	\$ 24,937	\$ (10)	\$ 24,927
Less: Earned Revenues	—	—	(24)	10	(14)
<b>Net Cost of Nuclear Security and NNSA</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 24,913</b>	<b>\$ —</b>	<b>\$ 24,913</b>
Science					
Program Costs	\$ —	\$ —	\$ 25,911	\$ (671)	\$ 25,240
Less: Earned Revenues	—	—	(871)	671	(200)
<b>Net Cost of Science</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 25,040</b>	<b>\$ —</b>	<b>\$ 25,040</b>
Energy					
Program Costs	\$ —	\$ 5,551	\$ 7,547	\$ (5)	\$ 13,093
Less: Earned Revenues	—	(5,553)	(573)	5	(6,121)
<b>Net Cost of Energy</b>	<b>\$ —</b>	<b>\$ (2)</b>	<b>\$ 6,974</b>	<b>\$ —</b>	<b>\$ 6,972</b>
<b>Net Cost of Major Programs</b>	<b>\$ —</b>	<b>\$ (2)</b>	<b>\$ 56,927</b>	<b>\$ —</b>	<b>\$ 56,925</b>
<b>OTHER PROGRAMS:</b>					
Reimbursable Programs					
Program Costs	\$ —	\$ 420	\$ 6,177	\$ (43)	\$ 6,554
Less: Earned Revenues	—	(516)	(6,079)	43	(6,552)
<b>Net Cost of Reimbursable Programs</b>	<b>\$ —</b>	<b>\$ (96)</b>	<b>\$ 98</b>	<b>\$ —</b>	<b>\$ 2</b>
Other programs:					
Program Costs	\$ 554	\$ —	\$ 2,953	\$ (262)	\$ 3,245
Less: Earned Revenues	(549)	—	(273)	262	(560)
<b>Net Cost of Other Programs</b>	<b>\$ 5</b>	<b>\$ —</b>	<b>\$ 2,680</b>	<b>\$ —</b>	<b>\$ 2,685</b>
Costs Applied to Reduction of Legacy Environmental Liabilities	\$ —	\$ —	\$ (7,127)	\$ —	\$ (7,127)
Costs Not Assigned to Programs	—	—	21,908	—	21,908
<b>Net Cost of Operations</b>	<b>\$ 5</b>	<b>\$ (98)</b>	<b>\$ 74,486</b>	<b>\$ —</b>	<b>\$ 74,393</b>

FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

FY 2023					
(\$ IN MILLIONS)	FEDERAL ENERGY REGULATORY COMMISSION	POWER MARKETING ADMINISTRATIONS	ALL OTHER DOE PROGRAMS	ELIMINATIONS	CONSOLIDATED
<b>MAJOR PROGRAMS:</b>					
Nuclear Security and NNSA					
Program Costs	\$ —	\$ —	\$ 17,812	\$ —	\$ 17,812
Less: Earned Revenues	—	—	(21)	—	(21)
<b>Net Cost of Nuclear Security and NNSA</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 17,791</b>	<b>\$ —</b>	<b>\$ 17,791</b>
Science					
Program Costs	\$ —	\$ —	\$ 35,639	\$ (1,042)	\$ 34,597
Less: Earned Revenues	—	—	(1,170)	1,042	(128)
<b>Net Cost of Science</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 34,469</b>	<b>\$ —</b>	<b>\$ 34,469</b>
Energy					
Program Costs	\$ —	\$ 5,489	\$ 9,387	\$ (5)	\$ 14,871
Less: Earned Revenues	—	(5,384)	(6,316)	5	(11,695)
<b>Net Cost of Energy</b>	<b>\$ —</b>	<b>\$ 105</b>	<b>\$ 3,071</b>	<b>\$ —</b>	<b>\$ 3,176</b>
<b>Net Cost of Major Programs</b>	<b>\$ —</b>	<b>\$ 105</b>	<b>\$ 55,331</b>	<b>\$ —</b>	<b>\$ 55,436</b>
<b>OTHER PROGRAMS:</b>					
Reimbursable Programs					
Program Costs	\$ —	\$ 360	\$ 5,604	\$ (30)	\$ 5,934
Less: Earned Revenues	—	(582)	(5,516)	30	(6,068)
<b>Net Cost of Reimbursable Programs</b>	<b>\$ —</b>	<b>\$ (222)</b>	<b>\$ 88</b>	<b>\$ —</b>	<b>\$ (134)</b>
Other programs:					
Program Costs	\$ 491	\$ —	\$ 2,604	\$ (258)	\$ 2,837
Less: Earned Revenues	(490)	—	(282)	258	(514)
<b>Net Cost of Other Programs</b>	<b>\$ 1</b>	<b>\$ —</b>	<b>\$ 2,322</b>	<b>\$ —</b>	<b>\$ 2,323</b>
Costs Applied to Reduction of Legacy Environmental Liabilities	\$ —	\$ —	\$ (7,075)	\$ —	\$ (7,075)
Costs Not Assigned to Programs	—	(1)	23,330	—	23,329
<b>Net Cost of Operations</b>	<b>\$ 1</b>	<b>\$ (118)</b>	<b>\$ 73,996</b>	<b>\$ —</b>	<b>\$ 73,879</b>

# U.S. Department of Energy Consolidating Schedules of Changes in Net Position

For the Years Ended September 30, 2024 and 2023

(See independent auditors' report)

FY 2024					
(\$ IN MILLIONS)	FEDERAL ENERGY REGULATORY COMMISSION	POWER MARKETING ADMINISTRATIONS	ALL OTHER DOE PROGRAMS	ELIMINATIONS	CONSOLIDATED
<b>UNEXPENDED APPROPRIATIONS:</b>					
Beginning Balances	\$ 99	\$ 181	\$ 95,830	\$ —	\$ 96,110
Appropriations Received	—	—	60,483	—	60,483
Appropriations Transferred - In/Out	—	—	32	—	32
Other Adjustments	—	—	(28)	—	(28)
Appropriations Used	—	(169)	(49,269)	—	(49,438)
<b>Net Change in Unexpended Appropriations</b>	<b>\$ —</b>	<b>\$ (169)</b>	<b>\$ 11,218</b>	<b>\$ —</b>	<b>\$ 11,049</b>
<b>Total Unexpended Appropriations</b>	<b>\$ 99</b>	<b>\$ 12</b>	<b>\$ 107,048</b>	<b>\$ —</b>	<b>\$ 107,159</b>
<b>CUMULATIVE RESULTS OF OPERATIONS:</b>					
Beginning Balances	\$ 187	\$ 9,094	\$ (478,950)	\$ —	\$ (469,669)
Change in Accounting Principle	—	—	(63)	—	(63)
Beginning Balances, as adjusted	\$ 187	\$ 9,094	\$ (479,013)	\$ —	\$ (469,732)
Other Adjustments	—	—	(1)	—	(1)
Appropriations Used	—	169	49,269	—	49,438
Non-Exchange Revenue	—	—	—	—	—
Donations and Forfeitures of Cash	—	—	21	—	21
Transfers - In/Out Without Reimbursement	—	(590)	303	—	(287)
Donations and Forfeitures of Property	—	7	—	—	7
Imputed Financing	26	18	19,959	—	20,003
Other	2	101	(513)	—	(410)
<b>Net Cost of Operations</b>	<b>\$ (5)</b>	<b>\$ 98</b>	<b>\$ (74,486)</b>	<b>\$ —</b>	<b>\$ (74,393)</b>
<b>Net Change in Cumulative Results of Operations</b>	<b>\$ 23</b>	<b>\$ (197)</b>	<b>\$ (5,448)</b>	<b>\$ —</b>	<b>\$ (5,622)</b>
<b>Total Cumulative Results of Operations</b>	<b>\$ 210</b>	<b>\$ 8,897</b>	<b>\$ (484,461)</b>	<b>\$ —</b>	<b>\$ (475,354)</b>
<b>Net Position</b>	<b>\$ 309</b>	<b>\$ 8,909</b>	<b>\$ (377,413)</b>	<b>\$ —</b>	<b>\$ (368,195)</b>



FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

FY 2023					
(\$ IN MILLIONS)	FEDERAL ENERGY REGULATORY COMMISSION	POWER MARKETING ADMINISTRATIONS	ALL OTHER DOE PROGRAMS	ELIMINATIONS	CONSOLIDATED
<b>UNEXPENDED APPROPRIATIONS:</b>					
Beginning Balances	\$ 100	\$ 166	\$ 92,811	\$ —	\$ 93,077
Appropriations Received	—	520	61,838	—	62,358
Appropriations Transferred - In/Out	—	—	13	—	13
Other Adjustments	—	(1)	(12,603)	—	(12,604)
Appropriations Used	(1)	(504)	(46,229)	—	(46,734)
<b>Net Change in Unexpended Appropriations</b>	<b>\$ (1)</b>	<b>\$ 15</b>	<b>\$ 3,019</b>	<b>\$ —</b>	<b>\$ 3,033</b>
<b>Total Unexpended Appropriations</b>	<b>\$ 99</b>	<b>\$ 181</b>	<b>\$ 95,830</b>	<b>\$ —</b>	<b>\$ 96,110</b>
<b>CUMULATIVE RESULTS OF OPERATIONS:</b>					
Beginning Balances	\$ 157	\$ 9,434	\$ (471,306)	\$ —	\$ (461,715)
Change in Accounting Principle	—	—	—	—	—
Beginning Balances, as Adjusted	\$ 157	\$ 9,434	\$ (471,306)	\$ —	\$ (461,715)
Other Adjustments	—	—	—	—	—
Appropriations Used	1	504	46,229	—	46,734
Non-Exchange Revenue	—	—	7	—	7
Donations and Forfeitures of Cash	—	—	11	—	11
Transfers - In/Out Without Reimbursement	—	(513)	(6)	—	(519)
Donations and Forfeitures of Property	—	19	11	—	30
Imputed Financing	20	14	22,374	—	22,408
Other	10	(482)	(2,274)	—	(2,746)
<b>Net Cost of Operations</b>	<b>\$ (1)</b>	<b>\$ 118</b>	<b>\$ (73,996)</b>	<b>\$ —</b>	<b>\$ (73,879)</b>
<b>Net Change in Cumulative Results of Operations</b>	<b>\$ 30</b>	<b>\$ (340)</b>	<b>\$ (7,644)</b>	<b>\$ —</b>	<b>\$ (7,954)</b>
<b>Total Cumulative Results of Operations</b>	<b>\$ 187</b>	<b>\$ 9,094</b>	<b>\$ (478,950)</b>	<b>\$ —</b>	<b>\$ (469,669)</b>
<b>Net Position</b>	<b>\$ 286</b>	<b>\$ 9,275</b>	<b>\$ (383,120)</b>	<b>\$ —</b>	<b>\$ (373,559)</b>

# U.S. Department of Energy Combining Schedules of Budgetary Resources

For the Years Ended September 30, 2024 and 2023

(See independent auditors' report)

(\$ IN MILLIONS)	FEDERAL ENERGY REGULATORY COMMISSION	POWER MARKETING ADMINISTRATIONS	ALL OTHER DOE PROGRAMS	COMBINED
			FY 2024	
<b>BUDGETARY RESOURCES:</b>				
Unobligated Balance from Prior Year Budget Authority, Net	\$ 172	\$ 1,987	\$ 77,268	\$ 79,427
Appropriations	4	112	61,350	61,466
Borrowing Authority	—	741	11,281	12,022
Contract Authority	—	1,001	—	1,001
Spending Authority from Offsetting Collections	520	3,881	8,970	13,371
<b>Total Budgetary Resources</b>	<b>\$ 696</b>	<b>\$ 7,722</b>	<b>\$ 158,869</b>	<b>\$ 167,287</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>				
New Obligations and Upward Adjustments (Total)	\$ 545	\$ 5,562	\$ 87,874	\$ 93,981
<b>Unobligated Balance, End of Year:</b>				
Apportioned, Unexpired Accounts	\$ 151	\$ 2,004	\$ 69,069	\$ 71,224
Exempt from Apportionment, Unexpired Accounts	—	8	6	14
Unapportioned, Unexpired Accounts	—	148	1,780	1,928
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 151</b>	<b>\$ 2,160</b>	<b>\$ 70,855</b>	<b>\$ 73,166</b>
Expired, Unobligated Balance, End of Year	—	—	140	140
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 151</b>	<b>\$ 2,160</b>	<b>\$ 70,995</b>	<b>\$ 73,306</b>
<b>Total Budgetary Resources</b>	<b>\$ 696</b>	<b>\$ 7,722</b>	<b>\$ 158,869</b>	<b>\$ 167,287</b>
<b>OUTLAYS, NET</b>				
Outlays, Net (Total)	\$ 1	\$ 1,036	\$ 51,282	\$ 52,319
Distributed Offsetting Receipts (-)	(40)	(80)	(2,877)	(2,997)
<b>Agency Outlays, Net</b>	<b>\$ (39)</b>	<b>\$ 956</b>	<b>\$ 48,405</b>	<b>\$ 49,322</b>
<b>Disbursements, Net (Total)</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 663</b>	<b>\$ 663</b>

FINANCIAL STATEMENTS, FOOTNOTES, AND CONSOLIDATING SCHEDULES

(\$ IN MILLIONS)	FEDERAL ENERGY REGULATORY COMMISSION	POWER MARKETING ADMINISTRATIONS	ALL OTHER DOE PROGRAMS	COMBINED
	FY 2023			
<b>BUDGETARY RESOURCES:</b>				
Unobligated Balance from Prior Year Budget Authority, Net	\$ 153	\$ 1,174	\$ 71,953	\$ 73,280
Appropriations	3	634	49,514	50,151
Borrowing Authority	—	722	15,497	16,219
Contract Authority	—	1,933	—	1,933
Spending Authority from Offsetting Collections	509	4,400	17,832	22,741
<b>Total Budgetary Resources</b>	<b>\$ 665</b>	<b>\$ 8,863</b>	<b>\$ 154,796</b>	<b>\$ 164,324</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>				
New Obligations and Upward Adjustments (Total)	\$ 497	\$ 6,882	\$ 78,623	\$ 86,002
<b>Unobligated Balance, End of Year:</b>				
Apportioned, Unexpired Accounts	\$ 167	\$ 1,516	\$ 74,655	\$ 76,338
Exempt from Apportionment, Unexpired Accounts	—	8	7	15
Unapportioned, Unexpired Accounts	1	457	1,391	1,849
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 168</b>	<b>\$ 1,981</b>	<b>\$ 76,053</b>	<b>\$ 78,202</b>
Expired, Unobligated Balance, End of Year	\$ —	\$ —	\$ 120	\$ 120
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 168</b>	<b>\$ 1,981</b>	<b>\$ 76,173</b>	<b>\$ 78,322</b>
<b>Total Budgetary Resources</b>	<b>\$ 665</b>	<b>\$ 8,863</b>	<b>\$ 154,796</b>	<b>\$ 164,324</b>
<b>OUTLAYS, NET</b>				
<b>Outlays, Net (Total)</b>	\$ (26)	\$ 396	\$ 38,918	\$ 39,288
Distributed Offsetting Receipts (-)	(29)	(288)	(4,558)	(4,875)
<b>Agency Outlays, Net</b>	<b>\$ (55)</b>	<b>\$ 108</b>	<b>\$ 34,360</b>	<b>\$ 34,413</b>
<b>Disbursements, Net (Total)</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 1,326</b>	<b>\$ 1,326</b>

# Required Supplementary Information (Unaudited)

## See accompanying Auditors' Report

This section of the report provides required supplementary information for the Department on deferred maintenance, government land, and budgetary resources by major budget account.

### **Deferred Maintenance**

Identifying the level of the Department's deferred maintenance and repairs is a requirement under SFFAS No. 42, *Deferred Maintenance and Repairs (DM&R)*. SFFAS No. 42 defines deferred maintenance as "maintenance and repairs that were not performed when they should have been or were scheduled to be and which are put off or delayed for a future period." DM&R reporting enables the government to be accountable to citizens for the proper administration and stewardship of its assets. Specifically, DM&R reporting assists by providing organizations' realistic estimate of DM&R amounts and the effectiveness of asset maintenance practices the entities employ in fulfilling their missions.

The Department manages over 21,000 buildings and other structures & facilities with an estimated replacement value of \$289 billion. The Department's portfolio of PP&E supports preeminent federal research laboratory campuses; user facilities; production, special purpose, and legacy cleanup activities; and facilities used predominantly for office space and warehousing. Estimates reported include DM&R for capitalized or not capitalized, and fully depreciated and not fully depreciated buildings and other structures managed by the Department including heritage assets. The Department categorizes assets designated as a National Historic Landmark, or listed in the National Register of Historical Places, or those included in the Manhattan Project National Historic Park as a Heritage Asset or Stewardship Land. The Department does not accrue DM&R on general or stewardship land parcels.

### **Maintenance and Repair Policies**

The Departmental policy is to maintain real property assets in a manner that promotes operational safety, worker health, environmental protection and compliance, property preservation, and cost-effectiveness while meeting program missions. To develop a picture of asset-level maintenance and repair requirements, departmental policy requires sites to conduct asset-level maintenance and repair requirements, departmental policy requires sites to conduct asset-level condition assessments at least once every five years. These condition assessments involve visually inspecting each asset and its systems with the exception of some structures where a physical barrier prevents visual assessments, e.g., underground pipe systems. In such cases, sites may employ other methods to identify deficiencies. The inspection requirement applies to active and inactive/excess assets. Inactive assets must remain in a safe enough state to protect life safety and the environment, to support eventual disposition, and to not endanger the mission responsibilities of other nearby assets. These condition assessments result in a list of repair needs for each asset and facility managers then estimate the costs to implement those repair needs.

Departmental policy also requires sites to consistently and reliably estimate those costs using either the DOE Condition Assessment Information System or another nationally recognized cost estimating system such as R.S. Means. Using a consistent system based on industry standard methods helps ensure that estimates reflect current material and labor costs. To address annual inflation in years between condition assessments, the department publishes annual inflation and escalation factors based on analyses within OMB's annual Analytical Perspectives.

### **Ranking and Prioritizing Maintenance and Repair Activities**

The Department does not rank or prioritize the maintenance and repair activities of its component programs and sites at a single Department-wide level. Instead, it relies on its programs and site managers to apply the maintenance budget based on the role each asset has in supporting the site's various missions. Ranking factors vary among DOE's sites and can include mission dependency/criticality, status, use, ownership, and risks presented by any noted deficiencies, among other considerations. The Department's implementation of OMB Memorandum M-20-03, *Implementation of Agency-wide Real Property Capital Planning*, includes identifying projects and activities that reduce deferred maintenance in developing the President's Budget submission. As part of the real property planning process, the DOE's annual budget guidance requires departmental programs to capture projected annual operating, maintenance, and repair costs for all assets and to identify project-level out-year budget requirements for maintenance and repair projects as well as new construction projects and facility disposal projects.

### **Factors Considered in Setting Acceptable Condition**

In 2023, OMB established a common asset condition rating scale across all federal agencies as part of its Federal Real Property Portfolio database. This new rating scale is based on the Condition Index performance measure which is calculated using following equation:  $(1 - (\text{Repair Needs} \div \text{RPV})) \times 100$ . The OMB rating scale then classifies the condition of an asset as follows: 95 and above is Excellent Condition, 90 to 94.99 is Good Condition, 70 to 89.99 is Fair Condition, and below 70 is Poor Condition. In 2024, 81% of active DOE buildings and other structures and facilities were in the good to excellent range. Note that Repair Needs for a given asset encompass the set of all repairs identified to bring the asset back to its full, original design specification while Deferred Maintenance includes those Repair Needs that the site intends to correct. An asset's Deferred Maintenance is always equal to or less than its Repair Needs. There are numerous reasons that a site may not choose to correct an identified repair need including evolving mission requirements and expected remaining asset life.

## REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)

### Mission Criticality

DOE has started tracking DM&R in terms of mission support to illuminate how much deferred maintenance is associated with real property that is critical to the Department's mission. The Department breaks real property mission critically into the following three categories:

- Mission Critical - assets deemed necessary to perform the primary missions assigned to a particular site. This includes any facility or infrastructure primarily used to perform scientific, production, environmental restoration, or stockpile stewardship and without which, operations would be disrupted or placed at risk.
- Mission Dependent, Not Critical - assets that play a supporting role in meeting the primary missions assigned to a particular site. Loss of a Mission Dependent, Not Critical asset would not immediately disrupt operations and the site could reasonably restore the asset or its capabilities prior to impacting operations.
- Not Mission Dependent - assets that do not support the primary missions assigned to a particular site but support secondary missions and/or quality of workplace initiatives. Loss of a Not Mission Dependent asset results in inconvenience and indirectly impacts operations if unavailable for an extended period. Further, assets determined to be excess to the site mission fall under this category.

In 2024, about \$5 billion (41%) of the Department's DM&R was associated with Mission Critical assets and represents the minimum amount needed to ensure mission critical assets remain mission capable while 26% was associated with Mission Dependent Not Critical assets, and 33% was associated with Not Mission Dependent assets.

MISSION CRITICALITY	2024 ENDING BALANCE DM&R	2024 BEGINNING BALANCE DM&R
Mission Critical DM&R	5,040	4,680
Mission Dependent, Non Critical DM&R	3,186	3,380
Non Mission Critical DM&R	3,969	4,142
<b>Total</b>	<b>12,195</b>	<b>12,203</b>

### Significant Changes from the Prior Year

As of September 30, 2024, DOE had an estimated \$12,195 billion in total deferred maintenance which is a decrease of about \$8 million, or .1%, from the FY 2023 total of \$12,203 billion. The Department applies a year-to-year variance threshold of 10% and considers overall increases or decreases beyond that threshold as significant. While individual assets across the Department may have increased or decreased their deferred maintenance by more than 10%, the deferred maintenance across DOE as a whole did not significantly change in 2024 compared to 2023.

### Capital Equipment

Pursuant to the cost/benefit considerations provided in SFFAS No. 42, the Department has determined that the requirements for deferred maintenance reporting on personal property (capital equipment) are not applicable to property items with an acquisition cost of less than \$100,000, except in situations where maintenance is needed to address worker and public health and safety concerns.

Various methods were used for measuring deferred maintenance and determining acceptable operating condition for the Department's capital equipment, including periodic condition assessments, physical inspections, review of work orders, manufacturer and engineering specification, and other methods, as appropriate.

An amount of \$640 million of deferred maintenance was estimated to be needed as of September 30, 2024, to return capital equipment assets to acceptable operating condition.

## REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)

### Deferred Maintenance and Repair Costs

Estimates of the beginning and ending balances of DM&R for each major category of real property for which maintenance and repairs have been deferred include:

(\$ IN MILLIONS)	2024 ENDING BALANCE DM&R	2024 BEGINNING BALANCE DM&R
<b>ACTIVE:</b>		
General PP&E:		
Buildings	\$ 6,450	\$ 6,476
Structures	5,226	4,463
<b>Subtotal - General PP&amp;E - Active</b>	<b>\$ 11,676</b>	<b>\$ 10,939</b>
Heritage Assets	\$ 5	\$ 7
<b>Subtotal - All Active</b>	<b>\$ 11,681</b>	<b>\$ 10,946</b>
<b>INACTIVE AND EXCESS:</b>		
General PP&E:		
Buildings	\$ 387	\$ 1,049
Structures	91	193
<b>Subtotal - General PP&amp;E - Inactive and Excess</b>	<b>\$ 478</b>	<b>\$ 1,242</b>
Heritage Assets	\$ 35	\$ 15
<b>Subtotal - All Inactive and Excess</b>	<b>\$ 514</b>	<b>\$ 1,257</b>
<b>Total Deferred Maintenance and Repair Cost:</b>	<b>\$ 12,195</b>	<b>\$ 12,203</b>

### Government Land

Federal land reporting is required by SFFAS No. 59, Accounting and Reporting of Government Land. This standard provides requirements to report the estimated size (acres) of federal land use by intent/purpose and ownership status. The following tables provide the required reporting detail:

Table 1 is breakdown of all of the land the Department owns by General PP&E Land and Stewardship Land followed by a subsequent breakout into three predominant use subcategories (Commercial, Conservation and preservation, and Operational); Table 2 shows estimated land held for disposal or exchange; and Table 3 supports Treasury data collection and includes DOE's owned land as well as its permanent land rights. BPA data is excluded from these tables.

**Table 1 - DOE Land**

	COMMERCIAL USE (ACRES)	CONSERVATION & PRESERVATION USE (ACRES)	OPERATIONAL USE (ACRES)	TOTAL (ACRES)
<b>General PP&amp;E</b>				
Start of Fiscal Year 2024	8,123	7,295	684,500	699,918
End of Fiscal Year 2024	8,123	7,295	672,147	687,565
<b>Stewardship Land</b>				
Start of Fiscal Year 2024	4,676	1,280	1,488,766	1,494,722
End of Fiscal Year 2024	4,676	1,280	1,492,586	1,498,542

**Table 2 - DOE Land Held for Disposal or Exchange**

LAND HELD FOR DISPOSAL OR EXCHANGE		
Stewardship Land (Acres)	General PP&E Land (Acres)	Total Land (Acres)
—	1,488	1,488



REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)

**Table 3 - DOE Land and Permanent Land Rights**

	COMMERCIAL USE (ACRES)	CONSERVATION & PRESERVATION USE (ACRES)	OPERATIONAL USE (ACRES)	TOTAL (ACRES)
<b>General PP&amp;E</b>				
Start of Prior Year 2023	36,995	4,794	697,198	738,987
Start of Fiscal Year 2024	36,995	8,294	697,406	742,695
End of Fiscal Year 2024	36,995	8,294	685,059	730,348
<b>Stewardship Land</b>				
Start of Prior Year 2023	4,676	1,280	1,488,766	1,494,722
Start of Fiscal Year 2024	4,676	1,280	1,488,766	1,494,722
End of Fiscal Year 2024	4,676	1,280	1,492,586	1,498,542
<b>Held for Disposal/Exchange</b>				
Start of Prior Year 2023				1,555
End of Fiscal Year 2024				1,488

# REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)

## Budgetary Resources by Major Account - IIJA Funding Only

For the Year Ended September 30, 2024

(\$ IN MILLIONS)	CLEAN ENERGY DEMONSTRATIONS	ENERGY EFFICIENCY AND RENEWABLE ENERGY	FOSSIL ENERGY RESEARCH AND DEVELOPMENT	ELECTRICITY	CARBON DIOXIDE TRANSPORTATION INFRASTRUCTURE FINANCE AND INNOVATION PROGRAM ACCOUNT
<b>BUDGETARY RESOURCES:</b>					
Unobligated Balance from Prior Year Budget Authority, Net	\$ 6,801	\$ 6,350	\$ 3,059	\$ 2,456	\$ 2,091
Appropriations	4,463	1,928	1,443	1,605	—
Borrowing Authority	—	—	—	—	—
Contract Authority	—	—	—	—	—
Spending Authority from Offsetting Collections	—	—	—	—	—
<b>Total Budgetary Resources</b>	<b>\$ 11,264</b>	<b>\$ 8,278</b>	<b>\$ 4,502</b>	<b>\$ 4,061</b>	<b>\$ 2,091</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>					
New Obligations and Upward Adjustments (Total)	\$ 1,497	\$ 2,094	\$ 767	\$ 2,456	\$ 1
<b>Unobligated Balance, End of Year:</b>					
Apportioned, Unexpired Accounts	\$ 9,767	\$ 6,184	\$ 3,735	\$ 1,605	\$ 2,090
Exempt from Apportionment, Unexpired Accounts	—	—	—	—	—
Unapportioned, Unexpired Accounts	—	—	—	—	—
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 9,767</b>	<b>\$ 6,184</b>	<b>\$ 3,735</b>	<b>\$ 1,605</b>	<b>\$ 2,090</b>
Expired, Unobligated Balance, End of Year	—	—	—	—	—
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 9,767</b>	<b>\$ 6,184</b>	<b>\$ 3,735</b>	<b>\$ 1,605</b>	<b>\$ 2,090</b>
<b>Total Budgetary Resources</b>	<b>\$ 11,264</b>	<b>\$ 8,278</b>	<b>\$ 4,502</b>	<b>\$ 4,061</b>	<b>\$ 2,091</b>
<b>Agency Outlays, Net</b>	<b>\$ 388</b>	<b>\$ 776</b>	<b>\$ 90</b>	<b>\$ 35</b>	<b>\$ 1</b>
	AMERICAN ENERGY INDEPENDENCE FUND, ENERGY PROGRAMS, ENERGY	TRANSMISSION FACILITATION FUND, ENERGY PROGRAMS, ENERGY	NUCLEAR ENERGY	CYBERSECURITY, ENERGY SECURITY, AND EMERGENCY RESPONSE	OFFICE OF THE INSPECTOR GENERAL
<b>BUDGETARY RESOURCES:</b>					
Unobligated Balance from Prior Year Budget Authority, Net	\$ —	\$ 1,750	\$ 2,385	\$ 147	\$ 62
Appropriations	2,030	—	(836)	98	22
Borrowing Authority	—	—	—	—	—
Contract Authority	—	—	—	—	—
Spending Authority from Offsetting Collections	—	—	—	—	—
<b>Total Budgetary Resources</b>	<b>\$ 2,030</b>	<b>\$ 1,750</b>	<b>\$ 1,549</b>	<b>\$ 245</b>	<b>\$ 84</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>					
New Obligations and Upward Adjustments (Total)	\$ —	\$ 1,034	\$ 1,106	\$ 96	\$ 6
<b>Unobligated Balance, End of Year:</b>					
Apportioned, Unexpired Accounts	\$ 2,030	\$ 716	\$ 443	\$ 149	\$ 78
Exempt from Apportionment, Unexpired Accounts	—	—	—	—	—
Unapportioned, Unexpired Accounts	—	—	—	—	—
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 2,030</b>	<b>\$ 716</b>	<b>\$ 443</b>	<b>\$ 149</b>	<b>\$ 78</b>
Expired, Unobligated Balance, End of Year	—	—	—	—	—
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 2,030</b>	<b>\$ 716</b>	<b>\$ 443</b>	<b>\$ 149</b>	<b>\$ 78</b>
<b>Total Budgetary Resources</b>	<b>\$ 2,030</b>	<b>\$ 1,750</b>	<b>\$ 1,549</b>	<b>\$ 245</b>	<b>\$ 84</b>
<b>Agency Outlays, Net</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 5</b>	<b>\$ 43</b>	<b>\$ 5</b>
	SCIENCE	DEPARTMENTAL ADMINISTRATION	COLORADO RIVER BASINS POWER MARKETING FUND, WESTERN AREA POWER ADMINISTRATION	ALL OTHER	COMBINED STATEMENT OF BUDGETARY RESOURCES TOTAL
<b>BUDGETARY RESOURCES:</b>					
Unobligated Balance from Prior Year Budget Authority, Net	\$ 30	\$ 20	\$ —	\$ —	\$ 25,151
Appropriations	14	11	—	—	10,778
Borrowing Authority	—	—	—	—	—
Contract Authority	—	—	—	—	—
Spending Authority from Offsetting Collections	—	—	—	—	—
<b>Total Budgetary Resources</b>	<b>\$ 44</b>	<b>\$ 31</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 35,929</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>					
New Obligations and Upward Adjustments (Total)	\$ 25	\$ 13	\$ —	\$ —	\$ 9,095
<b>Unobligated Balance, End of Year:</b>					
Apportioned, Unexpired Accounts	\$ 19	\$ 18	\$ —	\$ —	\$ 26,834
Exempt from Apportionment, Unexpired Accounts	—	—	—	—	—
Unapportioned, Unexpired Accounts	—	—	—	—	—
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 19</b>	<b>\$ 18</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 26,834</b>
Expired, Unobligated Balance, End of Year	—	—	—	—	—
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 19</b>	<b>\$ 18</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 26,834</b>
<b>Total Budgetary Resources</b>	<b>\$ 44</b>	<b>\$ 31</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 35,929</b>
<b>Agency Outlays, Net</b>	<b>\$ 11</b>	<b>\$ 12</b>	<b>\$ 11</b>	<b>\$ —</b>	<b>\$ 1,377</b>

# REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)

## Budgetary Resources by Major Account - IRA Funding Only

For the Year Ended September 30, 2024

(\$ IN MILLIONS)	ENERGY EFFICIENCY AND RENEWABLE ENERGY	TITLE 17 INNOVATIVE LOAN GUARANTEE PROGRAM	TITLE 17 INNOVATIVE TECHNOLOGY DIRECT LOAN FINANCING ACCOUNT	CLEAN ENERGY DEMONSTRATIONS	ADVANCED TECHNOLOGY VEHICLES MANUFACTURING DIRECT LOAN FINANCING ACCOUNT
<b>BUDGETARY RESOURCES:</b>					
Unobligated Balance from Prior Year Budget Authority, Net	\$ 11,935	\$ 8,533	\$ 14	\$ 5,791	\$ —
Appropriations	—	—	—	—	—
Borrowing Authority	—	—	7,416	—	3,652
Contract Authority	—	—	—	—	—
Spending Authority from Offsetting Collections	—	—	177	—	763
<b>Total Budgetary Resources</b>	<b>\$ 11,935</b>	<b>\$ 8,533</b>	<b>\$ 7,607</b>	<b>\$ 5,791</b>	<b>\$ 4,415</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>					
New Obligations and Upward Adjustments (Total)	\$ 2,694	\$ 246	\$ 7,367	\$ 116	\$ 3,654
<b>Unobligated Balance, End of Year:</b>					
Apportioned, Unexpired Accounts	\$ 9,241	\$ 8,287	\$ 49	\$ 5,672	\$ —
Exempt from Apportionment, Unexpired Accounts	—	—	—	—	—
Unapportioned, Unexpired Accounts	—	—	191	3	761
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 9,241</b>	<b>\$ 8,287</b>	<b>\$ 240</b>	<b>\$ 5,675</b>	<b>\$ 761</b>
Expired, Unobligated Balance, End of Year	—	—	—	—	—
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 9,241</b>	<b>\$ 8,287</b>	<b>\$ 240</b>	<b>\$ 5,675</b>	<b>\$ 761</b>
<b>Total Budgetary Resources</b>	<b>\$ 11,935</b>	<b>\$ 8,533</b>	<b>\$ 7,607</b>	<b>\$ 5,791</b>	<b>\$ 4,415</b>
<b>Agency Outlays, Net</b>	<b>\$ 57</b>	<b>\$ 52</b>	<b>\$ —</b>	<b>\$ 24</b>	<b>\$ —</b>
<b>Disbursements, Net (Total)</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 66</b>

	ELECTRICITY	ADVANCED TECHNOLOGY VEHICLES MANUFACTURING LOAN PROGRAM ACCOUNT	NUCLEAR ENERGY	DEFENSE PRODUCTION ACT	FOSSIL ENERGY RESEARCH AND DEVELOPMENT
<b>BUDGETARY RESOURCES:</b>					
Unobligated Balance from Prior Year Budget Authority, Net	\$ 2,842	\$ 2,537	\$ 680	\$ 248	\$ 146
Appropriations	—	—	—	—	—
Borrowing Authority	—	—	—	—	—
Contract Authority	—	—	—	—	—
Spending Authority from Offsetting Collections	—	—	—	—	—
<b>Total Budgetary Resources</b>	<b>\$ 2,842</b>	<b>\$ 2,537</b>	<b>\$ 680</b>	<b>\$ 248</b>	<b>\$ 146</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>					
New Obligations and Upward Adjustments (Total)	\$ 14	\$ 319	\$ 10	\$ 248	\$ 79
<b>Unobligated Balance, End of Year:</b>					
Apportioned, Unexpired Accounts	\$ 2,828	\$ 2,218	\$ 670	\$ —	\$ 67
Exempt from Apportionment, Unexpired Accounts	—	—	—	—	—
Unapportioned, Unexpired Accounts	—	—	—	—	—
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 2,828</b>	<b>\$ 2,218</b>	<b>\$ 670</b>	<b>\$ —</b>	<b>\$ 67</b>
Expired, Unobligated Balance, End of Year	—	—	—	—	—
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 2,828</b>	<b>\$ 2,218</b>	<b>\$ 670</b>	<b>\$ —</b>	<b>\$ 67</b>
<b>Total Budgetary Resources</b>	<b>\$ 2,842</b>	<b>\$ 2,537</b>	<b>\$ 680</b>	<b>\$ 248</b>	<b>\$ 146</b>
<b>Agency Outlays, Net</b>	<b>\$ 12</b>	<b>\$ 15</b>	<b>\$ 26</b>	<b>\$ 9</b>	<b>\$ 7</b>
<b>Disbursements, Net (Total)</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>

	ENVIRONMENTAL REVIEWS	FEDERAL ENERGY REGULATORY COMMISSION	TRIBAL ENERGY LOAN GUARANTEE PROGRAM	ALL OTHER	COMBINED STATEMENT OF BUDGETARY RESOURCES TOTAL
<b>BUDGETARY RESOURCES:</b>					
Unobligated Balance from Prior Year Budget Authority, Net	\$ 114	\$ 97	\$ 74	\$ 100	\$ 33,111
Appropriations	—	—	—	—	—
Borrowing Authority	—	—	—	—	11,068
Contract Authority	—	—	—	—	—
Spending Authority from Offsetting Collections	—	—	—	4	944
<b>Total Budgetary Resources</b>	<b>\$ 114</b>	<b>\$ 97</b>	<b>\$ 74</b>	<b>\$ 104</b>	<b>\$ 45,123</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>					
New Obligations and Upward Adjustments (Total)	\$ 45	\$ 4	\$ 3	\$ 33	\$ 14,832
<b>Unobligated Balance, End of Year:</b>					
Apportioned, Unexpired Accounts	\$ 69	\$ 93	\$ 71	\$ 61	\$ 29,326
Exempt from Apportionment, Unexpired Accounts	—	—	—	—	—
Unapportioned, Unexpired Accounts	—	—	—	10	965
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 69</b>	<b>\$ 93</b>	<b>\$ 71</b>	<b>\$ 71</b>	<b>\$ 30,291</b>
Expired, Unobligated Balance, End of Year	—	—	—	—	—
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 69</b>	<b>\$ 93</b>	<b>\$ 71</b>	<b>\$ 71</b>	<b>\$ 30,291</b>
<b>Total Budgetary Resources</b>	<b>\$ 114</b>	<b>\$ 97</b>	<b>\$ 74</b>	<b>\$ 104</b>	<b>\$ 45,123</b>
<b>Agency Outlays, Net</b>	<b>\$ 6</b>	<b>\$ 5</b>	<b>\$ 2</b>	<b>\$ 400</b>	<b>\$ 615</b>
<b>Disbursements, Net (Total)</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ (3)</b>	<b>\$ 63</b>

# REQUIRED SUPPLEMENTARY INFORMATION (Unaudited)

## Budgetary Resources by Major Account - Total Funding

For the Year Ended September 30, 2024

(\$ IN MILLIONS)	ENERGY EFFICIENCY AND RENEWABLE ENERGY	WEAPONS ACTIVITIES	CLEAN ENERGY DEMONSTRATIONS	ELECTRICITY	SCIENCE
<b>BUDGETARY RESOURCES:</b>					
Unobligated Balance from Prior Year Budget Authority, Net	\$ 19,713	\$ 871	\$ 12,648	\$ 8,438	\$ 366
Appropriations	5,308	19,108	4,513	1,879	8,507
Borrowing Authority	—	—	—	—	—
Contract Authority	—	—	—	—	—
Spending Authority from Offsetting Collections	130	4,339	—	914	727
<b>Total Budgetary Resources</b>	<b>\$ 25,151</b>	<b>\$ 24,318</b>	<b>\$ 17,161</b>	<b>\$ 11,231</b>	<b>\$ 9,600</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>					
New Obligations and Upward Adjustments (Total)	\$ 8,000	\$ 23,637	\$ 1,658	\$ 4,702	\$ 9,282
<b>Unobligated Balance, End of Year:</b>					
Apportioned, Unexpired Accounts	\$ 17,065	\$ 659	\$ 15,500	\$ 6,525	\$ 316
Exempt from Apportionment, Unexpired Accounts	—	—	—	—	—
Unapportioned, Unexpired Accounts	85	18	3	4	1
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 17,150</b>	<b>\$ 677</b>	<b>\$ 15,503</b>	<b>\$ 6,529</b>	<b>\$ 317</b>
Expired, Unobligated Balance, End of Year	1	4	—	—	1
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 17,151</b>	<b>\$ 681</b>	<b>\$ 15,503</b>	<b>\$ 6,529</b>	<b>\$ 318</b>
<b>Total Budgetary Resources</b>	<b>\$ 25,151</b>	<b>\$ 24,318</b>	<b>\$ 17,161</b>	<b>\$ 11,231</b>	<b>\$ 9,600</b>
<b>OUTLAYS, NET</b>					
Outlays, Net (Total)	\$ 3,704	\$ 17,954	\$ 450	\$ 286	\$ 8,083
Distributed Offsetting Receipts (-)	—	—	—	—	—
<b>Agency Outlays, Net</b>	<b>\$ 3,704</b>	<b>\$ 17,954</b>	<b>\$ 450</b>	<b>\$ 286</b>	<b>\$ 8,083</b>
<b>Disbursements, Net (Total)</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>
	<b>DEFENSE ENVIRONMENTAL CLEANUP</b>	<b>TITLE 17 INNOVATIVE LOAN GUARANTEE PROGRAM</b>	<b>FOSSIL ENERGY RESEARCH AND DEVELOPMENT</b>	<b>ADVANCED TECHNOLOGY VEHICLES MANUFACTURING LOAN PROGRAM ACCOUNT</b>	<b>OTHER BUDGETARY ACCOUNTS</b>
<b>BUDGETARY RESOURCES:</b>					
Unobligated Balance from Prior Year Budget Authority, Net	\$ 1,349	\$ 8,668	\$ 5,062	\$ 4,829	\$ 16,479
Appropriations	7,569	59	2,286	13	12,224
Borrowing Authority	—	—	—	—	741
Contract Authority	—	—	—	—	1,001
Spending Authority from Offsetting Collections	1	10	64	—	6,072
<b>Total Budgetary Resources</b>	<b>\$ 8,919</b>	<b>\$ 8,737</b>	<b>\$ 7,412</b>	<b>\$ 4,842</b>	<b>\$ 36,517</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>					
New Obligations and Upward Adjustments (Total)	\$ 7,635	\$ 303	\$ 1,865	\$ 331	\$ 24,793
<b>Unobligated Balance, End of Year:</b>					
Apportioned, Unexpired Accounts	\$ 1,276	\$ 8,433	\$ 5,545	\$ 4,511	\$ 11,345
Exempt from Apportionment, Unexpired Accounts	—	—	—	—	14
Unapportioned, Unexpired Accounts	—	—	1	—	241
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 1,276</b>	<b>\$ 8,433</b>	<b>\$ 5,546</b>	<b>\$ 4,511</b>	<b>\$ 11,600</b>
Expired, Unobligated Balance, End of Year	8	1	1	—	124
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 1,284</b>	<b>\$ 8,434</b>	<b>\$ 5,547</b>	<b>\$ 4,511</b>	<b>\$ 11,724</b>
<b>Total Budgetary Resources</b>	<b>\$ 8,919</b>	<b>\$ 8,737</b>	<b>\$ 7,412</b>	<b>\$ 4,842</b>	<b>\$ 36,517</b>
<b>OUTLAYS, NET</b>					
Outlays, Net (Total)	\$ 7,320	\$ 96	\$ 763	\$ 68	\$ 13,595
Distributed Offsetting Receipts (-)	—	—	—	—	(2,997)
<b>Agency Outlays, Net</b>	<b>\$ 7,320</b>	<b>\$ 96</b>	<b>\$ 763</b>	<b>\$ 68</b>	<b>\$ 10,598</b>
<b>Disbursements, Net (Total)</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>
	<b>SUBTOTAL OF BUDGETARY ACCOUNTS</b>	<b>TITLE 17 INNOVATIVE TECHNOLOGY DIRECT LOAN FINANCING ACCOUNT</b>	<b>ADVANCED TECHNOLOGY VEHICLES MANUFACTURING DIRECT LOAN FINANCING ACCOUNT</b>	<b>ALL OTHER FINANCING ACCOUNTS</b>	<b>COMBINED STATEMENT OF BUDGETARY RESOURCES TOTAL</b>
<b>BUDGETARY RESOURCES:</b>					
Unobligated Balance from Prior Year Budget Authority, Net	\$ 78,423	\$ 312	\$ 589	\$ 103	\$ 79,427
Appropriations	61,466	—	—	—	61,466
Borrowing Authority	741	7,588	3,693	—	12,022
Contract Authority	1,001	—	—	—	1,001
Spending Authority from Offsetting Collections	12,257	751	358	5	13,371
<b>Total Budgetary Resources</b>	<b>\$ 153,888</b>	<b>\$ 8,651</b>	<b>\$ 4,640</b>	<b>\$ 108</b>	<b>\$ 167,287</b>
<b>STATUS OF BUDGETARY RESOURCES:</b>					
New Obligations and Upward Adjustments (Total)	\$ 82,206	\$ 7,934	\$ 3,831	\$ 10	\$ 93,981
<b>Unobligated Balance, End of Year:</b>					
Apportioned, Unexpired Accounts	\$ 71,175	\$ 49	\$ —	\$ —	\$ 71,224
Exempt from Apportionment, Unexpired Accounts	14	—	—	—	14
Unapportioned, Unexpired Accounts	353	668	809	98	1,928
<b>Unexpired, Unobligated Balance, End of Year</b>	<b>\$ 71,542</b>	<b>\$ 717</b>	<b>\$ 809</b>	<b>\$ 98</b>	<b>\$ 73,166</b>
Expired, Unobligated Balance, End of Year	140	—	—	—	140
<b>Unobligated Balance, End of Year (Total)</b>	<b>\$ 71,682</b>	<b>\$ 717</b>	<b>\$ 809</b>	<b>\$ 98</b>	<b>\$ 73,306</b>
<b>Total Budgetary Resources</b>	<b>\$ 153,888</b>	<b>\$ 8,651</b>	<b>\$ 4,640</b>	<b>\$ 108</b>	<b>\$ 167,287</b>
<b>OUTLAYS, NET</b>					
Outlays, Net (Total)	\$ 52,319				\$ 52,319
Distributed Offsetting Receipts (-)	(2,997)				(2,997)
<b>Agency Outlays, Net</b>	<b>\$ 49,322</b>				<b>\$ 49,322</b>
<b>Disbursements, Net (Total)</b>	<b>\$ —</b>	<b>\$ (306)</b>	<b>\$ 964</b>	<b>\$ 6</b>	<b>\$ 663</b>

# Investing in America's Electric Grid

## Deploying More Clean Energy and Saving Consumers Money

Compiled by the Department of Energy  
Grid Deployment Office

The electric grid is an often the unsung hero in our daily lives – bringing power from where it is generated to homes and businesses, allowing us to power our appliances and phones, ensuring we can heat or cool our spaces to remain comfortable, and keeping the lights on when we need them. Having a secure, reliable, and resilient electric grid is essential to the success of clean energy like solar and wind because in many cases, where this power is generated is often not where it is immediately used. This is especially important for meeting clean energy goals and increasing demand for electrified homes, businesses, and vehicles.



