

**Testimony Statement of
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National Nuclear Security Administration
U.S. Department of Energy
Before the
House Armed Services Committee
Subcommittee on Strategic Forces**

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Chairman Lamborn, Ranking Member Moulton, and Members of the Subcommittee, thank you for the opportunity to present the President's Fiscal Year (FY) 2024 budget request for the Department of Energy's (DOE) National Nuclear Security Administration (NNSA). NNSA appreciates the Subcommittee's ongoing bipartisan support for our mission and workforce.

NNSA is making significant progress across the entire portfolio. The weapon modernization programs are delivering to the Department of Defense. The production modernization and infrastructure initiatives are advancing with noticeable progress all around the nuclear security enterprise. Nonproliferation and counterterrorism activities continue to make the world safer, help Ukraine, and prepare for future threats and opportunities. Naval reactors, in partnership with NNSA nonproliferation and others across the government, successfully completed the 18-month consultation period for AUKUS. Our workforce recruiting and retention programs have helped us turn the tide of attrition post-Covid. Although there are plenty of challenges, it is clear that the NNSA enterprise is delivering and creating new approaches to accelerate delivery going forward.

NNSA's priorities, as outlined in the FY 2024 budget request, reflect a deteriorating international security environment, expanded mission demands, and challenges in building unique large nuclear facilities.

Russia is changing the global nuclear landscape in multiple dimensions. As it has for several years, Russia continues development of new strategic nuclear weapons delivery systems and renewal of its tactical nuclear weapons inventory. Its unjustified full-scale invasion of Ukraine has also presented several new nuclear threats – the potential for a radiological release from a nuclear power plant due to active combat or operational missteps, or the use of a nuclear weapon in war. In addition, the invasion of a country that voluntarily relinquished its nuclear weapons by a nuclear weapon state sends an unfortunate signal to the world. Russia's recent decision to suspend its participation in New START has no valid legal basis and lends uncertainty to the future of arms control and fuels stability concerns. Russia's nuclear behavior is irresponsible, and its actions will impact global conditions for some time to come.

In addition, China's advancing and growing nuclear capabilities, its reimagined minimum deterrence requirements, and continued lack of transparency or interest in arms control dialog are deeply troubling. Therefore, the U.S. must prepare for China as a future peer nuclear adversary.

Contending with two peer nuclear adversaries at once will take us into uncharted territory and require breaking from strategies we relied upon during and after the Cold War.

Furthermore, North Korea and Iran are destabilizing and present persistent nuclear proliferators. North Korea actively tests missiles and diversifies its nuclear delivery capabilities and expresses its intent to threaten the U.S. and our allies. Meanwhile Iran continues to enrich uranium to higher levels and expand its nuclear program far beyond JCPOA limits.

This environment reinforces the need for both continued efforts at nuclear arms control and nonproliferation and for the U.S. nuclear deterrent as the cornerstone of our national defense and as assurance for our allies. As our weapons and infrastructure exceed their design lifetimes, we continue to simultaneously execute five weapon modernization programs and refurbish significant parts of the NNSA production and scientific enterprise to maintain a safe, secure, reliable, and effective deterrent for today and into the future.

NNSA remains acutely aware of the need to increase the pace of our modernization efforts while retaining confidence in our nuclear stockpile. We also realize this is a once-in-a-several-generation opportunity to reform our enterprise. NNSA is using the weapon, production, and infrastructure modernization programs to intentionally create a more flexible and resilient enterprise that can respond to unforeseen changes in mission requirements at the pace of the threat. This is a significant undertaking, and we have strong headwinds in our construction activities. Difficulties in construction are being felt across the United States and being studied by economists. Although initially thought to be caused by Covid, NNSA projects have continued to experience supply chain and craft worker shortages, exacerbated by higher-than-expected inflation. We must adjust our cost estimates, delay starting additional large projects, and find innovative ways to successfully deliver.

The challenging security environment, and the demands it places on our nuclear weapons enterprise cannot distract us from progress on nonproliferation, terrorism prevention, partnering with the international community, and keeping pace with new technologies and threats. We are facing an increased international demand for nuclear energy as a response to the climate crises. As new nuclear energy programs emerge, a heightened burden is placed on the nuclear nonproliferation regime to prevent nuclear energy programs from becoming latent nuclear weapon capabilities or targets for terrorists.

Excellence in naval propulsion continues to provide the U.S. with a competitive advantage. Sustaining, modernizing, and advancing the naval propulsion efforts is a priority for NNSA. We will continue to stay focused on building the spent fuel handling facility, delivering Columbia-class propulsion, and developing next generation capabilities. The AUKUS activities have increased the intersection of the naval reactors program with nonproliferation and nuclear material production activities, and we will continue to stay tightly coordinated.