Photo by Werner Slocum/National Renewable Energy Laboratory

The Department of Energy (DOE) is making critical investments in the nation's electric grid to lower the cost of energy, all while enabling cleaner energy sources, less pollution, and an easier time installing solar panels or plugging in an electric vehicle (EV) at home. In the largest grid investments in history, on October 18, 2023, DOE announced up to \$3.46 billion for 58 projects across 44 states to strengthen electric grid resilience and reliability across the United States, all while improving climate resilience and creating good-paying union jobs. These projects will leverage more than \$8 billion in federal and private investments as part of the Grid Resilience and Innovation Partnerships (GRIP) Program, funded through the Bipartisan Infrastructure Law and administered by DOE's Grid Deployment Office. Across the selected projects, there are various strategies to increase the integration of renewables, in total allowing more than 35 gigawatts of renewable energy to be brought online and expand the country's renewable energy capacity by 10.5%. The projects also will enhance grid flexibility, meaning that operators can balance different types of power in real time and in response to real conditions to help keep the power on and prices affordable.

GRIP projects will not only leverage existing grid technologies, but also demonstrate the effectiveness of state-of-the-art technologies and innovative strategies to allow more renewable energy sources to be brought online, laying the groundwork for implementation in other parts of the country. By expanding capacity and improving flexibility, the addition of new clean energy resources, like solar and wind, will be vital in keeping the power on and building a sustainable clean energy future for present and future generations.

**Did you know ...** GRIP projects will tackle a range of grid needs to increase resilience and reliability across the country, with a few major trends popping up across the various selections, which include:

- **Wildfire prevention and resilience:** State-of-the-art technologies will protect the grid from wildfires and prevent wildfires caused by aging infrastructure. Smart grid investment will help predict, identify, and address problems earlier and improve real-time responses to threats.
- **Neighborhood resilience:** Microgrids that expand renewables and distributed energy resources will allow consumers to keep the power locally on even when the grid experiences outages.
- **Lower energy bills and increased clean energy:** DOE is making critical investments in our grid without passing costs down to consumers, all while enabling cleaner energy sources, less pollution, and an easier time installing solar panels or plugging in an electric vehicle at home.
- **Investments in disadvantaged communities:** Through Community Benefits Plans, all GRIP projects have outlined strategies to leave lasting impacts on local communities beyond infrastructure upgrades alone, including locally focused economic development and thousands of good-paying, union jobs.

Information from the blog [What does it take to modernize the U.S. electric grid?](#)

Read detailed fact sheets on GRIP projects [here](#), and catch up on other blogs in the series below:

[Keeping the Lights on in Our Neighborhoods During Power Outages](#)

[Protecting our Electric Grid from Wildfire](#)

[Modernizing Our Grid Means Economic Development in Disadvantaged Communities Across the U.S.](#)



# Auditors' Report: Independent Auditors' Report



Office of Inspector General

OFFICE OF CYBER  
ASSESSMENTS AND DATA  
ANALYTICS

## AUDIT REPORT

THE DEPARTMENT OF ENERGY'S FISCAL YEAR  
2024 CONSOLIDATED FINANCIAL STATEMENTS

DOE-OIG-25-09  
DECEMBER 2024

Consistent with standing Office of Inspector General (OIG) policy, the attached report is provided for your action/information prior to being released publicly. As such, the report should not be discussed or distributed outside the Department prior to public release. Generally, the report will be released to the public by posting it on the OIG website 2 to 3 days after it is provided to management. Please refer to the OIG website (<http://www.energy.gov/ig/calendar-year-reports>) to ensure that the report has been posted prior to discussing/distributing the report outside the Department.



# AUDITORS' REPORT



**Department of Energy**  
Washington, DC 20585

December 12, 2024

## MEMORANDUM FOR THE SECRETARY

A handwritten signature in blue ink, reading "Teri L. Donaldson", is positioned above the "FROM:" line.

FROM: Teri L. Donaldson  
Inspector General

SUBJECT: Audit Report: *The Department of Energy's Fiscal Year 2024 Consolidated Financial Statements*

The attached report presents the results of the independent certified public accountants' audit of the Department of Energy's consolidated financial statements as of September 30, 2024, and 2023, and the related consolidated statements of net costs, changes in net position, and combined statements of budgetary resources for the years then ended, and the related notes to the consolidated financial statements.

To fulfill the Office of Inspector General's (OIG) audit responsibilities, we contracted with the independent public accounting firm of KPMG LLP (KPMG) to conduct the audit, subject to our review. KPMG is responsible for expressing an opinion on the Department's financial statements and reporting on applicable internal controls and compliance with laws and regulations. The OIG monitored audit progress and reviewed the audit report and related documentation. This review disclosed no instances where KPMG did not comply, in all material respects, with generally accepted government auditing standards. The OIG did not express an independent opinion on the Department's financial statements.

KPMG audited the consolidated financial statements of the Department as of September 30, 2024, and 2023, and the related consolidated statements of net costs, changes in net position, and combined statements of budgetary resources for the years then ended, and the related notes to the consolidated financial statements. Based on its audit and the reports of other auditors, KPMG concluded that except for an opinion qualification on the Portsmouth Paducah Project Office's \$39.1 billion environmental liability and a material weakness for internal controls related to financial reporting over environmental liability estimates, the consolidated financial statements are presented fairly, in all material respects, in accordance with U.S. generally accepted accounting principles for the years ended September 30, 2024, and 2023.

As part of this review, the auditors also considered the Department's internal controls over financial reporting and tested for compliance with certain provisions of laws, regulations, contracts, and grant agreements that could have a direct and material effect on the consolidated financial statements. During the audit, KPMG identified a material weakness over the

## AUDITORS' REPORT

Attachment

environmental management liability estimate. KPMG determined that Office of Environmental Management Headquarters had not ensured that the environmental liability estimate was adequately supported with valid cost estimates, schedules, and assumptions. For instance, KPMG identified that numerous sites did not maintain documentation to support risks and cost estimates associated with the environmental liability. In addition, KPMG noted that the lack of management review at one site contributed to an environmental liability overstatement of \$1.8 billion.

The OIG issued notices of findings and recommendations to management throughout the audit. All findings and recommendations will be detailed in a separate management letter that will be provided to the Department. The audit disclosed no instances of noncompliance or other matters required to be reported under applicable audit standards and requirements. There are no formal recommendations that need to be tracked in the Departmental Audit Report Tracking System; therefore, an additional response is not required.

We appreciated the cooperation of your staff during the audit.

Attachment

cc: Deputy Secretary  
Chief of Staff  
Under Secretary for Infrastructure, S3  
Under Secretary for Science and Innovation, S4  
Under Secretary for Nuclear Security and Administrator of the National Nuclear Security Administration, S5  
Senior Advisor, Office of Environmental Management, EM-1  
Deputy Chief Financial Officer, CF-2

Audit Report: DOE-OIG-25-09

Department financial reports are available for download on the Office of the Chief Financial Officer Web site: <https://www.energy.gov/cfo/listings/agency-financial-reports>

# AUDITORS' REPORT

Attachment



KPMG LLP  
Suite 12000  
1801 K Street, NW  
Washington, DC 20006

## Independent Auditors' Report

The Inspector General, United States Department of Energy, and  
The Secretary, United States Department of Energy:

### Report on the Audit of the Consolidated Financial Statements

#### *Qualified Opinion*

We have audited the consolidated financial statements of the United States (U.S.) Department of Energy (Department), which comprise the consolidated balance sheets as of September 30, 2024 and 2023, and the related consolidated statements of net costs, changes in net position, and combined statements of budgetary resources for the years then ended, and the related notes to the consolidated financial statements.

In our opinion, except for the possible effects on the 2024 consolidated financial statements of the matters described in the Basis for Qualified Opinion section of our report, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Department as of September 30, 2024 and 2023, and its net costs, changes in net position, and budgetary resources for the years then ended in accordance with U.S. generally accepted accounting principles.

#### *Basis for Qualified Opinion on the 2024 Consolidated Financial Statements*

For the year ended September 30, 2024, the Department reported a Portsmouth Paducah Project Office (PPPO) environment liability balance of \$39.1 billion and related costs. This balance is reflected in the environmental liabilities caption in the consolidated balance sheet as of September 30, 2024, and in the consolidated statement of net cost. The Department also included information related to the PPPO environmental liability balance and related costs in Note 14 Environmental and Disposal Liabilities and Note 21 Program Costs and Earned Revenues by Major Program to the consolidated financial statements. We were unable to obtain sufficient appropriate audit evidence to support the PPPO estimate as of and for the year ending September 30, 2024. Consequently, we were unable to determine whether any adjustments to the amounts were necessary.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS), the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, and Office of Management and Budget (OMB) Bulletin No. 24-02, *Audit Requirements for Federal Financial Statements*. Our responsibilities under those standards and OMB Bulletin No. 24-02 are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the Department and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### *Emphasis of Matter*

As discussed in Note 6 to the consolidated financial statements, the Department has total direct loans and loan guarantees, net, of \$19 billion and \$18 billion as of September 30, 2024 and 2023, respectively, which are issued under the *Federal Credit Reform Act of 1990*. Subsidy costs of the direct loans and loan guarantees are intended to estimate the long-term cost to the U.S. Government of its loan program and include interest rate differentials, delinquencies, defaults, fees, and other cash flow items. A subsidy re-estimate is performed

KPMG LLP is a Swiss entity limited liability partnership and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee.





annually as of September 30. Any adjustment resulting from the re-estimate is recognized as subsidy expense. Our opinion is not modified with respect to this matter.

As discussed in Note 14 to the consolidated financial statements, the cost estimates supporting the Department's environmental cleanup and disposal liabilities of \$545 billion and \$534 billion as of September 30, 2024 and 2023, respectively, are based upon assumptions regarding funding and other future action and decisions, many of which are beyond the Department's control. Our opinion is not modified with respect to this matter except as noted in the Basis for Qualified Opinion on the 2024 Consolidated Financial Statements.

As discussed in Note 19 to the consolidated financial statements, the Department is involved as a defendant in several matters of litigation relating to alleged exposures to radioactive and/or toxic substances as a result of the historic operations of the Department's nuclear facilities. The Department has recorded liabilities for likely damages of \$38 billion and \$34 billion as of September 30, 2024 and 2023, respectively. Our opinion is not modified with respect to this matter.

#### *Other Matter – Interactive Data*

Management has elected to reference to information on websites or other forms of interactive data outside the *Agency Financial Report* to provide additional information for the users of its consolidated financial statements. Such information is not a required part of the consolidated financial statements or supplementary information required by the Federal Accounting Standards Advisory Board. The information on these websites or the other interactive data has not been subjected to any of our auditing procedures, and accordingly we do not express an opinion or provide any assurance on it.

#### *Responsibilities of Management for the Consolidated Financial Statements*

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with U.S. generally accepted accounting principles, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

#### *Auditors' Responsibilities for the Audit of the Consolidated Financial Statements*

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, *Government Auditing Standards*, and OMB Bulletin No. 24-02 will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the consolidated financial statements.

In performing an audit in accordance with GAAS, *Government Auditing Standards*, and OMB Bulletin No. 24-02, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Department's internal control. Accordingly, no such opinion is expressed.



- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the consolidated financial statements.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

#### *Required Supplementary Information*

U.S. generally accepted accounting principles require that the information in the Management's Discussion and Analysis and Required Supplementary Information sections be presented to supplement the basic consolidated financial statements. Such information is the responsibility of management and, although not a part of the basic consolidated financial statements, is required by the Federal Accounting Standards Advisory Board who considers it to be an essential part of financial reporting for placing the basic consolidated financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with GAAS, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic consolidated financial statements, and other knowledge we obtained during our audits of the basic consolidated financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

#### *Other Information*

Management is responsible for the other information included in the *Agency Financial Report*. The other information comprises the About This Report, Table of Contents, Message from the Secretary of Energy, Message from the Deputy Chief Financial Officer, Memorandum from the Inspector General, and Other Information sections but does not include the consolidated financial statements and our auditors' report thereon. Our opinion on the consolidated financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the consolidated financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

#### **Other Reporting Required by Government Auditing Standards**

##### *Report on Internal Control Over Financial Reporting*

In planning and performing our audit of the consolidated financial statements as of and for the year ended September 30, 2024, we considered the Department's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the consolidated financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Department's internal control. Accordingly, we do not express an opinion on the effectiveness of the Department's internal control. We did not test all internal controls relevant to operating objectives as broadly defined by the *Federal Managers' Financial Integrity Act of 1982*.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. However, as described below, we identified certain deficiencies in internal control that we consider to be a material weakness.



A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance. We consider the deficiencies described below to be a material weakness.

#### **2024-01 Material Weakness in Internal Controls Over the Environmental Liability**

The Department's Office of Environmental Management (Environmental Management) has been charged with the responsibility for 15 sites where cleanup work is ongoing (originally 107, with 92 sites having completed their cleanup missions) around the country. These sites are geographically dispersed and have diverse types of cleanup work in their missions, including cleanup of tank waste, transuranic and solid waste disposition, soil and groundwater remediation, spent nuclear fuel and nuclear materials cleanup, and facility deactivation and decommissioning. These activities are large scale, technically challenging, and logistically complex.

Environmental Management field sites have the responsibility to formulate, review, and support changes to their Environmental Management environmental liability in a timely, complete, and supportable manner. Field site managers have the responsibility to review and approve changes to their site Environmental Management lifecycle and environmental liability estimates. Because of the unique complexities associated with the cleanup sites, Environmental Management Headquarters plays a key oversight role in ensuring that the environmental liability estimate is both accurate and supported, is developed in accordance with accounting standards, considers the latest available information (including estimates developed by the site that are submitted in the lifecycle change control process), and is centrally compiled to include the full scope of Environmental Management without duplication or omissions.

#### **Deficiency 24-HQ-EM-01, Headquarters Review of Site Estimates**

Environmental Management Headquarters did not ensure that the environmental liability estimate was adequately supported with valid cost estimates, schedules, and assumptions. For instance, we identified numerous sites that did not maintain documentation to support risks and cost estimates associated with the environmental liability. In addition, we noted that the lack of management review at one site contributed to an environmental liability overstatement of \$1.8 billion.

Environmental Management Headquarters had not performed an appropriate level of oversight of its field sites to ensure that the sites had readily available detailed and accurate documentation to support the environmental liability. In particular, Environmental Management Headquarters did not:

- Require field sites to develop their own policies and procedures that would address site-specific risks, assumptions, and conditions that would impact the environmental liability. Such policies and procedures should help ensure that estimates are adequately supported and reviewed to prevent and detect material misstatements of the Department's financial statements.
- Develop training for the field sites to sufficiently support their assumptions, risks, and cost estimates.
- Perform reviews of field site internal controls and documentation over their estimating process to ensure the accuracy and completeness of environmental liability estimates.





Ineffective Environmental Management policies and procedures at both Headquarters and field sites, in combination with ineffective oversight, increases the risk of misstatement of the Department's financial statements and related notes (specifically related to the Environmental Management liability). As a result of the weaknesses identified, we found that:

- The Portsmouth Paducah Project Office's (PPPO) baseline estimate of \$39.1 billion was not adequately supported by appropriate supporting documentation.
- The Office of River Protection's (ORP) baseline liability estimate contained a \$1.8 billion overstatement of the liability due to inadequate field site management review that failed to identify errors in the liability calculation.
- The Portsmouth and Depleted Uranium Hexafluoride (DUF6) risks included in the PPPO's risk registers were not consistently calculated and supported by appropriate documentation requirements.
- The Savannah River Site (SRS) risk review controls were not designed and implemented to ensure supporting documentation was available for 25 risks associated with 2 project baseline summaries.

#### **Recommendations**

We recommend that the Senior Advisor, Office of Environmental Management:

1. Enhance Environmental Management Headquarters guidance to require field sites to develop policies and procedures related to developing and maintaining audit documentation. This should include the appropriate level of documentation needed to adequately support changes to environmental liability estimates, the timeliness of the availability of supporting documentation, and the expectations associated with adequate management reviews of all changes to the environmental liability.
2. Enhance and require annual Environmental Management Headquarters training on policies and procedures related to documentation necessary to support field site estimates.
3. Perform a periodic assessment of site management review controls at all Environmental Management field sites to identify areas of weakness and to aid the sites in addressing such weaknesses.

#### **Management's Response**

Environmental Management concurs with the Fiscal Year (FY) 2024 Financial Statement Audit Finding and Recommendations. Environmental Management will enhance its guidance to require field sites to develop policies and procedures related to developing and maintaining adequate and timely audit documentation and ensuring adequate management reviews of all changes to the environmental liability. Environmental Management will enhance and require annual training on policies and procedures related to audit documentation necessary to support field site estimates. Environmental Management will also perform a periodic assessment of site management review controls at all Environmental Management field sites to identify areas of weakness and to aid the sites in addressing such weaknesses.

#### **Deficiency 24-PPPO-EM-02, Review Controls Over the PPPO Baseline Estimate**

In reviewing the underlying data and assumptions supporting the PPPO baseline estimate, we identified multiple exceptions across several PPPO sites. Within the 80 samples across the sites, we noted the following:

- At Paducah, KY 20 of 34 samples had exceptions with some having multiple errors. We noted that for 10 samples, management was unable to provide the documentation supporting the baseline estimate. Additionally, subject matter expert judgments for costs associated with 10 samples were unsupported.
- At Portsmouth, OH 19 of 25 samples had exceptions. Specifically, for 8 samples, management was unable to demonstrate past actuals were entered into the estimating system or database completely.



and accurately. For 10 samples, management was unable to provide the documentation supporting the baseline estimate and/or the subject matter expert judgments were unsupported. For one sample, management was unable to demonstrate how a comparable site estimate was used.

- At DUF6 at Paducah, KY and Portsmouth, OH 9 of 21 samples had exceptions with some having multiple errors. For instance, subject matter expert judgments for costs associated with five samples were unsupported. For two other samples, the property identification number was incorrectly used in lieu of the building square feet. For three samples, management did not update the estimates to include readily available updated cost information. For three samples, management did not escalate costs to the appropriate FY. Management also improperly excluded items from the estimate for two sample items and did not utilize approved critical decision costs.

The PPPO officials' internal controls over the preparation and review of the cost estimate were not properly designed and implemented. Specifically, officials did not adequately follow existing Environmental Management cost estimating and environmental liability guidance. In addition, PPPO did not maintain documentation of review controls over subject matter expert decisions and judgments and did not have documentation readily available to support their estimates.

Without properly designed and implemented internal controls over the documentation supporting the baseline estimate amounts, calculations, and judgments used, the risk exists that the PPPO environmental liability could be misstated.

#### **Recommendations**

We recommend that the Manager, PPPO:

4. Establish internal controls to maintain documentation over subject matter expert judgments made and data reviewed in the creation of, or updates to, baseline estimates;
5. Document the internal controls and documentation requirements to support an estimate in a policy or procedure; and
6. Ensure environmental management environmental liability estimates are accurate, documented, and meet the scope of Environmental Management's clean-up mission in accordance with Standard Operating Policies and Procedures #35 and cost estimating guidance.

#### **Management's Response**

The PPPO concurs with the FY 2024 Financial Statement Audit Finding and Recommendations. The PPPO will identify, and address audit findings' causes. Additionally, PPPO will conduct a self-assessment of internal policies and procedures over the liability estimate and update accordingly incorporating results and lessons learned. Lastly, PPPO will develop updated cost estimates that are reasonable, documented, and comprehensive.

#### **Deficiency 24-ORP-EM-01, Review Controls Over the ORP Baseline Estimate**

The Department's ORP management lacked effective internal control reviews at a level of precision necessary to identify and correct errors reported in the baseline estimate. Specifically, ORP's internal control procedures did not identify incorrect inputs in a specific project calculation which led to the baseline estimate being incorrectly recorded in the One Enterprise Management System.

The internal controls weakness occurred because the management review control in place did not identify that fringe and general and administrative escalation had been inappropriately included within a specific project estimate of Tank Farms baseline.



Without management review internal controls designed at an appropriate level of precision, the risk exists that management will continue to not detect or correct errors which could result in a misstatement recorded in the One Enterprise Management System and the Department's financial statements. As a result of the control failure noted, the environmental liability estimate at ORP was overstated by a known material misstatement of \$1.8 billion. Department management recorded a correcting entry for this error in the general ledger as a result of our test work.

#### **Recommendations**

We recommend that the Manager, Hanford Field Office, direct the Assistant Manager for Tank Waste Operations to:

7. Refine or implement new management review internal controls to ensure environmental liability estimate calculations are performed and recorded appropriately and in accordance with policies and procedures.

#### **Management's Response**

Management concurs with the recommendation.

The Hanford Field Office Assistant Manager for Tank Waste Operations will refine or implement additional internal controls for review of baseline data prior to incorporation into environmental liability estimate.

The estimated completion date for the recommendation is May 31, 2025.

#### **Deficiency 24-PPPO-EM-01, Ineffective Internal Controls Over the PPPO Review of Risks**

Internal controls designed to review and approve the Portsmouth and DUF6 risk registers did not operate effectively. Our substantive test work identified 24 exceptions related to 17 risks in both the Portsmouth and DUF6 risk registers. These exceptions fell into the following categories:

- Lack of supporting documentation for basis of the cost impact related to 15 exceptions;
- Escalated an incorrect number of years related to 3 exceptions;
- Cost impact did not agree to the supporting documentation related to 5 exceptions; and
- Costs were incorrectly applied to best case, most likely case, and worst case related to 1 exception.

Portsmouth and DUF6 management, in conjunction with PPPO, did not perform ongoing monitoring of the operating effectiveness of the review and approval of the risk registers to identify these errors on their own. Additionally, Portsmouth and DUF6 management, in conjunction with PPPO, failed to retain documentation, transfer, and document organizational knowledge, either through turnover or other means, to properly support their risk determinations and basis of cost impact.

Ineffective operation of review internal controls over the risk register increases the risk that the environmental liability and the related footnote disclosure could be misstated. The PPPO's Monte Carlo results were not calculated based on supported amounts.

#### **Recommendations**

We recommend that the Manager, PPPO, direct the Deputy Manager for PPPO to:

8. Implement ongoing monitoring procedures to ensure that necessary internal controls over the review and approval of the risk register are operating effectively throughout the period; and
9. Design and implement processes to sufficiently document and maintain supporting documentation of inputs into each Federal risk, including those based on subject matter expert judgment.





#### **Management's Response**

The PPPO concurs with the FY 2024 Financial Statement Audit Finding and Recommendations. The PPPO will implement ongoing, documented monitoring procedures to ensure that necessary review and approval controls of the risk register are operating effectively. Additionally, PPPO will design and implement processes to ensure that the risk management process, including inputs into each Federal risk, risk registers, and subject matter expert judgement are sufficiently documented and supported.

#### **Deficiency 24-SRS-EM-01, Ineffective Internal Controls Over the SRS Review of Risks**

At the Savannah River Site (SRS), adequate documentation for 25 risks was not maintained by Savannah River Nuclear Solutions, LLC in meeting minutes or other forms of documentation to support the routine review of, and changes to, the risks.

Internal controls related to the risk review process were not designed and implemented. Specifically, policies and procedures were not established to require evidence be maintained at a sufficient level of detail to support review, changes, and/or decisions on risks.

Risk review controls that are not designed and implemented to ensure supporting documentation is available for each risk increases the probability that the SRS Environmental Management contingency could be misstated.

#### **Recommendations**

We recommend that the Manager, Savannah River Operations Office:

10. Ensure the risk review policies and procedures used by Savannah River Nuclear Solutions, LLC management are updated to include sufficient documentation of the review of, and changes to, risks as part of the risk management process; and
11. Ensure review processes utilized by the Integrated Life-Cycle Estimate Risk manager are refined to provide more Federal oversight of the contractor-identified risks.

#### **Management's Response**

Management concurs with Recommendation 10. Environmental Management will direct SRNS management to refine SRS's Operational Risk and Opportunity Management Process Manual 14B, Procedure 2.1, to include the requirement to keep documentation regarding risk reviews.

The estimated completion date for the recommendation is December 20, 2024.

Management concurs with Recommendation 11. The Integrated Life-Cycle Estimate Risk Manager is updating the procedures for the risk review process to include more Federal employee involvement. The procedures will be reviewed by Chief Financial Officer management to be implemented in FY 2025.

The estimated completion date for this recommendation is January 15, 2025.

Department management did not report the material weakness 2024-01 in its Management Assurances, included in the Management's Discussion and Analysis section of the accompanying *Agency Financial Report*.

#### **Report on Compliance and Other Matters**

As part of obtaining reasonable assurance about whether the Department's consolidated financial statements as of and for the year ended September 30, 2024, are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the consolidated financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not

# AUDITORS' REPORT

Attachment



express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards* or OMB Bulletin No. 24-02.

We also performed tests of the Department's compliance with certain provisions referred to in Section 803(a) of the *Federal Financial Management Improvement Act of 1996* (FFMIA). Providing an opinion on compliance with FFMIA was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances in which the Department's financial management systems did not substantially comply with the (1) Federal financial management systems requirements, (2) applicable Federal accounting standards, and (3) the United States Government Standard General Ledger at the transaction level.

#### *Department's Response to Findings*

*Government Auditing Standards* requires the auditor to perform limited procedures on the Department's response to the findings identified in our audit and described previously. The Department's response was not subjected to the other auditing procedures applied in the audit of the consolidated financial statements and, accordingly, we express no opinion on the response.

#### *Purpose of the Other Reporting Required by Government Auditing Standards*

The purpose of the communication described in the Report on Internal Control Over Financial Reporting and the Report on Compliance and Other Matters sections is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Department's internal control or compliance. Accordingly, this communication is not suitable for any other purpose.

KPMG LLP

Washington, DC  
December 12, 2024

## AUDITORS' REPORT

### FEEDBACK

The Office of Inspector General has a continuing interest in improving the usefulness of its products. We aim to make our reports as responsive as possible and ask you to consider sharing your thoughts with us.

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Office of Inspector General (IG-12)  
Department of Energy  
Washington, DC 20585

If you want to discuss this report or your comments with a member of the Office of Inspector General staff, please contact our office at 202-586-1818. For media-related inquiries, please call 202-586-7406.





# Other Information

# FY 2024 Summary of Financial Statement Audit and Management Assurances

Audit Opinion	<b>Modified</b>				
Restatement	No				
<b>Material Weaknesses</b>	<b>Beginning Balance</b>	<b>New</b>	<b>Resolved</b>	<b>Consolidated</b>	<b>Ending Balance</b>
<i>TOTAL Material Weaknesses</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>1</i>

Effectiveness of Internal Control Over Financial Reporting (FMFIA Section II) – Statement of Assurance	<b>Modified</b>					
<b>Material Weaknesses</b>	<b>Beginning Balance</b>	<b>New</b>	<b>Resolved</b>	<b>Consolidated</b>	<b>Reassessed</b>	<b>Ending Balance</b>
<i>TOTAL Material Weaknesses</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1</i>

The Department had 1 material weakness in the design and operation of the internal control over environmental liabilities financial reporting.

Effectiveness of Internal Control Over Operations (FMFIA Section II) – Statement of Assurance	<b>Unmodified</b>					
<b>Material Weaknesses</b>	<b>Beginning Balance</b>	<b>New</b>	<b>Resolved</b>	<b>Consolidated</b>	<b>Reassessed</b>	<b>Ending Balance</b>
<i>TOTAL Material Weaknesses</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Conformance with Federal Financial Management System Requirements (FMFIA Section IV) – Statement of Assurance	Federal Systems conform to financial management system requirements					
<b>Non-Compliance</b>	<b>Beginning Balance</b>	<b>New</b>	<b>Resolved</b>	<b>Consolidated</b>	<b>Reassessed</b>	<b>Ending Balance</b>
<i>TOTAL Non-Conformance</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

Conformance with Section 803(a) of the Federal Financial Management Improvement Act (FFMIA)		
	<b>Agency</b>	<b>Auditor</b>
1. Federal Financial Management System Requirements	No lack of substantial compliance noted	No lack of substantial compliance noted
2. Applicable Federal Accounting Standards	No lack of substantial compliance noted	No lack of substantial compliance noted
3. USSGL at Transaction Level	No lack of substantial compliance noted	No lack of substantial compliance noted



# DOE Management Challenges: Inspector General Report

Congress requires that Inspectors General annually identify the most significant management challenges facing their agencies and report those challenges to Congress and the Agency head.

For fiscal year (FY) 2025, the Office of Inspector General (OIG) identified overall issues in the areas of unprecedented challenges for the Department of Energy under recent legislation and opportunities to modernize oversight and management. The OIG also reported on the status of management challenges addressed in previous reports and identified a watch list item.

The FY 2025 management challenge areas include:

- Overseeing the Department's High-Risk Portfolio Under the Infrastructure Investment and Jobs Act (IIJA), Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act, Inflation Reduction Act (IRA), and Puerto Rico Energy Resilience Fund
- Strengthening Cybersecurity — Protecting Sensitive Data, Information Systems, National Security, and Critical National Infrastructure
- Combating the Theft of National Security Information and Intellectual Property — Research Security
- Accessing Data for the Purpose of Running Data Analytics
- Playing a Leadership Role — Artificial Intelligence (AI)

Additionally, the status of other management challenges addressed in previous reports includes:

- Restoring Plutonium Pit Production Capability — National Nuclear Security Administration (NNSA)
- Managing Radioactive Liquid Waste — Office of Environmental Management

Finally, the OIG identified a watch list item in the area of underutilizing Enterprise Risk Management (ERM).

## I. UNPRECEDENTED CHALLENGES UNDER RECENT LEGISLATION

### Overseeing the Department's High-Risk Portfolio Under the IIJA, CHIPS and Science Act, IRA, and Puerto Rico Energy Resilience Fund

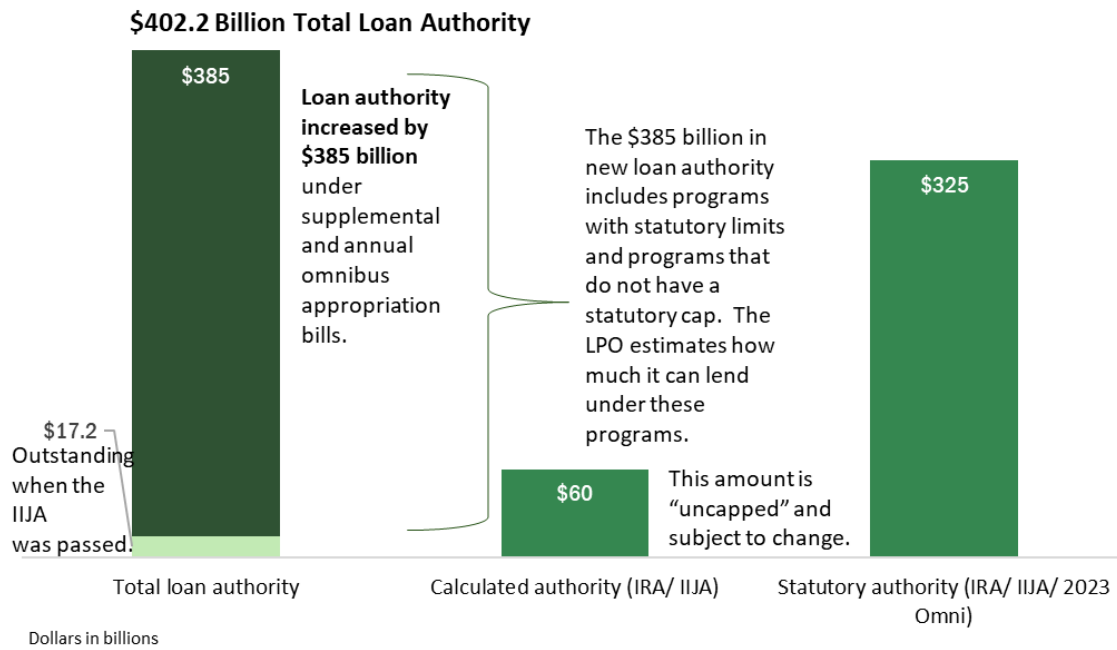
There is tremendous risk to the taxpayer from the recent historic expansions of Department programs. Passage of the IIJA in November 2021, both the CHIPS and Science Act and IRA in August 2022, and the Puerto Rico Energy Resilience Fund in December 2022 provided the Department with an unprecedented \$99 billion in new appropriations, \$30.5 billion in new authorizations, and an enhanced loan authority of over \$400 billion.

#### Special Focus on Loan Programs Office Risks

The OIG is particularly concerned about the risks associated with the rapid expansion of the Loan Programs Office (LPO). When the IIJA — the first of the massive supplemental appropriation bills — was signed into law, the LPO had \$17.2 billion of outstanding loans. From 2021 through 2023, the IIJA, IRA, and 2023 Omnibus Appropriations Law increased the LPO's lending authority by at least \$385 billion to a total of at least \$402.2 billion.<sup>2</sup> This almost half a trillion in authority is more than 23 times that of the LPO portfolio balance as of November 2021, when the IIJA was signed. To illustrate:

<sup>2</sup> The OIG was tracking an estimated \$385 billion in expanded loan portfolio enabled by the IIJA and IRA, as managed by the LPO program. Of this amount, \$60 billion is an estimate, as the statute has no cap/unrestricted cap for those programs. LPO will make loans until the credit subsidy supporting the loans are committed. Estimates for these programs will change annually. Additionally, the \$385 billion estimate does not account for an additional loan portfolio that the Grid Deployment Office is now standing up, which includes more than \$2 billion of credit subsidy, which may support an additional large portfolio of loan guarantees for electrical transmission lines. The Department does not have an official estimate for what size portfolio this appropriation can support, but it may be between \$20-40 billion. It is important to understand that the LPO estimated portfolio of loans and guarantees will likely increase.

## OTHER INFORMATION (Unaudited)



### Increase in the LPO's Loan Authority

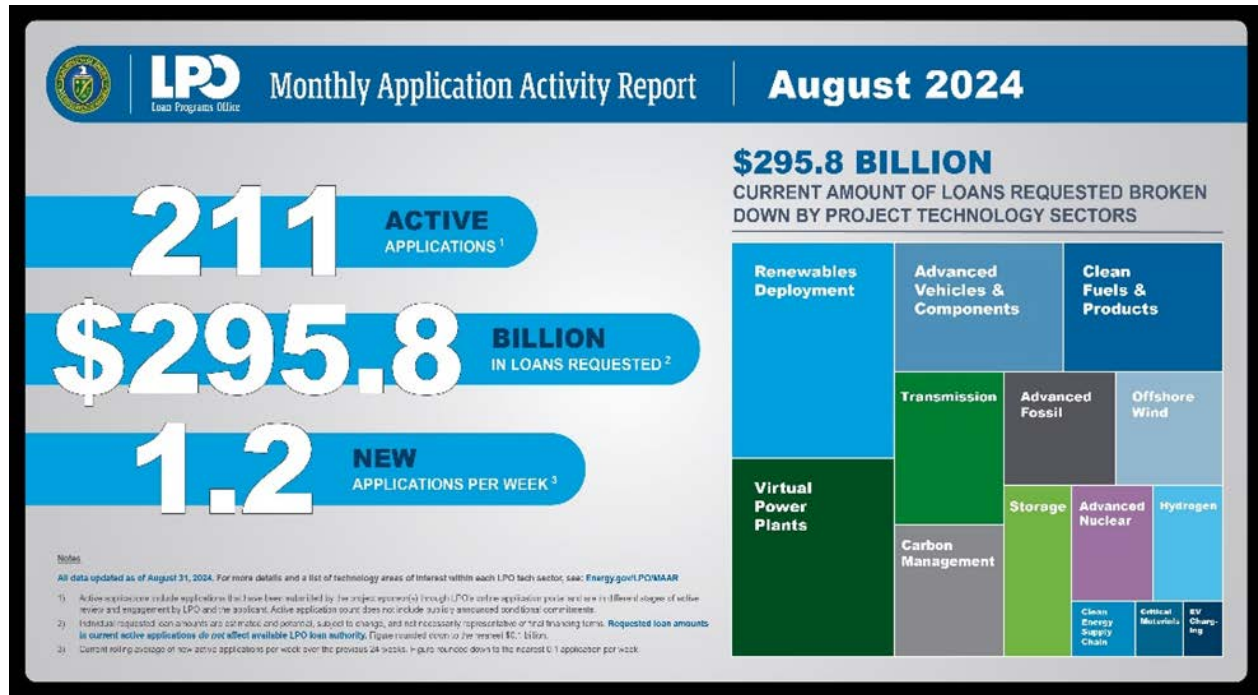
The OIG has identified, at a minimum, the following risks posed by this loan authority:

- 1) Near-term deadlines could create pressure to cut corners.

Most of the loan authority will expire from 2026 through 2030, meaning the LPO must build its portfolio with deals collectively worth hundreds of billions of dollars on accelerated timeframes. The \$290 billion of expanded loan authority will expire September 30, 2026, just 2 years from now. An additional \$50 billion and \$2 billion in authority will expire, respectively, at the end of FY 2028 and FY 2030.

The pressure to beat these deadlines introduces the risk that the LPO will enter into loans it otherwise would not, absent the looming deadlines, because of insufficient time to conduct rigorous due diligence, to negotiate terms that could effectively mitigate the risks identified during the due diligence, and to consider alternative projects that might offer a more favorable risk profile.

Applications are being submitted to the LPO rapidly. Specifically, the LPO reported 211 loan applications worth \$296 billion in August 2024. This is an average of about \$1.4 billion per loan application, with new loan applications coming in regularly. This volume of applications, looming deadlines to enter into inherently risky deals, and the hundreds of billions of dollars at stake make this one of the most urgent and significant management challenges facing the Department today.



2) Innovative projects, not likely to otherwise be funded by the private sector, come with inherent risks.

Fundamentally, the purpose of the Department's loan programs is to provide financing for projects that, without the LPO backing, could not be obtained from the commercial banking or private equity sectors. This fundamental risk warrants more rigorous due diligence procedures, where those reviewing the loan applications should be afforded more time rather than less.

3) Accelerated due diligence may fail.

The LPO's due diligence process is the Department's principal internal control process to ensure that the loan applications are sufficient to satisfy three overarching goals. First, the loan application must meet federal requirements for the loan program. Each of the loan programs have requirements that leave plenty to interpretation, which introduces risk into the system that loans may be awarded for purposes other than those intended by Congress. Second, the due diligence process must assess whether the project is technically feasible and commercially scalable, which may prove challenging for some of the loan applicants that must scale unproven technologies. Third, the due diligence process must ascertain the financial viability of the proposal over the loan's entire term. This is particularly challenging for new markets, rapidly changing technologies, and newly created companies.

4) The Department may fund foreign adversaries.

Congress clearly intends for public financing to benefit domestic industry, create domestic jobs, and reduce vulnerabilities created by over-dependence on suppliers with foreign ties and the risk of foreign exploitation of domestic research efforts. Congress did not intend to benefit our foreign adversaries. Avoiding such benefits, however, will require careful vetting of grant and loan applicants for foreign adversary entanglements, which is something not historically done by the Department. On March 1, 2023, the Department did direct that the Research, Technology, and Economic Security Vetting Center (Vetting Center) be established for this purpose, to identify foreign adversary entanglements. This Vetting Center, however, is new, evolving, and has already failed to prevent applicants with such prohibited foreign adversary connections from being approved.

Even beyond domestic supply chain issues, the Vetting Center must also operate to prohibit a broad range of federal loan and grant funds from ending up in the control of our foreign adversaries.

For example, the OIG has already identified two instances in which the Department announced grants to entities with suspected ties to foreign entities of concern. The OIG presented this information to Department officials, who then appropriately cancelled both awards. These two awards alone were worth a combined total of about \$400 million.

5) These risks compound to create an outsized risk of default.

All of these risks compound one another in a manner that, ultimately, creates a heightened risk of loan default with the taxpayer picking up the bill. With more than \$400 billion of possible loans and guarantees, this is one of the largest financial risks facing the Department today.



### **Risks Associated With the New Financial Assistance Programs**

With the funding received under recent legislation, the Department stood up 72 new programs — such as an \$8 billion Regional Clean Hydrogen Hub program and a \$6 billion program for battery material processing, manufacturing, and recycling — and significantly expanded other programs, such as the Weatherization Assistance Program, which went from receiving \$313 million in appropriations in FY 2022 to receiving \$3.5 billion under the IIJA.

Of the \$99 billion in appropriations contained in the IIJA and IRA, the Department has published more than \$67 billion in funding announcements and, of that, has announced more than \$50 billion in awards — largely for grants, cooperative agreements, and other financial assistance awards.

The Department must prevent the theft and waste of these funds rather than follow the “pay and chase” model, in which money goes out the door with few controls, and agencies must later expend considerable resources to recover a mere portion of fraudulently spent and misspent money. Effective “front end” oversight can avoid billions of dollars in losses.

The OIG’s oversight work continues to raise red flags about the Department’s ability to avoid making awards and approving transactions that pose risks to Department programs. Inspector General Donaldson testified before Congress in April 2023 and again in October 2023 about concerns such as newly designed and untested internal controls, potential capacity challenges faced by grant recipients, and an unprecedented level and pace of loan financing, much of it to fund projects with supply chains historically dependent on foreign adversaries. These concerns persist.

The OIG has recently reported on the proper collection and use of applicant identification data, which is one proven internal control to prevent fraud. Such controls are especially important for programs relying on third parties to further distribute federal funding. These programs are a high-value target for individuals and criminal groups to exploit. The Department’s State and Community Energy Program’s \$4.3 billion Home Rebates Program is one such program. Under this program, the Department provides grants to states and U.S. territories, which then convey funds to applicants via rebates. We concluded the data that the Department intends to collect and requires states to collect from recipients leaves concerning gaps that will hinder both the federal government and the states’ ability to prevent and detect fraud.

The OIG has planned an oversight campaign at the award level for these and other high-risk, high-dollar programs administered under the Department’s new and expanded mission areas. OIG auditors and OIG-hired independent audit firms will conduct audits of both grantees and sub-grantees to test their eligibility for the funding awarded to them, whether the activities undertaken are allowed under the award, compliance with cost principles, and whether they are conducting adequate sub-recipient monitoring.

### **Conclusion**

Department leadership, as stewards for these new and expanded programs, has a duty to ensure that tax dollars entrusted to the department are used as intended by Congress. The OIG concluded that appropriately managing the combination of risks to the taxpayer that are present in the massive expansion of lending authorities, together with the historic expansion of financial assistance award programs, are the most significant management challenge facing Department leadership today.

## **II. MODERNIZING OVERSIGHT AND MANAGEMENT**

### **Strengthening Cybersecurity — Protecting Sensitive Data, Information Systems, National Security, and Critical National Infrastructure**

#### **Significance of the Issue – Cybersecurity**

Protecting and enhancing the security of the Department’s information technology and operational technology assets, including critical infrastructure and high-value assets, is crucial to fulfilling the Department’s unique mission set, spanning energy and nuclear security, grid modernization, scientific research and discovery, and cleaning up the environmental impacts caused by decades of nuclear weapons development and government-sponsored nuclear energy research. The Department is also responsible for operating and securing critical infrastructure that supports the electric systems across 34 states and the operation of the nation’s Strategic Petroleum Reserve.

The Department possesses high-value assets that are so critical to the agency that the loss or corruption of the information or loss of access to the system would have a serious impact to the agency’s ability to perform its mission or conduct business. The sensitivity of the information within these assets makes them ideal targets for criminal, politically motivated, or state-sponsored actors for either direct exploitation of the data or causing a loss in public confidence.

Similarly, the Department has a significant footprint of industrial control systems (ICS). The convergence of physical and cybersecurity processes and the increasing integration of ICS with business networks and internet-based applications has vastly increased the prevalence and complexity of cyber threats to ICS. This threat was highlighted recently by the Government Accountability Office’s (GAO) report, Nuclear Weapons Cybersecurity: Status of NNSA’s Inventory and Risk Assessment Efforts for Certain Systems (GAO-23-106309, June 2023), which identifies shortcomings with the identification, assessment, and mitigation of cyber risks to specific weapons or manufacturing equipment.