The NNSA nuclear security enterprise is meeting today's requirements and building for the future. We have a challenging mission in a challenging time and are committed to its near- and long-term success. Continuous support from this Administration and Congress is essential to that success.

NNSA Significant Accomplishments in 2022

Life Extension and Weapons Modernization Programs: In 2022, NNSA transitioned both the B61-12 Life Extension Program (LEP) and the W88 Alteration (Alt) 370 Program into Phase 6.6, Full-Scale Production and met the deployment requirements set by the Department of Defense.

National Ignition Facility (NIF): In December, the Lawrence Livermore National Laboratory's (LLNL) NIF reached ignition in a controlled fusion experiment resulting in a net energy gain for the first time after six decades of global effort. Achieving ignition allows new regimes relevant for stockpile understanding to be studied and represents an important step toward laser fusion as a potential abundant clean energy source.

Plutonium Pit Production: Los Alamos National Laboratory's Plutonium Facility manufactured ten W87-1 development pits in 2022. Progress on build rates and quality has been excellent.

Ukraine: NNSA has provided a wide range of equipment, training, and technical aid to Ukraine to help prevent and respond to the dangers of a nuclear emergency at Ukraine's nuclear power plants. Equipment provided includes emergency diesel generators and generator fuel. We also continuously monitor radiation sensor data in Ukraine and the region to provide independent results for early warning, and regularly practice emergency communications with the Ukrainians.

Surplus Plutonium Disposition: In December, NNSA completed its first shipment of downblended surplus plutonium from the Savannah River Site (SRS) in Aiken, South Carolina to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. NNSA has converted a cumulative total of 1,298 kilograms of plutonium to an oxide form in preparation for final disposition.

Nuclear Material Reduction: In 2022, NNSA removed more than 55 kilograms of weapons-usable nuclear material from partner countries in Asia, Europe, and North America, achieving permanent threat reduction. The third nuclear research reactor in Kazakhstan was converted from highly enriched uranium (HEU) to low-enriched uranium (LEU) fuel and Japan transferred HEU from Kyoto University to the United States for permanent disposition.

Global Material Security: NNSA removed 101 cesium blood and research irradiators from U.S. facilities, the largest number in a single year; 93 were replaced by radioactive source-free alternative technologies. We are on track to meet the statutory requirements of replacing all cesium-based blood irradiators in the United States by 2027.

Counterterrorism: NNSA participated in Cobalt Magnet 2022, the latest in a series of full-scale exercises with federal, state, and local stakeholders to test concepts of operations and methods for assessing, interpreting, and communicating the impacts of a release of radioactive material. NNSA also assumed the role of vice chair of the Nuclear Forensics Executive Council and helped develop the Nuclear Forensics and Attribution Strategic Plan that establishes milestones and requirements to shorten timelines to support Presidential decision making during a crisis.

Infrastructure Innovation: NNSA completed construction of an Emergency Operations Center (EOC) at LLNL in California under the innovative Enhanced Minor Construction and Commercial Standards (EMC²) initiative for streamlining non-complex, non-nuclear construction projects. This project finished 13 months after receiving construction funding, ahead of schedule and under budget.

Workforce Recruitment: NNSA expanded recruitment efforts for top talent in the sciences, engineering, and skilled crafts and trades in coordination with our M&O partners. This has resulted in the highest federal staffing levels since 2013 and over 11,000 people hired in the enterprise. Additionally, NNSA continues to develop the next-generation workforce through its Minority Serving Institutions (MSI) and Tribal Educational partnership programs and supported 84 MSI interns in 2022.

Workforce Retention: In response to high attrition, a mid-year salary adjustment was granted at our laboratories, plants, and sites to better pace inflation and changing employee expectations. More flexible benefit packages were also implemented. These timely actions have helped lower attrition to levels closer to normal.

NNSA's FY 2024 Budget Request

The President's FY 2024 budget request for NNSA is \$23.8 billion, an increase of \$1.7 billion, or 7.6 percent, above the FY 2023 enacted level.¹ This funding request reflects the requirements in the nuclear weapons program of record, the National Security Strategy, the Nuclear Posture Review, and other national security strategies and requirements. The funding request supports expanded mission due to the global environment and takes into account increased costs and delays in construction projects. We are mindful and deeply appreciative of the sustained support from Congress, multiple administrations, and the American people.

Weapons Activities Appropriation

The FY 2024 budget request for the *Weapons Activities* account is \$18.8 billion, an increase of \$1.72 billion, or 10 percent, above the FY 2023 enacted level. The request will be supplemented with prior year balances of \$61.6 million.

The budget request represents the Administration's firm commitment to a safe, secure, reliable, and effective nuclear deterrent underpinned by world-class science and modern resilient infrastructure and protected with advanced physical and cybersecurity measures. The FY 2024 request reflects the increased urgency needed to modernize weapons and refurbish, revitalize, and reinvest in the nuclear enterprise and workforce.