## OTHER INFORMATION (Unaudited)

Cybersecurity is a critical aspect of the Department's overall security posture and one of the Department's highest risks. While the usual attacks by adversaries remain persistent challenges, threats are increasingly coming from state-sponsored military and intelligence organizations, terrorist groups, and international crime organizations. Recent reports have highlighted the increase in attacks by state-sponsored adversaries on federal agencies, military installations, and the nation's critical infrastructure, which could lead to devastating consequences in the event of a cyber breach, including loss of life, property damage, and disruption of the essential services and critical functions upon which society relies.

### **Department Progress – Which Includes Issuing a Cybersecurity Strategy**

The Department issued its Cybersecurity Strategy in January 2024, which aligns with the National Cybersecurity Strategy. The Department's strategy defines the integrated approach it will use to reduce cybersecurity risk given its diverse missions. The strategy was developed to achieve a safe, secure, and resilient cyber environment, which requires the Department to take a risk-based approach through cost-effective investments to reduce cyber risk. In April 2024, the Department also updated Department Order 205.1D, *Department of Energy Cybersecurity Program*, which now includes direction related to Zero Trust Architecture implementation, security and use requirements for cloud computing, and new guidance related to national security systems and portable electronic device security. In February 2024, the Department collaborated with the National Association of Regulatory Utility Commissioners to develop a set of cybersecurity baselines for electric distribution systems and the distributed energy resources that connect them.

The Department has also implemented various mechanisms to improve cybersecurity-related collaboration across the enterprise and with international partners. For example, the Office of the Chief Information Officer (OCIO), in collaboration with other Department programs, staged its Cybersecurity and Technology Innovation Conference that included topics such as operational technology risks, supply chain management, and the adoption of AI. Cybersecurity continues to be a point of emphasis discussed by various working groups, including the Information Management Governance Board, the Department Cyber and Information Technology/Operational Technology Executive Cyber, and IT Council. Further, the Department reports engaging with industry and international partners to help drive technical collaboration in cyber and physical security of energy infrastructure to respond to emerging threats from adversaries and a rapidly changing climate.

These are important steps, but actual implementation of improved safeguards remains a significant challenge.

### **Challenges – Which Include Department Contractors Implementing and Assessing Their Cybersecurity Environments Against Outdated Requirements**

Even with limited oversight, the OIG has identified numerous weaknesses in cybersecurity within the Department. These weaknesses, if exploited, could cause significant harm to the Department or the public.

With the addition of federal mandates, evolving threats that require the need for better tools, and shortages in the cyber workforce, the Department must continually reprioritize its investments to ensure that its systems and data are secure. In some cases, Department programs and sites report needing funding to close recommendations issued by the OIG. Some officials report being faced with difficult choices between addressing cybersecurity weaknesses or conducting mission-specific work, such as environmental cleanup, reducing the threat of nuclear proliferation, or conducting critical research at one of the many national laboratories. This challenge was evident in our report, *The Department of Energy's Unclassified Cybersecurity Program - 2023*, which notes that the Department was unable to fully address 30% of the 73 recommendations made by the OIG in the prior year.

The Department also continues to encounter challenges implementing federal mandates, addressing evolving threats, and mitigating shortages in the cyber workforce. Further, the Department's existing governance structure impacts its ability to respond to cybersecurity evolving risks and mandates. While the Department has an OCIO with broad responsibilities, the Department's decentralized organizational structure impedes the OCIO's ability to manage and combat cybersecurity risks facing the Department. The Department lacks a centralized organizational structure to oversee enterprise-level risks and to obtain, process, and correlate real-time cyber data. This impedes the OCIO's ability to manage security across the enterprise. The governance structure is exacerbated by a general lack of correlating authoritative data and using performance metrics to enhance cybersecurity oversight.

The Department continues to fall behind changing cybersecurity requirements and enhancements. Despite Department directives requiring implementation of the latest federal cybersecurity guidance, various contractors performing work on behalf of the Department and at Department-owned facilities continue to implement and assess their cybersecurity environments against outdated requirements. For example, the OIG's FY 2024 evaluation of the Department's unclassified cybersecurity program found that four of six sites reviewed had not fully implemented the requirements of the National Institute of Standards and Technology Special Publication 800-53, Revision 5, *Security and Privacy Controls for Information Systems and Organizations*, issued more than four years ago. In fact, more than 80% of the 101 systems tested were still operating under outdated requirements. Contractors have reported that contractual requirements were not communicated to them or were not incorporated into their contracts timely. In many cases, officials indicated that while new requirements need to be implemented, they are underfunded or not funded at all. Officials have also expressed concerns that lines of authority are not clear. Some sites are taking cybersecurity direction from the site offices overseeing them but not taking direction from the Department's OCIO. Some site officials have also resisted OCIO efforts as so-called "unfunded mandates" and continue to pursue locally focused solutions for problems that require an enterprise approach. This type of dysfunction results in gaps and seams,

## OTHER INFORMATION (Unaudited)

duplicative investment, and friction that could put sensitive and potentially classified information at risk. Given these challenges, the OIG has initiated a review to determine whether the Department implemented an effective governance process over information technology and cybersecurity management.

Furthermore, Executive Order (EO) 14028, *Improving the Nation's Cybersecurity*, issued in May 2021, requires agencies to advance toward implementation of a Zero Trust Architecture to improve cybersecurity, visibility, and controls, among other things. The Office of Management and Budget also issued Memorandum 22-09, *Moving the U.S. Government Toward Zero Trust Cybersecurity Principles*, which set the goal for agencies to meet specific cybersecurity standards and objectives of a Zero Trust Architecture by the end of FY 2024. The OIG's ongoing review of the Department's implementation of Zero Trust Architecture found that while the Department was making some progress, it was unable to fully meet the requirements of the memorandum.

EO 14028 also directed agencies to centralize and streamline access to cybersecurity data to drive data analytics for identifying and managing cybersecurity risks. However, the Department continues to be challenged with obtaining real-time, or even near real-time, authoritative data, including from its management and operating and prime contractors. This impacts its ability to detect and respond to threats in a timely manner across the entire enterprise. Instead of having real-time or near real-time data feeds from the various networks and systems supporting the Department's mission, it relies heavily on old school data calls — which are prone to delays, errors, and inconsistencies — to obtain information on the sites' security posture. As previously reported by the OIG, the Department could substantially benefit from leveraging sources of network information to conduct cyber analytics at the enterprise level to gain more visibility for making risk-based decisions. This would also enable the Department to use data analytics to help prioritize the use of limited resources.

### Combating the Theft of National Security Information and Intellectual Property — Research Security

#### Significance of the Issue — Theft by Foreign Adversaries

Safeguarding the Department's intellectual property and protecting national security information is of the utmost importance. Research security is necessary to protect the Department against the theft of valuable research and development to the detriment of national or economic security, and to protect our interests against foreign government interference.

Over 90% of the Department's more than \$50 billion in annual funding is disseminated to contractors, which include the contractors running the national laboratories, including the NNSA research facilities. The Department and its contractors are responsible for complying with the requirements of National Security Presidential Memorandum 33, which requires that the Department maintain an effective research security program. Such a program must include a broad range of tools, including cybersecurity, physical security, protections against allowing spies and thieves within these facilities, and other matters. The relationship between the Department's facilities and academia makes research security particularly challenging.

The OIG is currently partnered with the Intelligence Community Inspector General to examine and evaluate a range of research security activities to counter foreign influence at select national laboratories. This report is expected in summer 2025.

Research security concerns must also be carefully considered across Department programs to avoid giving federal grant and loan funds to foreign adversaries, which could further empower those foreign adversaries. The Department should avoid granting or loaning funds under IIJA and IRA to the same foreign adversaries that the Federal Bureau of Investigation has identified as “the greatest long-term threat to our nation's ideas, innovation, and economic security.”<sup>3</sup> If the Department is not careful, it could end up funding our foreign adversaries' activities — the same foreign adversaries that seek to illicitly acquire the research being developed in the Department's world-class research facilities.

The Department's loan authority has increased to over \$400 billion under IIJA and IRA. It is critical that the Department ensure this unprecedented amount of money does not end up in the hands of our foreign adversaries.

According to the Congressional Research Service,<sup>4</sup> the Department budgeted \$22.25 billion for *R&D and Related Activities*<sup>5</sup> in FY 2024. Most of this is spent by Department contractors at national laboratories. Most of the remainder is awarded in the form of grants. In FY 2024, the Department awarded \$10.9 billion<sup>6</sup> in grants, up from \$9.12 billion in 2023. The OIG anticipates that the amount will continue to increase as additional grants are awarded under IIJA, the CHIPS and Science Act, and IRA. While some of this work is for fundamental research that is freely published in the public domain, much of it is subject to intellectual property protections, national and economic security considerations, and/or restrictions limiting the extent to which foreign firms could be involved such as advanced battery manufacturing, clean energy demonstration projects, and advanced/small modular nuclear reactors.

<sup>3</sup> Statement made by Christopher Wray, Director, Federal Bureau of Investigation, November 15, 2023, before the Committee on Homeland Security, United States House of Representatives.

<sup>4</sup> <https://crsreports.congress.gov/product/pdf/R/R47564> (pp 23, 24)

<sup>5</sup> Actual spending for *R&D and Related Activities* was not available at the time of this report.

<sup>6</sup> <https://www.usaspending.gov/search/?hash=565ed2e3afa981ef643cf983ffa689bc>

## OTHER INFORMATION (Unaudited)

All of the Department's major investments remain a target for foreign governments seeking to illicitly acquire access to U.S.-funded research and technologies. This is particularly troubling given the Department's integral role in the development and maintenance of nuclear weapons systems, along with other pivotal national security missions. The economic and scientific value of the research and intellectual property developed within the Department's complex has led foreign governments and their proxies to intensify efforts to steal information from the Department's funded research.

### Department Progress

Since our FY 2024 Management Challenges report, the Department has taken some steps to address this challenge. For example, the Department has reinvigorated its Office of Intelligence and Counterintelligence by changing its leadership and working to acquire additional funding.

In addition, on March 1, 2023, the Department directed that the Vetting Center be established to vet applicants for its vastly expanded grant and loan programs. The Department has made some progress beginning to staff and develop this organization. For example, on January 26, 2024, a memorandum was issued by the Deputy Secretary establishing a Vetting Center Policy Working Group and setting forth the Working Group's scope and function.

Additionally, the OIG has seen progress within one Department program office, the Office of Energy Efficiency and Renewable Energy. This program office has demonstrated a commitment to preventing the theft of intellectual property by instituting prohibitions on affiliation with foreign talent programs from countries of concern for all prospective IIJA-funding recipients, and by signaling it will widen such restrictions to all financial assistance recipients for future funding opportunity announcements.

### Challenges — Which Include Formalizing Conflict of Interest Language and Building a Robust Vetting Center

While the Department has made some effort to mitigate research security risks, much remains to be done in this area. As noted above, at least one program office has made progress in this area, but we have yet to see that these steps have been taken more broadly across the complex. It is critical for the Department to prioritize these efforts and ensure it has the adequate tools and resources to effectively prevent the theft of intellectual property and national security information consistently across all program offices. With the significant increase in funding allocated under IIJA, the CHIPS and Science Act, and IRA, it is increasingly important for the Department to coordinate the review of proposals with all available resources, such as the Vetting Center, to effectively minimize the risk to national security, and the risk of theft of intellectual property.

The Department must also provide sufficient resources to the Vetting Center so that it can fulfill its mission of proactively detecting foreign threats to our advanced technologies and strategic supply chains utilizing risk-based analytic tools and partnerships between program offices. The Department must also design and implement enforcement tools to deter and take action against individuals who have stolen valuable U.S.-owned intellectual property and transported it to our adversaries.

Additionally, while the Department adopted a new conflict of interest policy in December 2021, the Notice of Proposed Rulemaking process for adopting formal conflict of interest/commitment language has been going on for several years and has not concluded. The anticipated completion date is now spring 2025. This effort builds on formalizing the provisions laid out in the Financial Assistance Letters addressing conflicts of interest and commitment among Department funding recipients. With ever increasing funding being dedicated to promoting the research and development of emerging and critical technologies, this process needs to be completed.

Many challenges remain for the Department to fully implement National Security Presidential Memorandum 33, which requires, among other things, that the Department create a standardized set of required certifications and disclosures for all funding applicants. Such standardized language would aid in preventing foreign actors from illicitly obtaining Department intellectual property, and it would give the OIG a stronger basis to successfully prosecute offenders.

### Accessing Data for the Purpose of Running Data Analytics

#### Significance of the Issue — Data Analytics

The use of data analytics<sup>7</sup> allows an organization to evaluate transactional data in support of decision-making regarding policy, program operations, resource allocations, risk management, and mission outcomes. Most importantly for the Department, data analytics is fast becoming the cornerstone of fraud detection, waste detection, and payment integrity. The Department's slow pace to utilize a data-driven approach could cost the taxpayers a substantial amount of money in the long term.

In March 2024, we issued Special Report, [The Department of Energy's Considerations and Use of Data Analytics](#) (DOE-OIG-24-14). This report describes the legal and policy landscape, leading practices, and past oversight recommending that the Department act. The report states the growing urgency to implement effective data analytics to improve the efficiency, economy, and effectiveness of the Department's oversight and management of its programs and operations. The report highlights that the Department's distributed and decentralized environment further

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<sup>7</sup> Data analytics is the application of data science to draw insights from data. It is foundationally enabled by data governance, management, technical infrastructure, and data literacy across the workforce.

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exacerbates already existing data access and management challenges that hinder its ability to provide effective oversight and detect fraud, enhance data-driven management, realize performance improvement, and reduce risk to federal resources.

It is imperative that Department leadership emphasize the collection and use of high-quality, well-managed data to address these challenges. Doing so would allow the Department to much more effectively manage the strategic risks while supporting the development of useful and timely metrics to ensure better outcomes. By prioritizing the use of data analytics, officials could also improve the Department's oversight of the more than \$500 billion of risk associated with the authorized or appropriated funds and loans under IIJA, IRA, CHIPS and Science Act, and the Puerto Rico Energy Resilience Fund.

### **Department Progress — Which Includes Taking Preliminary Steps to Expand Staffing Resources**

The Department has taken preliminary steps toward using data analytics in its operations. For instance, the Department continues to enhance data literacy and data collaboration amongst key stakeholders within the financial community, including the Chief Data Officer, through knowledge sharing of best practices and with private industry communities. The Department has also expanded data analytics staffing resources, including contract data analysts and upskilling existing staff with training that focuses on data visualization, analytics, and science. With respect to new appropriations, the Department has launched the Lifecycle Spending Dashboard that uses interactive visualizations to track and report IIJA and IRA fund execution.

The Department has also established a Fraud Risk Working Group that supports preparation of the annual agency fraud risk register and fraud risk profile. The working group developed a fraud risk register based on reported fraud risks, fraud risk occurrences, and internal control entity assessment data. The register was then prioritized to prepare the Department's Fraud Risk Profile.

In addition, the Department's Data Analytics Working Group has collaborated with field and contractor staff to identify contractor conflicts of interest and available data sets that could be used as pilots for data analytic purposes. Finally, the Chief Data Officer has made progress on the Department's Data Strategy and Implementation Roadmap and has reinvigorated enterprise data governance and Department-wide collaboration and information sharing on data management and governance efforts.

Several promising aspirational initiatives are underway across the Department's sites and programs, which are, of course, disconnected from any enterprise or federated strategy or approach. The Department would be well-served to take advantage of these efforts to build toward a truly federated enterprise.

### **Challenges – Which Include Substantially Lagging on Completion and Integration of Actions Outlined in the Federal Data Strategy**

In the OIG's [Special Report, \*The Department of Energy's Considerations and Use of Data Analytics\*](#) (DOE-OIG-24-14), we outline three considerations to which the Department concurred. These considerations included: (1) develop and implement a data governance structure, strategy, implementation plan, and capstone policy, including identifying a portfolio of high-priority, high-value use cases; (2) assess and identify resource needs, including policy, process, workforce, and information technology; and (3) adopt a coordinated approach for establishing and enforcing common minimum data standards, access to authoritative data, and accountability on implementation via transparency and consistent contract language.

We highlight progress on the first item. Programs and sites do appear to be allocating resources toward data management and analytics, but they continue to do so in a mostly distributed and decentralized manner. In the OIG's [Special Report, \*The Department of Energy's Considerations and Use of Data Analytics\*](#) (DOE-OIG-24-14), we report initial progress within NNSA toward developing financial data and information sharing standards. However, at the Department level, while there is some progress, much more is needed to strengthen the Department's governance and management to develop common minimum standards. In the meantime, the Department's federated governance will need to be further strengthened to support timely, effective, economical, and efficient implementation of such standards.

The Department is also substantially lagging on completion and integration of actions outlined in the Federal Data Strategy action plans, such as those related to establishing a framework for data management, data governance, establishing an enterprise data catalog, and assessing data management maturity.

### **Playing a Leadership Role — Artificial Intelligence**

#### **Significance of the Issue — Artificial Intelligence**

The rapid advancement of AI technologies, including generative AI, machine learning, and intelligent autonomous agents, presents immense opportunities and significant challenges. Nation-states vie for dominance, and unlike physical sciences, the center of mass is with American industry. Over the past year, we have witnessed the emergence of increasingly sophisticated and capable AI systems and basic AI research and techniques.

The rate of change and the resulting threats and opportunities are increasing, moving much faster than the speed of government. This is being driven by a breathtaking amount of capital investment by the private sector, supported by high valuations in the capital markets. The implications for U.S. national security, including energy security, nuclear security, and economic competitiveness are profound and compounding. With its critical



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missions in energy and nuclear security, the Department must navigate this complex landscape, ensuring the safe and secure development and deployment of AI technologies.

With its extensive research, engineering, and production capabilities, the Department could be positioned to provide leadership in AI development and deployment both on the research and security side.

### **Department Progress — Which Includes Making Strides in Establishing an AI Governance Framework**

This year, the Department has made some progress in establishing AI governance structures and promoting responsible AI use. Work across the Department sites and programs, taken individually, continue to push the boundaries of AI work. However, this accelerating pace of AI development requires a renewed focus on strengthening governance, enhancing data management, and addressing ethical and security concerns as an enterprise. The Department must address these challenges, including hard questions about its ability to meet the moment with a 20<sup>th</sup>-century operating and management culture. It is reasonable to ask if the Department's distributed and decentralized culture, dating back to the Manhattan Project and solidified in the last century, is ready for this challenge.

The Department has made strides in establishing an AI governance framework. The adoption and expansion of the Cyber and IT/OT Executive Council and AI Advancement Council are noteworthy. The AI Advancement Council serves as the principal forum for collaboration and oversight of AI activities within the Department, providing strategic direction and addressing policy conflicts. Working groups covering topics such as AI rights, safety, and cybersecurity are underway. The appointment of a Chief AI Officer and a Responsible AI Official further strengthens the Department's AI governance structure, promoting comprehensive oversight of AI coordination, innovation, risk management, and deployment.

The Department is also engaged on the potential risks and concerns related to AI use, prioritizing responsibility, transparency, and ethical considerations in AI development and deployment. The Department produced an AI Risk Management Playbook, which identifies over 100 risks and mitigation techniques for AI use cases. The Department is also enhancing its cybersecurity infrastructure to address AI-specific threats and is beginning to implement best practices for secure coding, data handling, and access controls. Further, the Department is working to harmonize AI regulations, guidelines, and frameworks to ensure consistency and reduce barriers, thereby aligning legal frameworks, ethical standards, safety protocols, and data governance practices.

The Frontiers in Artificial Intelligence for Science, Security, and Technology initiative, which will engage offices across the Department and all 17 national laboratories, signals a commitment to integration. The Department is also working to remove barriers by addressing issues such as access to AI tools, data quality, and infrastructure challenges. Efforts include securing hardware for AI development and partnering with cloud service providers to offer the latest AI services.

The Department has also stressed the need for prioritizing the recruitment, training, and retention of AI talent, updating position descriptions, leveraging AI-focused training programs, and establishing role-based AI training tracks to build AI literacy and expertise across the Department.

### **Challenges — Which Include Needing a Roadmap for AI Implementation**

The Department must continue to address challenges associated with AI governance and should ensure that it aligns and integrates its data management and governance activities with its AI activities under a governance framework. The Department should enhance data access and usability and develop a comprehensive framework and road map for AI implementation that addresses ethical, security, and use concerns to meet the changes brought on by the rapid development of AI technologies. These efforts will require a proactive approach to ensure the Department remains at the forefront of innovation and safeguards its critical missions.

A comprehensive governance framework that guides the development and deployment of AI technologies should include defined roles and responsibilities. These roles and responsibilities will be essential for establishing a robust AI governance framework that fosters accountability and promotes responsible AI use. The roles and responsibilities should encompass all parts of the Department enterprise so that issues of proper AI use permeate throughout the entire agency.

The Department should also ensure it appropriately addresses the challenge of leveraging the work done by the national laboratories and the Office of Critical and Emerging Technologies to integrate AI into the Department's daily workflow and processes more broadly. This can lead to increased efficiency and innovation. The Department can encourage consistent and effective AI implementation by developing common standards, promoting best practices, and mitigating potential risks. These standards should cover topics such as data privacy, security, ethics, and accountability, which together can provide a solid foundation for responsible AI use.

The Department must also consider and plan for how it will address possible challenges and risks related to AI use. The guidelines that are developed should be clear to aid researchers and users when developing and using AI. Prioritizing responsibility, transparency, and ethical considerations in AI development and deployment will foster trust, ensure fairness, and promote the responsible use of AI technologies. AI safety and security are dynamic areas that make it essential, especially in light of nation-state competition and the cautionary warnings of industry, to establish data-driven linkages to enable the Department to become a timely learning organization. This could include the establishment of common

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minimum standards for AI-related metadata and performance indicators to support roll-up into compelling dashboards that support identification of challenges and opportunities and more rapid cycles of learning and dissemination of leading practices.

Effective enterprise data access, management, and governance are critical enablers for AI success. Data that is accessible, authoritative, and organized is the precursor for successful AI efforts that lead to the most accurate insights. Initiatives like EDISON and Project Alexandria<sup>8</sup> play critical roles in improving data access, breaking down data silos, and promoting collaboration. While these efforts are promising, there is still a need for an enterprise data management system, including a catalog, shared taxonomy, and metadata management processes and standards, to support AI development and deployment. These data management and governance investments will form a solid foundation for AI applications. Including the Frontiers in Artificial Intelligence for Science, Security, and Technology, these efforts when combined with the development of a comprehensive enterprise data strategy could improve data quality, governance, and accessibility — critical components for AI training and model development.

Because of the Department's contractors' extraordinary technological expertise, it has a unique opportunity to be a leader in responsible AI development and deployment. By proactively addressing the challenges of governance, data access, and ethical considerations, and fostering a culture of innovation and collaboration, the Department may unlock the potential of AI in a safe, secure, and equitable manner. A proactive plan and well-defined framework will foster transparency, accountability, and continuous improvement in the Department's AI initiatives. Without the proper support and better integration and alignment across current efforts, the Department may lack an environment that encourages innovation and the successful use of AI technologies.

### III. STATUS OF OTHER MANAGEMENT CHALLENGES ADDRESSED IN PREVIOUS REPORTS

#### Restoring Plutonium Pit Production Capability — National Nuclear Security Administration

##### Significance of the Issue – Pit Production

NNSA is responsible for maintaining a safe, secure, reliable, and effective nuclear weapons stockpile. Plutonium pits are a vital component in all U.S. nuclear weapons. During the Cold War, the nation produced more than 1,000 plutonium pits per year (ppy) at the Rocky Flats Plant in Colorado. Since the closure of the Rocky Flats Plant in 1992, the U.S. has lacked the capability to produce significant quantities of new plutonium pits. NNSA is developing the capability to manufacture plutonium pits at the rate of at least 80 war-reserve<sup>9</sup> (WR) ppy.

Maintaining confidence in the nuclear warheads that compose our nation's nuclear deterrent requires the Department to re-establish a plutonium pit manufacturing capability. Newly manufactured pits are required to improve warhead safety and security, mitigate the risk of erosion of confidence in the deterrent posed by plutonium/pit aging, and support potential changes to future warheads due to threats posed to the U.S. nuclear deterrent from renewed peer competition.

##### Department Progress — Which Includes Issuance of Awards for Glovebox Procurements at LANL and Preparations for Glovebox Installation at SRS

To reach the capability to produce 80 ppy, NNSA implemented a two-site solution with the objective of producing 30 WR ppy at Los Alamos National Laboratory (LANL) at the existing Plutonium Facility-4 (PF-4), while also producing 50 WR ppy at the Savannah River Site (SRS) Savannah River Plutonium Processing Facility (SRPPF). The OIG did not perform any oversight work over the last year pertaining to this challenge area; therefore, we cannot give an opinion on the Department's progress in this area. However, NNSA was able to provide the OIG with a status update on its pit production effort.

According to NNSA officials, PF-4 currently has the ability to produce pits and has produced a total of 30 WR pits since 2000. However, to reach the capability of 30 WR ppy, PF-4 must expand its existing capacity. To expand capacity, LANL must decontaminate, demolish, and remove old equipment and install new equipment in conjunction with building pits in PF-4. According to NNSA officials, PF-4 is on track to have its first fully qualified pit, the "first production unit," in calendar year 2024. In addition, awards have been issued for all PF-4 glovebox procurements; however, glovebox production has been slower than expected with vendors taking 2 years to produce a glovebox. The bulk of equipment is expected to arrive next year.

At SRS, NNSA officials stated that work is ahead of schedule for preparing the SRPPF for gloveboxes. This work includes repurposing the Mixed Oxide Fuel Fabrication Facility by removing coatings and placing holes in the walls in preparation for glovebox installation. However, this schedule is based on an informal schedule to track some of the site work prior to moving into Critical Decision-2, where an earned-value management system will be put into place, allowing for a far more detailed schedule to completion. Although the cost and schedule for the SRPPF remains uncertain until Critical Decision-2 is reached, according to a 2023 fact sheet, NNSA has determined that producing 50 ppy by 2030 at SRS to meet the overall 80 ppy objective is not achievable. To produce WR pits at the required rate necessitates: (1) completing SRPPF construction and receiving startup authorization; (2) demonstrating a WR-quality pit manufacturing capability; and (3) demonstrating the ability to manufacture at full rate capacity while

<sup>8</sup> EDISON, launched by the Office of the Chief Information Officer, is a multi-tenant data platform that will be available across the enterprise and will accelerate the path to advanced data and analytics capabilities while consolidating standard foundational data and platform management activities. Project Alexandria is leveraging existing national laboratory capabilities to develop and implement a virtual platform to store, catalog, and organize the NNSA non-proliferation research data to improve access and discovery, promote reuse, and enable critical research.

<sup>9</sup> WR pits have been certified to meet the stringent quality assurance requirements necessary to enter the U.S. nuclear weapons stockpile.

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maintaining WR quality. After construction is finished, NNSA may need several years for the SRPPF to receive approval to begin “hot” operations and ramp up to the full rate of pit production.

Although NNSA will not reach the capability to produce 80 ppy by the original target date of 2030, SRPPF officials have stated that the first production unit pit is on track for 2035. However, that projection may change once SRPPF achieves 60% design complete, which we were informed was achieved at the end of October 2024. Subsequently, NNSA will be able to develop more accurate cost and schedule estimates as earned value management systems are implemented for the multitude of projects at the SRPPF.

### **Challenges — Which Include Limited Capabilities for Producing Gloveboxes and Slower Than Expected Production of Gloveboxes**

The Department faces challenges in meeting its production objectives. The U.S. ceased largescale pit production in 1989, and as a result, most pits in the U.S. stockpile are more than 30 years old. In January 2023, the GAO’s audit report, *NNSA Does Not Have a Comprehensive Schedule or Cost Estimate for Pit Production Capability*, states that “[re]-establishing pit production likely represents NNSA’s largest investment in weapons production infrastructure to date” and recommends that NNSA develop a life cycle cost estimate. The GAO found that NNSA had not developed either a comprehensive schedule or cost estimate that met GAO best practices. It also found that NNSA’s schedule does not include all activities or milestones to achieve the stated 80 ppy production capability and does not assign resources to activities. An incomplete integrated master schedule increases the likelihood of disruption and delay. In 2024, LANL developed a Plutonium Infrastructure Integrated Master Schedule that includes all work in PF-4. This site-specific schedule aligns all major items of equipment, minor construction, expense projects, and capital acquisition projects occurring at LANL.

Glovebox procurement challenges also exist according to NNSA officials. Gloveboxes are only manufactured by a few companies and production has been slower than expected, in part, due to difficulties arising from COVID-19 (e.g., inflation, lack of resources, employee staffing for production, specialty vendor staff). Based on an estimate developed by the Glovebox Working Group, NNSA expected glovebox manufacturing to take 1 year but vendors are taking 2 years to produce a glovebox. In addition, many vendors that manufactured the specialized equipment for use in gloveboxes have filed for bankruptcy, which has created further challenges for NNSA.

Other challenges include meeting key milestones on schedule. One recent design milestone involved achieving 60% design completion for the SRPPF project in the first quarter of FY 2025. In 2023, the Savannah River Nuclear Solutions (SRNS) Performance Evaluation Summary identified that the SRNS has not been able to perform to the Performance Measurement baseline for the SRPPF. Additionally, SRNS needed to be attentive to the design production for the SRPPF to recover and maintain the SRPPF design performance baseline. According to SRNS officials, in 2024, a new subcontractor took over responsibility for SRPPF engineering, procurement, and construction, and SRNS is working closely with the new subcontractor to refine the acquisition strategy, improve forecasting and scheduling, and streamline execution. With these changes, SRNS officials expect improvements in performance. We were informed that the SRPPF has met the October 31<sup>st</sup> 60% design complete milestone. However, challenging milestones remain for this project, including approving Critical Decision-2 in the timeframe expected and completing an earned value management system with a far more detailed schedule for completion.

Design changes to the SRPPF are a major risk to completing the project within cost and schedule. To mitigate the risk of design changes, the SRPPF officials have requested NNSA’s early approval of the facility’s Documented Safety Analysis. By taking this action, the SRPPF design will include all the necessary safety structures, systems, and components, along with any administrative procedures necessary to run the facility in a safe and compliant manner.

Maintaining a fully qualified pit production workforce is a significant challenge for NNSA. Pit production work requires long hours in demanding environments, and retention of this skilled workforce within production operations has been a challenge. To address this challenge, NNSA has developed a Plutonium Premium Pay program, which will work as a retention incentive program for employees working in designated facilities involved in plutonium production.

### **Managing Radioactive Liquid Waste — Office of Environmental Management**

#### **Significance of the Issue — Radioactive Liquid Waste**

The Office of Environmental Management (Environmental Management) is responsible for addressing the environmental legacy of decades of nuclear weapons production and government-sponsored nuclear energy research. This mission includes the safe and cost-effective management, treatment, and disposition of high-level radioactive waste (i.e., tank waste) generated through legacy-spent nuclear fuel reprocessing and other plutonium processing activities. Environmental Management is responsible for a total inventory of approximately 90 million gallons of tank waste stored in aging underground tanks, which is a primary environmental risk at the three sites where it is located, namely the Hanford Site (Hanford) in Washington, SRS in South Carolina, and the Idaho National Laboratory Site (INL) in Idaho.

In addition to environmental risks, this waste represents a significant financial burden to the U.S. government.

The Department is the top contributor to the federal government’s overall environmental liabilities, with Environmental Management’s FY 2024 total environmental liability at approximately \$545 billion according to the Department’s *FY 2024 Agency Financial Report*.

### **Department Progress – Which Includes Producing the First Full Test Glass Container at the Low Activity Waste Facility and INL's Integrated Waste Treatment Unit Resuming Operations in August 2024**

The OIG did not complete any oversight work over the last year in this area; therefore, we cannot opine on the Department's progress in this area. However, the Department provided the following information regarding the Department's radioactive liquid waste operations at Hanford, SRS, and INL.

According to Department officials, the Department has instituted new policies and approaches that have the potential to open new disposition pathways for tank waste. In FY 2019, the Department issued its interpretation of the statutory term, "high-level radioactive waste," as defined in the Atomic Energy Act of 1954, as amended, and the Nuclear Waste Policy Act of 1982, as amended. This interpretation allows for managing tank waste via its radioactive characteristics, not by how the waste was generated. The high-level radioactive waste interpretation could enable the Department to manage and dispose of tank waste in a risk-based and more cost-effective manner that remains protective of human health and the environment. Secretary Granholm committed to assessing the high-level radioactive waste interpretation during her Congressional confirmation hearing in January 2021. This assessment, which was completed in December 2021,<sup>10</sup> concluded that the high-level radioactive waste interpretation is consistent with the law, science and data, and the recommendations of the Blue-Ribbon Commission on America's Nuclear Future. The Department has also evaluated a second waste stream (i.e., contaminated process equipment) at SRS for potential disposal at a licensed commercial facility under the high-level radioactive waste interpretation. The first shipment left SRS in March 2024. Future shipments of contaminated process equipment from SRS to a licensed commercial facility for treatment and disposal will continue as necessary.

#### Hanford

At the Hanford Waste Treatment and Immobilization Plant (WTP), startup and commissioning preparations are underway. In December 2023, the Department produced the first full test glass container at the Low-Activity Waste Facility, and cold commissioning is scheduled to begin in November 2024 to support commencement of radiological operations. Additionally, according to the Department, Hanford's Tank Side Cesium Removal System has staged over 500,000 gallons of low-activity tank waste in preparation to send to the Low-Activity Waste Facility.

#### SRS

Based on documentation from the Department, the Salt Waste Processing Facility (SWPF) initiated hot commissioning in October 2020 and began full operations in January 2021. Since the introduction of radioactive salt waste to the SWPF, the Department reported that it has processed about 7.5 million gallons of salt waste as of December 2023. According to SRS, as the SWPF increases efficiency and optimizes its operations, estimated process rates of up to 6 million gallons annually are projected as early as FY 2025 with current technologies. The goal is to continue to achieve SWPF efficiencies and further optimize its operations to possibly achieve future processing rates of up to 9 million gallons annually.

#### INL

INL's Integrated Waste Treatment Unit (IWTU) is expected to treat 900,000 gallons of liquid radioactive and hazardous waste stored in three stainless steel storage tanks. Department officials indicated that the IWTU began radiological operations in April 2023 with a blend of 10% sodium-bearing waste and 90% simulant, and that in May 2023, the IWTU began treating 100% sodium bearing waste. In October 2023, the IWTU entered an outage due to the detection of mercury during hot operations. Department officials stated that the IWTU resumed operations in August 2024. According to the Department, more than 74,000 gallons of sodium-bearing waste have been processed to date.

### **Challenges — Which Include Identifying Additional Treatment Options to Address Hanford's Remaining Low-Activity Inventory and Improving the Defense Waste Processing Facility's and the SWPF's Long-Term Reliability and Availability**

While progress has been made in establishing its capabilities to treat tank waste for final disposition, significant work remains.

#### Hanford

The Department reports needing to identify and develop technically achievable, cost-effective, and viable approaches for treating the high-activity inventory of tank waste at Hanford for disposition. The current program of record calls for the WTP's Pretreatment and high-level radioactive waste facilities to prepare and vitrify the high-level radioactive waste for eventual final disposition. However, the Department is currently working with regulators on a direct feed approach for pre-treatment of the high-level radioactive waste.

Additionally, the Department reports needing to complete startup and commissioning of those facilities involved in the processing of low-activity waste. Further, the Department must identify additional treatment options to address Hanford's remaining low-activity inventory. A January 2023 study, conducted by the federally funded research and development center National Academies of Sciences, Engineering, and Medicine, recommended the Department consider grout as an alternative to supplemental treatment of low-activity liquid waste. To that end, the Department continues to work with regulators to advance a Test Bed Initiative to sufficiently treat 2,000 gallons of tank waste for offsite immobilization in grout for disposal.

<sup>10</sup> Assessment of Department of Energy's Interpretation of the Definition of High-Level Radioactive Waste, a Notice by the Department on December 21, 2021, 86 Federal Register 72220, available at: <https://www.federalregister.gov/documents/2021/12/21/2021-27555/assessment-of-department-of-energy-interpretation-of-the-definition-of-high-level-radioactive-waste>.

SRS

The Department reports needing to continue improving the Defense Waste Processing Facility's and the SWPF's long-term reliability and availability. According to SRS, when the Next Generation Solvent is implemented at the SWPF, it will enable processing up to 9 million gallons of waste per year. SRS also stated that to complete the bulk of the tank waste mission at SRS in the next decade, the Department will need effective management of the spent nuclear fuel processing mission at the Savannah River H-Canyon facility, which contributes to the site's tank waste mission.

INL

Department officials at INL indicated the need to focus on safe operation of the IWTU and interim storage of the stainless-steel canisters until they can be permanently disposed of in a national geologic repository. In September 2024, Department officials estimated that processing the remaining tank farm liquid waste would take an additional 4 to 6 years. Additionally, the Department will need a pathway for the disposal of the processed waste currently stored at INL.

**IV. WATCH LIST ITEM****Underutilizing Enterprise Risk Management**

The OIG prepared a Watch List, which incorporates an issue that the OIG plans to include in our next Management Challenges report.

**Significance of the Issue — Enterprise Risk Management**

Leaders at all levels of the Department are accountable for establishing appropriate strategic objectives and monitoring program performance against those objectives. Selection of effective outcome-oriented strategic objectives reflects a careful analysis of the characteristics of the problems and opportunities an agency seeks to influence its mission, factors affecting those outcomes, and agency capacity and priorities. ERM is an effective approach to addressing the full spectrum of the Department's significant risks by understanding the combined impact of risks as an interrelated portfolio rather than addressing risks only within silos. ERM provides an enterprise-wide, strategically aligned portfolio view of organizational challenges, and enables enterprise-wide action to prioritize and manage risks to mission delivery.

While agencies cannot mitigate all risks related to achieving strategic objectives, performance goals, and program operations, they should identify, measure, and assess risks and associated, measured triggers, to the extent possible. Historically, ERM practices focused on qualitative assessments and experience-based judgments; however, as the availability of data continues to increase, ERM decisions are shifting more toward quantitative decisions driven by the use of data analytics, which can introduce statistical rigor in the identification, tracking, and proactive management of risk. When well executed and properly aligned with performance and program evaluation, ERM improves agency capacity by allowing agency leaders to prioritize efforts, optimize resources, and assess changes in the environment. Although the Department considers enterprise-wide risk in its decision-making, it does so in a fragmented fashion by aggregating risk identified by each program element rather than by examining risk from an enterprise-wide perspective.

**Department Progress – Which Includes Issuing Guidance**

The Department continues to take actions to address the large number of risks it faces. In December 2023, the Department issued its *Enterprise Risk Management: Fiscal Year 2024 Guidance* that emphasizes the synchronization of the Department's risk management, budget, and performance management activities. For example, the guidance was updated to enhance the Department's approach to evaluating cybersecurity risks in accordance with federal requirements. The guidance also highlights the potential use of data analytics within the Department to improve the management and oversight of the significant influx of funds associated with the IJA, CHIPS and Science Act, and IRA. The guidance also illustrates the emerging risks related to AI, instructing organizations to recognize AI threats when conducting risk assessments and assembling their risk profiles.

The Department has also chartered the Departmental Internal Control and Assessment Review Council whose primary mission is to provide oversight of the Department's internal control program and to promote collaborative efforts to evaluate risk. The Departmental Internal Control and Assessment Review Council also constitutes the Department Senior Risk Management Council recommended by Office of Management and Budget Circular A-123 and the GAO.

In addition, the Department has taken action to increase awareness of cybersecurity risks among its management. For example, Environmental Management increased coordination between its leadership and one of its contractor's working groups to increase visibility and the understanding of cybersecurity risks. This in turn has resulted in progress being made in cybersecurity budget requests.

Further, NNSA has recently taken on a digital engineering initiative that it anticipates will not only improve the agility, responsiveness, and effectiveness of the nuclear security enterprise to perform its core missions, but also reduce risk to its programs. This should be commended. In its execution, including its representation in the Department's Enterprise Risk Profile, NNSA's digital transformation faces challenges and opportunities, including change management risks related to moving from a distributed and decentralized culture to a federated operating and management culture.



**Challenges — Which Include Gathering Insights From Individual Program Elements Rather Than Assessing Risk Holistically**

The OIG has an ongoing project looking at the Department's investment in, and implementation of, enterprise-wide data analytics to identify and mitigate risk. This ongoing work has identified that the Department's fragmented fashion, in which it aggregates risks by each program element, may create blind spots in the universe of data that, if rectified, could be used to more accurately and timely identify, track, and respond to risk across the Department. Gathering insights from individual program elements rather than assessing risk holistically across the Department could miss enterprise-wide risks that, while less significant within any individual element, are more significant when viewed in the aggregate.

The OIG has also noted fragmentation issues within the complex. For example, although the Department designated the Strategic Integrated Procurement Enterprise System as the system of record for all Department elements for the award and administration of Department instruments where all pre- and post-award contract documents are to be maintained, the OIG found that this was not the case. Officials informed us that contractual information may be stored in other systems and that local Department offices can set their policies for storing procurement documentation outside of the Strategic Integrated Procurement Enterprise System. Unfortunately, having this information stored in an unknown number of locations could impact the Department's ability to fully evaluate the data for any potential procurement fraud risks. We also found similar issues with the lack of enterprise data being used to evaluate cybersecurity risks, which was discussed elsewhere in this report.

The OIG's forthcoming report will provide suggestions to the Department that, if implemented, should result in substantial improvements to management and oversight of its programs and operations through use of data-informed risk management practices.

# Payment Integrity Reporting (FY 2024 Reporting of FY 2023 Payments)

The Payment Integrity Information Act of 2019 (PIIA), Public Law (PL) 116-117, enacted March 2, 2020, repeals the Improper Payments Information Act of 2002, PL 107-300, as amended by the Improper Payments Elimination and Recovery Act of 2010, and the Improper Payments Elimination and Recovery Improvement Act of 2012. PIIA requires federal agencies to annually review their programs and activities to identify those susceptible to significant improper payments and to measure and report improper payment rates and amounts for programs that are found to be susceptible to improper payments.

Detailed information on improper payments and information reported in the prior AFR can be found on the Payment Accuracy website: <https://PaymentAccuracy.gov>.

## Risk Assessments

When performing risk assessments, the Department evaluates eight OMB suggested risk assessment factors, per OMB Circular A-123, Appendix C, plus four other risk factors, as determined by the Department:

1. Evaluate whether the payment process(es) over the payment category is new. (OMB Risk Factor 1)
2. Evaluate the complexity of the payment process for each type of payment, especially with respect to determining the correct payment amounts. (OMB Risk Factor 2)
3. Evaluate the volume and dollar amount of FY 2023 payments. (OMB Risk Factor 3)
4. Evaluate whether payments or payment eligibility decisions are made by those outside the payment reporting site. (OMB Risk Factor 4)
5. Evaluate whether there have been any significant changes in program outlays, authorities, practices, or procedures. (OMB Risk Factor 5)
6. Evaluate the level, experience, and quality of training of personnel responsible for determining program eligibility, certifying payments are accurate, and conducting post-payment reviews. (OMB Risk Factor 6)
7. Evaluate the inherent risk of improper payments due to the nature of agency programs or operations. (Other Risk Factor 1)
8. Evaluate the results of OIG, GAO, Defense Contract Audit Agency, and other external audits/reviews or management findings that might hinder accurate payment certifications. (OMB Risk Factor 7)
9. Evaluate the results of OMB Circular A-123 assessments and other internal reviews designed to prevent or detect improper payments (Other Risk Factor 2)
10. Evaluate contractor payment processing oversight. (Other Risk Factor 3)
11. Evaluate the availability of information or data systems to confirm eligibility, conduct post-payment reviews, or provide for other payment integrity needs. (OMB Risk Factor 10)
12. Evaluate the impact, or anticipated impact, of supplemental funding or authorizations from a payment integrity perspective, including IIJA, IRA, CHIPS and Science Act, or Ukraine. (Other Risk Factor 4)

In accordance with the requirement to perform a risk assessment at least once every three years, DOE performed Department-wide risk assessments in FY 2024. DOE is considered one program for improper payment reporting and conducts risk assessments by the payment type at all payment sites. Payment types are identified in the table on the next page.

Based on the site risk assessments performed in FY 2024 and consolidated at the departmental level, the Department determined that it was not susceptible to making significant improper payments.

DOE continues to maintain a <1% overall improper payment rate (0.06%). Actual improper payments, plus unknown payments<sup>11</sup> for payments made in FY 2023 are below OMB's \$100 million threshold. The Departmental improper payment rate has remained below 1% since the inception of its program in FY 2002.

For FY 2023 information reported in FY 2024, the Department's total payment outlays were \$62.2 billion, identifying \$40.3 million of improper payments and unknown payments, of which \$32.3 million were overpayments identified for recapture. The remaining improper payments included underpayments of \$1.8 million, lost discounts of \$275 thousand, and technically improper payments<sup>12</sup> of \$5.2 million, all of which cannot be recaptured. Unknown payments of \$622 thousand were also identified.

## Recapture of Improper Payments Reporting

The Department's low improper payment rate of 0.06% reported in FY 2024 for FY 2023 payments, and the recapture rate of 92.4% reported for the same period, support the Department's determination that it is not cost-effective to employ traditional payment recapture audit contracts, and the

<sup>11</sup> Per OMB Circular A-123, Appendix C, (M-21-19), *Requirements for Payment Integrity Improvement*, an Unknown Payment is a payment that could be either proper or improper, but the agency is unable to discern whether the payment was proper or improper at the time of reporting.

<sup>12</sup> Per OMB Circular A-123, Appendix C, (M-21-19), *Requirements for Payment Integrity Improvement*, a Technically Improper Payment is a payment made to an otherwise qualified recipient for the right amount, but the payment failed to meet all regulatory and/or statutory requirements. A Technically Improper Payment is a non-monetary loss type of improper payment.

## OTHER INFORMATION (Unaudited)

Department notified OMB of this fact in September 2015. For FY 2024, \$3 thousand is deemed uncollectible due to inability to recover funds from terminated employees or payment recipients and the amount being below the threshold minimum established for pursuing recapture.

The Department conducts site-specific reviews and analysis of accounting and financial records, supporting documentation, and other pertinent information supporting payments. These activities are detective and corrective in nature and are designed to identify and recapture overpayments. Activities include prepayment review and approval of invoices; performing quarterly prompt-payment reviews, post-payment reviews, and contractor internal audits; leveraging the results of cost allowability audits of integrated contractors and interim and close-out reviews of contracts and grants, reviews of grant credits in the Automated Standard Application for Payments, and results from travel audits. The Department will continue to scrutinize improper payment activity and controls through its internal control program by emphasizing, evaluating, and strengthening the controls as needed to maintain the Department's record of low payment errors and to continue the effective stewardship of public funds.

**Table 1** identifies FY 2023 overpayments identified and recaptured outside of payment recapture audits reported in FY 2024, and **Table 2** identifies root causes of overpayments identified for recapture in FY 2023.

**Table 1**

FY 2023 OVERPAYMENTS IDENTIFIED AND RECAPTURED OUTSIDE OF PAYMENT RECAPTURE AUDITS REPORTED IN FY 2024 (\$ MILLIONS) <sup>1</sup>						
PROGRAM/ PAYMENT TYPE	AMOUNTS IDENTIFIED FOR RECAPTURE OF PAYMENTS MADE IN FY 2023	AMOUNTS IDENTIFIED FOR RECAPTURE OF PAYMENTS MADE IN FY 2022 AND PRIOR YEARS	TOTAL AMOUNTS IDENTIFIED FOR RECAPTURE OF PAYMENTS MADE IN FY 2023 and PRIOR YEARS	AMOUNT RECAPTURED FOR PAYMENTS MADE IN FY 2023 AND REPORTED IN 2024	AMOUNT RECAPTURED FOR PAYMENTS MADE IN FY 2022 AND PRIOR YEARS AND REPORTED IN FY 2024 <sup>2</sup>	TOTAL AMOUNTS RECAPTURED FOR PAYMENTS MADE IN FY 2023 AND PRIOR YEARS AND REPORTED IN FY 2024 <sup>2</sup>
Vendors/Contracts	\$13.45	\$17.79	\$31.23	\$11.68	\$9.60	\$21.28
Benefits - Payroll	\$3.70	\$0.67	\$4.38	\$3.06	\$0.62	\$3.68
Benefits - Travel	\$0.29	\$0.06	\$0.35	\$0.26	\$0.05	\$0.32
Grants	\$14.85	\$3.09	\$17.95	\$14.84	\$0.41	\$15.26
Loans	\$—	\$—	\$—	\$—	\$—	\$—
Other	\$0.04	\$2.26	\$2.31	\$0.03	\$2.26	\$2.29
<b>Total</b>	<b>\$32.33</b>	<b>\$23.88</b>	<b>\$56.21</b>	<b>\$29.88</b>	<b>\$12.95</b>	<b>\$42.82</b>

<sup>1</sup> DOE reports prior-year payment activity in its current year AFR, per OMB approval received on May 25, 2011. In addition, DOE is considered one program for improper payment reporting, and assesses the payment types included in this table for its 47 payment reporting sites, per OMB approval received on August 10, 2011.

<sup>2</sup> In FY 2023, a total of \$42.82 million was recaptured, including \$29.88 million associated with FY 2023 payments, and \$12.95 million associated with payments made in FY 2022 and prior.

**Table 2**

ROOT CAUSES OVERPAYMENTS MADE IN FY 2023 AND PRIOR THAT WERE IDENTIFIED FOR RECAPTURE IN FY 2023 (\$ IN MILLIONS)	
ROOT CAUSE OF IMPROPER PAYMENTS	TOTAL IDENTIFIED FOR RECAPTURE
Confirmed Fraud	\$3.30
Duplicate Payment	\$6.72
Funds used for Purposes other than allowed by law or Departmental Policies	\$0.21
Goods or Services Not Received	\$2.38
Incorrect Amount	\$14.44
Ineligible Good or Service	\$1.35
Ineligible Recipient	\$0.93
Insufficient Documentation	\$1.51
Other	\$8.15
Settlement as the Result of Litigation	\$1.75
Unallowable Cost	\$15.47
<b>Total</b>	<b>\$56.21</b>

## Grants Programs

All reporting entities with grant programs must submit a brief high-level summary of expired, but not closed, grants. A summary table of the total number of federal grant and cooperative agreement awards and balances for which closeout has not yet occurred, but for which the period of performance has elapsed by two years or more prior to September 30, 2024, appears on the right.

Thirty-two grants/cooperative agreements remain open for the following reasons:

- Sixteen grant/cooperative agreements are under management review and will be closed when the review is completed.
- Six cooperative agreements are undergoing an audit and will be closed after the audit is complete.
- Nine grant/cooperative agreements remain open due to ongoing litigation with the awardee and the U.S. government and will close when the litigation is resolved.
- One grant remains open due to waiting on documentation from the awardee necessary to close out the award and will close once the documentation is received.

CATEGORY	2-3 YEARS	3-5 YEARS	>5 YEARS
Number of Grants/ Cooperative Agreements with Zero Dollar Balances	19	4	2
Number of Grants/ Cooperative Agreements with Undisbursed Balances	5	1	1
<b>Total Amount of Undisbursed Balances (\$ in Millions)</b>	<b>\$0.07</b>	<b>\$0.03</b>	<b>\$0.28</b>

## Climate-Related Risks

In response to the climate crisis and recent administration climate requirements, DOE developed and released the [2021 Climate Adaptation and Resilience Plan](#). The plan provided an implementation framework to ensure that DOE's mission and operations were resilient to climate change and extreme weather. The Department updated the plan and released the [2024 Climate Adaptation Plan](#) in June 2024.

For more information, see [Climate Change](#) in the Management Priorities section.

### WPTO Advances Hydropower Technologies to Help Achieve Clean Energy Goals

The Department of Energy's Water Power Technologies Office (WPTO) Hydropower Program supports projects focused on research, development, demonstration, and commercial activities to advance transformative, cost-effective, reliable, and environmentally sustainable hydropower and pumped storage hydropower technologies. Read the [full article](#), or learn more about WPTO's accomplishments in their latest [report](#).



Photo by Carlos Jones/Oak Ridge National Laboratory

# Civil Monetary Penalty Adjustment for Inflation: FERC and DOE

## Federal Energy Regulatory Commission (FERC)

FERC Civil Monetary Penalty Adjustment for Inflation						
Statutory Authority	Description of Penalty	Year Enacted	Latest Year of Adjustment	Current Penalty Level	Sub-Agency/ Bureau/ Unit	Location for Penalty Update: Federal Register Vol. 88, No. 8 (January 12, 2023) Rules and Regulations pages 1989-1991
16 U.S.C. § 825o-1(b), Sec. 316A of the Federal Power Act	Violation of any provision of Part II of the FPA or related rule or order.	2005	2024	\$1,544,521 per violation, per day	Federal Energy Regulatory Commission/Office of Enforcement	<a href="https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments">https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments</a>
16 U.S.C. § 823b(c), Sec. 31(c) of the Federal Power Act	Violation of or failure/refusal to comply with any rule or regulation issued under Part I of the FPA or any related order or term of a license, permit, or exemption.	1986	2024	\$27,893 per violation, per day	Federal Energy Regulatory Commission/Office of Enforcement	<a href="https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments">https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments</a>
16 U.S.C. § 825n(a), Sec. 315(a) of the Federal Power Act	Violation of or willful failure to comply with any order of the Commission; file any report required under the FPA; or submit any information or document or respond to subpoena required by the Commission in the course of an investigation conducted under the FPA.	1935	2024	\$3,643 per violation	Federal Energy Regulatory Commission/Office of Enforcement	<a href="https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments">https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments</a>
15 U.S.C. § 717t-1, Sec. 22 of the Natural Gas Act	Violation of any provision of the NGA or any related rule, regulation, restriction, condition, or order.	2005	2024	\$1,544,521 per violation, per day	Federal Energy Regulatory Commission/Office of Enforcement	<a href="https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments">https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments</a>
15 U.S.C. § 3414(b)(6)(A)(i), Sec. 504(b)(6)(A)(i) of the Natural Gas Policy Act of 1978	Violation of any provision of the NGPA or any related rule or order.	2005	2024	\$1,544,521 per violation, per day	Federal Energy Regulatory Commission/Office of Enforcement	<a href="https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments">https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments</a>
49 App. U.S.C. § 6(10) (1988), Sec. 6(10) of the Interstate Commerce Act	Violation of or failure/refusal to comply with regulations or orders concerning posting and filing rate schedules issued by the Commission under section 6 of the ICA.	1910	2024	\$1,617 per offense and \$81 per day after the first day	Federal Energy Regulatory Commission/Office of Enforcement	<a href="https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments">https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments</a>
49 App. U.S.C. § 16(8) (1988), Sec. 16(8) of the Interstate Commerce Act	Violation of or failure to comply orders issued by the Commission under sections 3, 13, or 15 of the ICA.	1910	2024	\$16,170 per violation, per day	Federal Energy Regulatory Commission/Office of Enforcement	<a href="https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments">https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments</a>
49 App. U.S.C. § 19a(k) (1988), Sec. 19a(k) of the Interstate Commerce Act	Violation of or failure to comply with Commission's requirements to provide information in connection with the Commission's valuation of a pipeline carrier's property under section 19(a) of the ICA.	1913	2024	\$1,617 per offense, per day	Federal Energy Regulatory Commission/Office of Enforcement	<a href="https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments">https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments</a>
49 App. U.S.C. § 20(7)(a) (1988), Sec. 20(7)(a) of the Interstate Commerce Act	Violation of or failure to keep or submit certain accounts, records, or memoranda required by the Commission under authority granted in section 20 of the ICA.	1940	2024	\$1,617 per offense, per day	Federal Energy Regulatory Commission/Office of Enforcement	<a href="https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments">https://www.federalregister.gov/documents/2024/01/11/2024-00425/civil-monetary-penalty-inflation-adjustments</a>



# Civil Monetary Penalty Adjustment for Inflation

## U.S. Department of Energy (DOE)

DOE Civil Monetary Penalty Adjustment for Inflation						
Authority	Description of Penalty	Year Enacted	Latest Year of Adjustment	Current Penalty Level	Sub-Agency/ Bureau/Unit	Location for Penalty Update: Federal Register Vol. 89, No. 6 (January 9, 2024) Rules and Regulations pages 1025-1029
Energy Supply and Environmental Coordination Act of 1974, 10 CFR 207.7	Enforcement/Sanctions	1974	2024	\$12,937	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Energy Policy and Conservation Act, 10 CFR 218.42	Enforcement/Sanctions	1975	2024	\$28,020	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Energy Policy and Conservation Act, 10 CFR 429.120	Enforcement/Maximum civil penalty	1975	2024	\$560	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Energy Policy and Conservation Act, 10 CFR 431.382	Enforcement/Prohibited acts	1975	2024	\$560	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Energy Policy Act of 1992, 10 CFR 490.604	Enforcement/Penalties and Fines	1992	2024	\$10,846	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Powerplant and Industrial Fuel Use Act of 1978, 10 CFR 501.181	Civil penalties/Sanctions	1978	2024	\$114,630; \$9/mcf; \$45/bbl	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
31 U.S.C. 1352(c), 10 CFR 601.400 and App A	Limitation on use of appropriated funds to influence certain federal contracting and financial transactions/Penalties	1989	2024	\$24,496 (minimum); \$244,958 (maximum)	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Atomic Energy Act of 1954, 10 CFR 810.15	Violations of licensing requirements	2018	2024	\$124,732	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Price-Anderson Amendments Act of 1988, 10 CFR 820.81	Civil monetary penalties for violation of DOE safety regulations/Amount of penalty	1988	2024	\$255,964	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Atomic Energy Act of 1954, 10 CFR 824.1 and App A	Civil monetary penalties for violations of DOE Regulations regarding security of classified or sensitive information or data/Purpose and scope	1999	2024	\$182,916	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Atomic Energy Act of 1954, 10 CFR 824.4 and App A	Civil monetary penalties for violations of DOE Regulations regarding security of classified or sensitive information or data/Civil penalties	1999	2024	\$182,916	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Atomic Energy Act of 1954, 10 CFR 851.5 and App B	Worker health and safety rules for DOE nuclear facilities/Enforcement	2002	2024	\$118,790	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Program Fraud Civil Remedies Act of 1986, 10 CFR 1013.3	False claims and statements; liability/Basis for civil penalties and assessments	1986	2024	\$13,946	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
Atomic Energy Act of 1954, 10 CFR 1017.29	Dissemination of unclassified information/Civil penalty	1981	2024	\$329,408	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
5 U.S.C. 7342(h), 10 CFR 1050.303	Receipt and disposition of foreign gifts and decorations/Enforcement	1977	2024	\$24,973	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>
50 U.S.C. 2731(b)(2)	Worker protection at nuclear weapons facilities	1991	2024	\$11,198	N/A	<a href="https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf">https://www.govinfo.gov/content/pkg/FR-2024-01-09/pdf/2023-28828.pdf</a>

# Other Statutory Reporting: Management's Response to Audit Reports

Pursuant to the IG Act Amendments of 1988 (Public Law 100-504), agency heads are required to report to Congress on the status of final action taken on IG audit recommendations. This report complies with the requirements of the IG Act and complements a separate report prepared by the Department's IG that provides: 1) information on audit reports issued during the period; 2) the status of management decisions made on previously issued IG audit reports; and 3) information on the disposition of funds put to better use and questioned costs. The IG report is available at <http://www.ig.energy.gov>.

This report also contains information on the closure of GAO audits. There are no unresolved GAO audit reports as of September 30, 2024, according to the definition of resolution in OMB Circular A-50, *Audit Follow Up*.

## IG Audit Reports

The Department resolves IG audit reports by evaluating the recommendations they contain, formally responding to the IG, and implementing agreed-upon corrective actions. In some instances, DOE takes corrective action immediately, and in others, longer-term action plans are developed and implemented. Actions taken by management on audit recommendations increase the efficiency and effectiveness of operations and strengthen standards of accountability.

At the beginning of FY 2024, there were **39** IG reports awaiting final actions. In FY 2024, the Department received **41** IG reports, of which **27** contained recommendations for corrective actions and **14** had no recommendations. Thus, there were **66** reports pending final action during FY 2024, of which the Department took final action on **21**. **Three** of the reports for which the Department took final action identified cost impacts, including questioned contract or grant costs and recommended cost avoidance (funds put to better use). At the end of FY 2024, **45** IG reports awaited final action. Taking final action on a report includes the development of an agreed-upon management decision and completion of the corrective actions.

## Government Accountability Office Audit Reports

GAO audits also are included in the Department's audit follow-up program. At the beginning of FY 2024, there were **70** GAO reports awaiting final action. In FY 2024, the Department received **69** additional final GAO audit reports, of which **24** contained recommendations for corrective actions by the DOE and **45** had no recommendations to the Department. Thus, there were **94** GAO reports pending final action during FY 2024; the Department completed its planned corrective actions for **11** audits during FY 2024, leaving **83** GAO reports awaiting final action at year-end.

## Status of Final Action on IG and GAO Audit Reports for Fiscal Year 2024

The following chart provides a summary of closure actions for IG and GAO audit and inspection reports during FY 2024.

AUDIT REPORTS	NUMBER OF IG REPORTS	NUMBER OF GAO REPORTS
Reports Pending Final Action at the End of FY 2023*	39	70
Reports Issued in FY 2024 Requiring Corrective Actions	27	24
Total Reports Pending Final Action During FY 2024	66	94
Reports Closed During FY 2024	21	11
Total Reports Pending Final Action as of the End of FY 2024	45	83

\*Reflects adjustments to previously reported amounts for GAO reports pending final actions at the end of FY 2023. During FY 2024, the Department reopened **seven** reports after meeting with GAO to discuss disagreement with the closing of audit recommendations.

# Glossary of Acronyms and Abbreviations

<b>2012 REP Settlement Agreement</b>	2012 Residential Exchange Program Settlement Agreement
<b>48C</b>	Qualifying Advanced Energy Project Credit
<b>A&amp;A</b>	Assessment & Authorization
<b>A1</b>	Leveraging Analyst1
<b>AC</b>	Alternating Current
<b>AAPD</b>	American Association of People with Disabilities
<b>ACAI</b>	Arms Control Advancement Initiative
<b>ACS</b>	Advanced Simulation and Computing
<b>AE</b>	Arctic Energy Office
<b>AFFECT</b>	Assisting Federal Facilities with Energy Conservation Technologies
<b>AFR</b>	Agency Financial Report
<b>AI</b>	Artificial Intelligence
<b>Alt</b>	Alteration
<b>ANC</b>	Alaska Native Corporations
<b>ANL</b>	Argonne National Laboratory
<b>ANVC</b>	Alaska Native Village Corporations
<b>AO</b>	Authorizing Officials
<b>AODR</b>	Authorizing Official Designated Representative
<b>APPR</b>	Annual Performance Report/Annual Performance Plan
<b>APS</b>	Advanced Photon Source
<b>ARC</b>	Analysis and Referral Center
<b>ARENA</b>	Arctic Remote Energy Networks Academy
<b>ARL</b>	Adoption Readiness Level
<b>ARM</b>	Atmospheric Radiation Measurement
<b>ARO</b>	Asset Retirement Obligation
<b>ASC</b>	Advanced Simulation Computing; Accounting Standards Codification
<b>ASU</b>	Accounting Standards Update
<b>ATAAPS</b>	Automated Time Attendance and Production System
<b>ATP</b>	Agency Talent Portal
<b>ATVM</b>	Advanced Technology Vehicles Manufacturing
<b>AUI</b>	Associated Universities, Inc.
<b>BATTERIES</b>	Broadening Accessibility & Training to Emerging Researchers for Innovative Energy Storage
<b>BDP</b>	Big Data Platform
<b>BER</b>	Biological and Environmental Research
<b>BESS</b>	Battery Energy Storage System
<b>BFADS</b>	Budget Formulation and Distribution System

<b>BFS</b>	Bureau of the Fiscal Service
<b>BiOp</b>	Biological Opinion
<b>BNL</b>	Brookhaven National Laboratory
<b>BOR</b>	Bureau of Reclamation
<b>BPA</b>	Bonneville Power Administration
<b>BTAC</b>	Building Training and Assessment Centers
<b>BTU</b>	British Thermal Units
<b>CAP</b>	Climate Adaptation Plan
<b>CARP</b>	2021 Climate Adaptation and Resilience Plan
<b>CBP</b>	Community Benefits Plan
<b>CBS</b>	Corporate Business Systems
<b>CCS</b>	Carbon Capture and Storage
<b>CDM</b>	Continuous Diagnostics and Mitigation
<b>CEC</b>	Clean Energy Corps
<b>CEI Prize</b>	Community Energy Innovation Prize
<b>CEJST</b>	Climate and Economic Justice Screening Tool
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, & Liability Act
<b>CESER</b>	Office of Cybersecurity, Energy Security, and Emergency Response
<b>CFE</b>	Carbon-Pollution Free Electricity
<b>CFO</b>	Chief Financial Officer
<b>CGS</b>	Columbia Generating Station
<b>CHIPS</b>	Creating Helpful Incentives to Produce Semiconductors
<b>CHRIS</b>	Corporate Human Resource Information System
<b>CIE</b>	Cyber Informed Engineering
<b>CIFIA</b>	Carbon Dioxide Transportation Infrastructure Financing and Innovation Act
<b>CISA</b>	Cybersecurity & Infrastructure Security Agency
<b>CISF</b>	Consolidated Interim Storage Facility
<b>Clean Energy Rule</b>	Clean Energy for New Federal Buildings and Major Renovations of Federal Buildings Rule
<b>CM</b>	Category Management
<b>CNC</b>	Civil Nuclear Credit
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>CoP</b>	Community of Practice
<b>COP28</b>	28th Conference of the Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC).
<b>CR</b>	Continuing Resolution

## OTHER INFORMATION (Unaudited)

<b>CRC</b>	Climate Resilience Center
<b>CRSO</b>	Columbia River System Operations
<b>C-SCRM</b>	Cyber Supply Chain Risk Management
<b>CSRS</b>	Civil Service Retirement System
<b>CTCP</b>	Counterterrorism and Counterproliferation
<b>CTSs</b>	Commodity Technology Systems
<b>CUAS</b>	Counter Uncrewed Aircraft Systems
<b>CUCE</b>	Cleanup to Clean Energy Initiative
<b>CV</b>	Continuous Vetting
<b>CyTRICS</b>	Cyber Testing for Resilient Industrial Control System
<b>D&amp;D</b>	Demonstration and Deployment; Deactivation and Decommissioning; Decontamination and Decommissioning
<b>DAC</b>	Direct Air Capture
<b>DATA Act</b>	Digital Accountability and Transparency Act of 2014
<b>DE</b>	Departmental Elements
<b>DEIA</b>	Diversity, Equity, Inclusion, and Accessibility
<b>DFAS</b>	Defense Finance and Accounting Service
<b>DFLAW</b>	Direct Feed Low-Activity Waste
<b>DICARC</b>	Department Internal Control and Assessment Review Council
<b>DM&amp;R</b>	Deferred Maintenance and Repairs
<b>DNN R&amp;D</b>	Defense Nuclear Nonproliferation Research and Development
<b>DOD</b>	Department of Defense
<b>DOE</b>	Department of Energy (or Department)
<b>DOI</b>	Department of the Interior
<b>DOL</b>	Department of Labor
<b>DOMÉ</b>	Demonstration of Microreactor Experiments
<b>DOS</b>	Department of State
<b>DP</b>	Office of Defense Programs
<b>DRUM</b>	Defense-Related Uranium Mine
<b>DSS</b>	Decontaminated Low Level Salt Waste Stream
<b>DTRA</b>	Defense Threat Reduction Agency
<b>DUNE</b>	Deep Underground Neutrino Experiment
<b>DWPF</b>	Defense Waste Processing Facility
<b>EA</b>	Office of Enterprise Assessments
<b>EAP</b>	Equity Action Plan
<b>ECCO</b>	Enterprise Cyber Collaboration Office
<b>EDR</b>	Endpoint Detection and Response
<b>EDX</b>	Energy Data eXchange®
<b>EECBG</b>	Energy Efficiency and Conservation Block Grant
<b>EEJ</b>	Equity, Energy and Environmental Justice

<b>EEO</b>	Equal Employment Opportunity
<b>EEOICPA</b>	Energy Employees Occupational Illness Compensation Program Act
<b>EERE</b>	Office of Energy Efficiency and Renewable Energy
<b>EHSS</b>	Office of Environment, Health, Safety, and Security
<b>EIA</b>	U.S. Energy Information Administration
<b>EIC</b>	Energy I-Corps
<b>EIR</b>	Energy Infrastructure Reinvestment
<b>EJ</b>	Environmental Justice/Energy Justice
<b>EJE</b>	Office of Energy Justice and Equity
<b>EM</b>	Office of Environmental Management; Environmental Management
<b>Energy Communities IWG</b>	Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization
<b>EO</b>	Executive Order
<b>EPA</b>	Environmental Protection Agency
<b>EPAct05</b>	Energy Policy Act of 2005
<b>EPIC</b>	Energy Program for Innovation Clusters
<b>ERG</b>	Employee Resource Groups
<b>ERI</b>	Emerging Research Institution
<b>ERICA</b>	Energy Resilient Infrastructure and Climate Adaptation
<b>ERISA</b>	Employee Retirement Income Security Act
<b>ERM</b>	Enterprise Risk Management
<b>ES&amp;H</b>	Environment, Safety, and Health
<b>ESA</b>	Endangered Species Act
<b>ESCO</b>	Energy Service Company
<b>ESF</b>	Emergency Support Function
<b>ESPC</b>	Energy Savings Performance Contract
<b>ETAC</b>	Energy Threat Analysis Center
<b>ETIPP</b>	Energy Transitions Initiative Partnership Project
<b>ETTP</b>	East Tennessee Technology Park
<b>EV</b>	Electric Vehicles
<b>Evidence Act</b>	Foundations for Evidence-Based Policymaking Act of 2018
<b>EWA</b>	Enterprise-Wide Agreements
<b>EWAB</b>	Energy Workforce Advisory Board
<b>EWEB</b>	Eugene Water & Electric Board
<b>FAIB</b>	Federal Accident Investigation Boards
<b>FASAB</b>	Federal Accounting Standards Advisory Board
<b>FASB</b>	Financial Accounting Standards Board
<b>FASB ASC</b>	Financial Accounting Standards Board's Accounting Standards Codification
<b>FAST</b>	Fixing America's Surface Transportation Act of 2015

## OTHER INFORMATION (Unaudited)

<b>FBI</b>	Federal Bureau of Investigation
<b>FBWT</b>	Fund Balance with Treasury
<b>FCRA</b>	Federal Credit Reform Act of 1990
<b>FCRPS</b>	Federal Columbia River Power System
<b>FECM</b>	Fossil Energy and Carbon Management
<b>FedRAMP</b>	Federal Risk and Authorization Management Program
<b>FEED</b>	Front End Engineering Design
<b>FEMP</b>	Office of Federal Energy Management Programs
<b>FERC</b>	Federal Energy Regulatory Commission
<b>FERS</b>	Federal Employees Retirement System
<b>FESI</b>	Foundation for Energy Security and Innovation
<b>FEVS</b>	Federal Employee Viewpoint Survey
<b>FFB</b>	Federal Financing Bank
<b>FFMIA</b>	Federal Financial Management Improvement Act of 1996
<b>Financial Report</b>	Financial Report of the U.S. Government
<b>FIPP</b>	Financial Institution Partnership Program
<b>FISMA</b>	Federal Information Security Modernization Act
<b>FITARA</b>	Federal Information Technology Acquisition Reform Act
<b>FMFIA</b>	Federal Managers' Financial Integrity Act of 1982
<b>FPU</b>	First Production Unit
<b>FRAS</b>	Financial Reporting Auxiliary System
<b>FRPC</b>	Federal Real Property Council
<b>FTCA</b>	Federal Tort Claims Act
<b>FTE</b>	Full-Time Equivalents
<b>FY</b>	Fiscal Year
<b>GAAP</b>	Generally Accepted Accounting Principles
<b>GAO</b>	Government Accountability Office
<b>GDO</b>	Grid Deployment Office
<b>GDP</b>	Gaseous Diffusion Plants
<b>GHG</b>	Greenhouse Gas
<b>GMRA</b>	Government Management Reform Act of 1994
<b>GMS</b>	Global Material Security
<b>GPRA</b>	Government Performance and Results Act of 1993
<b>GPRAMA</b>	Government Performance and Results Act Modernization Act of 2010
<b>GSA</b>	General Services Administration
<b>GSL</b>	Grid Storage Launchpad
<b>GTAS</b>	Governmentwide Treasury Account Symbol Adjusted Trial Balance System
<b>GTO</b>	Geothermal Technologies Office

<b>GW</b>	Gigawatts
<b>GWSB</b>	Glass Waste Storage Building
<b>H2CIRC</b>	Circular Recycling for the H2 Economy
<b>H2HUBS</b>	Hydrogen Hubs
<b>HALEU</b>	High-Assay Low-Enriched Uranium
<b>HBCU</b>	Historically Black Colleges and Universities
<b>HC</b>	Office of the Chief Human Capital Officer
<b>HCF</b>	Human Capital Framework
<b>HCMAP</b>	Human Capital Management Assessment Program
<b>HCOP</b>	HC Operating Plan
<b>HEU</b>	Highly Enriched Uranium
<b>HFF</b>	Holiday Farm Fire
<b>HFTO</b>	Hydrogen and Fuel Cell Technologies Office
<b>HLW</b>	High-Level Waste
<b>HMO</b>	Health Maintenance Organization
<b>HPC</b>	High Performance Computing
<b>HQ</b>	Headquarters
<b>HR</b>	Human Resources
<b>HRIT</b>	Human Resources Information Technology
<b>HRP</b>	Human Reliability Program
<b>HSI</b>	Hispanic Serving Universities
<b>IAEA</b>	International Atomic Energy Agency
<b>IBWC</b>	International Boundary and Water Commission
<b>ICF</b>	Inertial Confinement Fusion
<b>ICS</b>	Industrial Control Systems
<b>IDIQ</b>	Indefinite Delivery Indefinite Quantity
<b>IDW</b>	Integrated Data Warehouse
<b>IE</b>	Office of Indian Energy Policy and Programs
<b>IEA</b>	International Energy Agency
<b>IERA</b>	Idaho Energy Resources Authority
<b>IJA</b>	Infrastructure Investment and Jobs Act
<b>IN</b>	Office of Intelligence and Counterintelligence
<b>INL</b>	Idaho National Laboratory
<b>IoT</b>	Internet of Things
<b>IOU</b>	Investor-owned Utilities
<b>Ir-192</b>	iridium-192
<b>IRA</b>	Inflation Reduction Act of 2022
<b>IRS</b>	Internal Revenue Service
<b>ISFSI</b>	Independent Spent Fuel Storage Installation
<b>ISM</b>	Integrated Safety Management
<b>ISSO</b>	Information System Security Officer



## OTHER INFORMATION (Unaudited)

<b>IT</b>	Information Technology
<b>ITAC</b>	Industrial Training Assessment Center
<b>ITP</b>	Insider Threat Program
<b>I-WEST</b>	Intermountain West Energy Sustainability & Transitions
<b>IWG</b>	Interagency Working Group
<b>IWMS</b>	Integrated Waste Management System
<b>IWTU</b>	Integrated Waste Treatment Unit
<b>KCNExT</b>	Kansas City Non-Nuclear Expansion Transformation
<b>KCNSC</b>	Kansas City National Security Campus
<b>KCSTEP</b>	KC Short-Term Expansion Program
<b>kMT</b>	kilo metric tons
<b>kWh</b>	Kilowatt Per Hour
<b>LANL</b>	Los Alamos National Laboratory
<b>LANS</b>	Los Alamos National Security, LLC
<b>LBNL</b>	Lawrence Berkeley National Laboratory
<b>LEAP</b>	Local Energy Action Program
<b>LEC</b>	Lane Electric Cooperative
<b>LEEP</b>	Lab Embedded Entrepreneurship Program
<b>LEP</b>	Life Extension Program
<b>LEU</b>	Low-Enriched Uranium
<b>LLC</b>	Limited Life Component
<b>LLNL</b>	Lawrence Livermore National Laboratory
<b>LLW</b>	Low-Level Waste
<b>LM</b>	Office of Legacy Management
<b>LMS</b>	Learning Management System
<b>LPO</b>	Loan Programs Office
<b>LSRCP</b>	Lower Snake River Compensation Plan
<b>LTS</b>	Long Term Stewardship
<b>LTS&amp;M</b>	Long-Term Surveillance and Maintenance
<b>Lv</b>	Livermorium
<b>LW</b>	Liquid Waste
<b>M&amp;O</b>	Management and Operating
<b>M3</b>	Material Management and Minimization
<b>MA</b>	Office of Management
<b>MAKE IT</b>	Manufacture of Advanced Key Energy Infrastructure Technologies
<b>MAP</b>	Master Asset Plan
<b>MARVEL</b>	Microreactor Applications, Research Validation, and Evaluation
<b>MBE</b>	Minority Business Enterprises
<b>MESC</b>	Office of Manufacturing and Energy Supply Chains
<b>MFA</b>	Multi-Factor Authentication
<b>MLLW</b>	Mixed Low-Level Waste
<b>MOU</b>	Memorandum of Understanding
<b>MPPB</b>	Main Plant Process Building

<b>MSI</b>	Minority-Serving Institutions
<b>MSIPP</b>	Minority Serving Institution Partnership Program
<b>MSR</b>	Molten Salt Reactor
<b>MTQ</b>	Mandatory Technical Qualifications
<b>MTU</b>	Metric Tons of Uranium
<b>MW</b>	Megawatts
<b>NAI</b>	National Academy of Inventors
<b>NARUC</b>	National Association of Regulatory Utility Commissioners
<b>NAV</b>	Net Asset Value
<b>NCA</b>	National Climate Assessment
<b>NE</b>	Office of Nuclear Energy
<b>NERC</b>	North American Reliability Corporation
<b>NEST</b>	Nuclear Emergency Support Team
<b>NETL</b>	National Energy Technology Laboratory
<b>NF-MAP</b>	Nuclear Forensics Material Analysis Program
<b>NGSR</b>	Northeast Gasoline Supply Reserve
<b>NIF</b>	National Ignition Facility
<b>NIFC</b>	Northwest Infrastructure Financing Corporation
<b>NMED</b>	New Mexico Environmental Department
<b>NNSA</b>	National Nuclear Security Administration
<b>NNSS</b>	Nevada National Security Site
<b>NPAC</b>	Nonproliferation and Arms Control
<b>Northwest Power Act</b>	Pacific Northwest Electric Power Planning and Conservation Act
<b>NRC</b>	Nuclear Regulatory Commission
<b>NREL</b>	National Renewable Energy Laboratory
<b>NSF</b>	National Science Foundation
<b>NSM</b>	National Security Memorandum
<b>NSSE</b>	National Special Security Events
<b>NTC</b>	National Training Center
<b>NTSF</b>	National Transportation Stakeholders Forum
<b>NVCL</b>	National Virtual Climate Laboratory
<b>NWF</b>	Nuclear Waste Fund
<b>NWNM</b>	Nuclear Watch New Mexico
<b>NWPA</b>	Nuclear Waste Policy Act of 1982
<b>OA</b>	Ongoing Authorization
<b>OCED</b>	Office of Clean Energy Demonstrations
<b>OCFO</b>	Office of the Chief Financial Officer
<b>OCIO</b>	Office of the Chief Information Officer
<b>ODEIA</b>	Office of Diversity, Equity, Inclusion, and Accessibility
<b>OE</b>	Office of Electricity
<b>OES</b>	Office of Experimental Sciences

## OTHER INFORMATION (Unaudited)

<b>OHROC</b>	Office of HR Operations and Compensation
<b>OIG</b>	Office of the Inspector General
<b>OITP</b>	Office of Insider Threat Program
<b>OLCF</b>	Oak Ridge Leadership Computing Facility
<b>OMB</b>	Office of Management and Budget
<b>OP</b>	Office of Policy
<b>OPM</b>	Office of Personnel Management
<b>ORNL</b>	Oak Ridge National Laboratory
<b>OSDBU</b>	Office of Small and Disadvantaged Business Utilization
<b>OTT</b>	Office of Technology Transitions
<b>OWF</b>	Operation Warfighter Program
<b>P2IP</b>	Phase 2 Implementation Plan
<b>P3</b>	Public-Private Partnership
<b>PAR</b>	Position Allocation Reports
<b>PBR</b>	Pebble Bed Reactor
<b>PDP</b>	Prescription Drug Plan
<b>PF-4</b>	Plutonium Facility-4
<b>PFAS</b>	Per- and Polyfluoroalkyl Substances
<b>PIA</b>	Partnership Intermediary Agreement
<b>PIIA</b>	Payment Integrity Information Act of 2019
<b>PIV</b>	Personal Identity Verification
<b>PKI</b>	Public Key Infrastructure
<b>PMA</b>	Power Marketing Administration
<b>PMIAA</b>	Program Management Improvement Accountability Act of 2016
<b>PNNL</b>	Pacific Northwest National Laboratory
<b>PP&amp;E</b>	Property, Plant and Equipment
<b>PPO</b>	Preferred Provider Organization
<b>ppy</b>	Plutonium Pits Per Year
<b>PQC</b>	Post-Quantum Cryptography
<b>PRB</b>	Postretirement Benefits Other Than Pensions
<b>PR-ERF</b>	Puerto Rico Energy Resilience Fund
<b>PUB</b>	Power Utility Building
<b>R&amp;D</b>	Research and Development
<b>RA</b>	Reasonable Accommodation
<b>Rap Back</b>	Report of Arrest and Prosecution Background
<b>RCBA</b>	Resilient Columbia Basin Agreement
<b>RCRA</b>	Resource Conservation and Recovery Act of 1976
<b>RDD&amp;D</b>	Research, Development, Demonstration and Deployment
<b>RDT&amp;E</b>	Office of Research, Development, Test, and Evaluation
<b>REDI</b>	Regional Energy Democracy Initiative

<b>RENEW</b>	Reaching a New Energy Sciences Workforce
<b>REP</b>	Residential Exchange Program
<b>RFI</b>	Request for Information
<b>RPA</b>	Robotic Process Automation
<b>RRT</b>	Pennsylvania Rapid Response Team
<b>R-STEP</b>	Renewable Energy Siting through Technical Engagement and Planning
<b>RTU</b>	Right-to-use
<b>S3</b>	Office of the Undersecretary for Infrastructure
<b>SaaS</b>	Software-as-a-Service
<b>SAF</b>	Sustainable Aviation Fuel
<b>SBIR</b>	Small Business Innovation Research
<b>SBR</b>	Statements of Budgetary Resources
<b>SBT</b>	Shoshone-Bannock Tribes
<b>SC</b>	Office of Science
<b>SCA Visit</b>	Safety Culture Assistance Visit
<b>SCEP</b>	State and Community Energy Programs
<b>SC-GHG</b>	Social Cost of Greenhouse Gas
<b>SCIP</b>	Safety Culture Improvement Panel
<b>SCRS</b>	Sustainable Climate-Ready Sites
<b>SCWE</b>	Safety Culture Work Environment
<b>SDU</b>	Saltstone Disposal Unit
<b>SEFI</b>	State Energy Financing Institution
<b>SEPA</b>	Southeastern Power Administration
<b>SES</b>	Senior Executive Service
<b>SFFAS</b>	Statement of Federal Financial Accounting Standards
<b>SFHP</b>	Spent Fuel Handling Recapitalization Project
<b>SLAC</b>	Stanford Linear Accelerator Center
<b>SMM</b>	Small- and Medium-Sized Manufacturing Firms
<b>SNF</b>	Spent Nuclear Fuel
<b>SNL</b>	Sandia National Laboratories
<b>SNM</b>	Special Nuclear Material
<b>SOLVE IT</b>	Solutions for Lasting, Viable Energy Infrastructure Technologies
<b>SOP</b>	Standard Operating Procedures
<b>SPR</b>	Strategic Petroleum Reserve
<b>SRNS</b>	Savannah River Nuclear Solutions
<b>SRPPF</b>	Savannah River Plutonium Processing Facility
<b>SRS</b>	Savannah River Site
<b>SRT&amp;E</b>	Stockpile Research, Technology, and Engineering
<b>SSDF</b>	Secure Software Development Framework
<b>SSP</b>	Stockpile Stewardship Program

## OTHER INFORMATION (Unaudited)

<b>STA</b>	Secure Transportation Asset
<b>STARS</b>	Standard Accounting and Reporting System
<b>STEM</b>	Science, Technology, Engineering, and Mathematics
<b>STRIPES</b>	Strategic Integrated Procurement Enterprise System
<b>STTR</b>	Small Business Technology Transfer
<b>SWPA</b>	Southwestern Power Administration
<b>SWPF</b>	Salt Waste Processing Facility
<b>T2H</b>	Time to Hire
<b>TA</b>	Technical Assistance
<b>TATB</b>	triaminotrinitrobenzene
<b>TCF</b>	Technology Commercialization Fund
<b>TCU</b>	Tribal Colleges and Universities
<b>TELGP</b>	Tribal Energy Loan Guarantee Program
<b>Treasury</b>	U.S. Department of the Treasury
<b>TRL</b>	Technology Readiness Levels
<b>TRU</b>	Transuranic
<b>TSP</b>	Thrift Savings Plan
<b>TTEP</b>	Technology Transfer Execution Plan
<b>TW</b>	Trusted Workforce
<b>U.S.</b>	United States
<b>UAM</b>	User Activity Monitoring
<b>UCOR</b>	United Cleanup Oak Ridge LLC
<b>UESC</b>	Utility Energy Service Contracts
<b>UF6</b>	Uranium Hexafluoride
<b>UPF</b>	Uranium Processing Facility
<b>UPGrants</b>	Utilization Procurement Grants
<b>USACE</b>	U.S. Army Corps of Engineers
<b>USEER</b>	U.S. Energy and Employment Report
<b>USSGL</b>	U.S. Standard General Ledger
<b>USTC</b>	Uranium Science and Technology Center
<b>VARP</b>	Vulnerability Assessments and Resilience Plans
<b>VDP</b>	Vulnerability Disclosure Program
<b>Vetting Center</b>	Research, Technology, and Economic Security Vetting Center
<b>VTO</b>	Vehicles Technologies Office
<b>WAP</b>	Weatherization Assistance Program
<b>WAPA</b>	Western Area Power Administration
<b>WETO</b>	Wind Energy Technologies Office
<b>WHIAANHPI</b>	White House Initiative on Asian Americans, Native Hawaiians, and Pacific Islanders
<b>WIPP</b>	Waste Isolation Pilot Plant
<b>WMD</b>	Weapons of Mass Destruction
<b>WTP</b>	Waste Treatment and Immobilization Plant

<b>WPTO</b>	Water Power Technologies Office
<b>WR</b>	War-Reserve
<b>Y-12</b>	Y-12 National Security Complex
<b>ZEV</b>	Zero-Emission Vehicles
<b>ZTA</b>	Zero Trust Architecture

# Photo Captions and Additional Information

## Cover photos

**Front:** JOULE 3.0 NETL Supercomputer. Photo posted on [NETL's Flickr](#).

**Back:** Argonne's Polaris supercomputer provides advanced capabilities for workloads involving simulation, data analysis, and artificial intelligence tasks. Photo posted on [DOE's Flickr](#).

## Agency Highlights

**Top photo:** A Westinghouse Advanced Development Corporation engineer rotates one of the mock fuel bundles in the Fast Flux Test Facility's Simulated Core Mockup prior to taking measurements with a laser circa 1971. (Photo courtesy of [DOE's Flickr](#))

**Bottom photo:** A researcher works with a piece of equipment known as the "fast neutron chopper" at Brookhaven's Graphite Research Reactor in the 1950s. Photo posted on [DOE's Flickr](#).

## **[FY 2024 DOE Highlight: The National Virtual Climate Laboratory is Your Guide to Climate Science](#)**

NVCL is a comprehensive portal for climate science projects supported by the Department of Energy Office of Science. For more information, visit <https://www.energy.gov/science/articles/national-virtual-climate-laboratory-your-guide-climate-science>.

## Management's Discussion and Analysis

### **[Solar Field](#)**

Solar panels at Grand Canyon West in Arizona. Part of a solar + storage microgrid owned and operated by the Grand Canyon West Corporation and HTUA. Photo credit - [Laura Beshilas / NREL](#)

### **[FY 2024 DOE Spotlight: FLARE Brings New Power to Magnetic Reconnection Research](#)**

One of the latest tools in the quest to understand magnetic reconnection is the Facility for Laboratory Reconnection Experiment – which has the appropriate acronym of FLARE. For more information, visit <https://www.energy.gov/science/articles/flare-brings-new-power-magnetic-reconnection-research>.

### **[FY 2024 DOE Spotlight: Hanford Plant Pours First Glass From Second Melter](#)**

Crews at the Hanford Site's Waste Treatment and Immobilization Plant (WTP) have poured the first test glass from a second melter into a stainless steel container in the plant's Low-Activity Waste (LAW) Facility. Photo credit - U.S. Department of Energy. For more information, visit <https://www.energy.gov/em/articles/hanford-plant-pours-first-glass-second-melter>.

### **[FY 2024 DOE Spotlight: NNSA Conducts Multi-laboratory Nuclear Forensics Exercise](#)**

NNSA's Office of Counterterrorism and Counterproliferation recently conducted the Epic Shadow exercise to demonstrate its Nuclear Forensics Material Analysis Program (NF-MAP) capabilities and answer these questions. For more information, visit <https://www.energy.gov/nnsa/articles/nnsa-conducts-multi-laboratory-nuclear-forensics-exercise>.

## Financial Results

### **[Wind Farm and Sunrise](#)**

Sunrise at the Iron Star Wind Project five miles south of Dodge City, Kansas. Operated by ENGIE North America. Photo Credit - [Bryan Bechtold / NREL](#)

### **[FY 2024 DOE Highlight: Bringing More Clean Energy to Our Electric Grid](#)**

The Department of Energy (DOE) is making critical investments in the nation's electric grid to lower the cost of energy, all while enabling cleaner energy sources, less pollution, and an easier time installing solar panels or plugging in an EV at home. Photo by Werner Slocum/ National Renewable Energy Laboratory. For more information, visit <https://www.energy.gov/gdo/articles/bringing-more-clean-energy-our-electric-grid>.

## Other Information

### **[Cosmic Web](#)**

A combination of images from a Nyx computer simulation of the cosmic web. Image courtesy of Zarija Lukic, Andrew Myers, Ann Almgren, Brian Friesen, Chris Daley / Berkeley Lab. Photo posted to the article [Modeling the Cosmic Web](#).

### **[FY 2024 DOE Spotlight: Advancing Hydropower Technologies to Help Achieve Clean Energy Goals](#)**

Through its Hydropower Program, DOE's WPTO supports projects focused on research, development, demonstration, and commercial activities to advance transformative, cost-effective, reliable, and environmentally sustainable hydropower and pumped storage hydropower technologies. For more information, visit <https://www.energy.gov/eere/water/articles/advancing-hydropower-technologies-help-achieve-clean-energy-goals>.

For additional information and hyperlinks, please see [Page 2](#), *About This Report*.