Stockpile Management

The FY 2024 budget request for Stockpile Management is \$5.2 billion, an increase of \$251 million, or 5.1 percent, above the FY 2023 enacted level. Activities include: (1) weapons

¹ FY 2023 enacted levels throughout this document do not reflect the mandated transfer of \$99.7 million from Naval Reactors to the Office of Nuclear Energy for operation of the Advanced Test Reactor.

modernization, (2) stockpile sustainment, (3) production operations, (4) weapons dismantlement and disposition, and (5) nuclear enterprise assurance.

Weapon Modernization Programs

The Weapon Modernization Program request is \$3.1 billion, an increase of \$200 million, or 6.9 percent, above the FY 2023 enacted level.

W88 Alt 370: The W88 Alt 370 program has entered Phase 6.6, *Full-Scale Production*, and is currently on schedule to meet Department of Defense (DoD) deployment schedules. The budget request of \$179M is \$17M higher than the FY 2023 enacted level, with the increase needed to mitigate risks encountered in Pantex production.

B61-12 LEP: The B61-12 LEP has entered Phase 6.6, *Full-Scale Production*. The B61-12 LEP consolidates multiple variants of the B61 gravity bomb and improves the safety and security of the weapon. Production is currently on schedule to meet DoD deployment schedules. The budget request of \$450 million, \$222 million lower than the FY 2023 enacted level, is informed by carryover and reflects completion of production of many components.

W80-4 LEP: The W80-4 LEP has entered Phase 6.4, *Production Engineering*. NNSA revised the first production unit (FPU) schedule in response to COVID-19 impacts, slower than planned hiring and increased attrition, and increased component technical challenges. NNSA's revised schedule is fully aligned with the U.S. Air Force's (USAF) Long Range Standoff Missile's schedule for initial and full operating capability. The budget request of \$1.01 billion is \$123 million lower than the FY 2023 enacted level, consistent with long-standing plans and with typical warhead program profiles, with expenditures ramping down from the current peak as the program moves through its remaining phases.

W87-1 Modification Program: The W87-1 will replace the aging W78 warhead using a modification to the existing W87-0 design. The W87-1 will deploy new technologies that improve safety and security, address obsolete designs and materials, and simplify warhead manufacturability. The W87-1 has entered Phase 6.3, *Development Engineering*, and expenditures are ramping up accordingly. The FY 2024 request of \$1.07 billion is \$389 million higher than the FY 2023 enacted level. This request fully supports the increased activity needed to execute Phase 6.3 in FY 2024. The request is informed by the recently completed Weapon Design Cost Report, the associated Independent Cost Review by the Office of Cost Estimating and Program Evaluation, and analysis of achievable execution rates by the enterprise.

W93 Program: The W93 is a third warhead for our submarine launched ballistic missiles and is a new warhead. The key nuclear components will be based on currently deployed and previously tested nuclear designs that will not require nuclear explosive testing to certify. The W93 program is a separate but parallel program to the replacement warhead program in the United Kingdom. In February 2022, the W93 entered Phase 2, *Feasibility Study and Design Options*. The budget request of \$390 million, an increase of \$149 million over the FY 2023 enacted level, reflects the ramp-up associated with Phase 2 and is informed by improved cost estimates.

Stockpile Sustainment

Sustaining today's stockpile is the top priority for NNSA. The Stockpile Sustainment program executes warhead maintenance, limited life component exchanges, minor alterations, surveillance, assessments including annual assessments and significant findings investigations, surety studies and capability developments, and management activities for all weapons systems in today's stockpile. The FY 2024 budget request for Stockpile Sustainment is \$1.28 billion, a decrease of \$44.6 million, or 3.4 percent, below the FY 2023 enacted level. Most of the decrease is due to completion of certain sustainment activities for the W78 and W80 and reduced program requirements for the B83.

Production Operations

Production operations maintains capabilities for warhead manufacturing and surveillance that are not specific to "tail numbers". The budget request of \$711 million is \$80 million higher than the FY 2023 enacted level. Activities supported by the request budget include full rate production of the B61-12 and W88 Alt 370, capability support for Power Sources and Energetics at Sandia National Laboratories, capability support for production of neutron generators and detonators, expansion and equipment relocation at Kansas City, maintenance of production and dismantlement equipment, and recruitment and development of skilled personnel to perform production activities.

Weapons Dismantlement and Disposition

Warhead modification and alterations since the end of the Cold War have relied heavily on reuse of components from dismantled warheads, and this will continue at least through the W80-4 program. Warhead programs, Naval Reactors, the tritium program, and Defense Nuclear Nonproliferation's research-reactor programs all depend on recycled material from dismantled warheads. The FY 2024 request of \$53.7 million, a decrease of \$2.3M from the FY 2023 enacted level, supports the dismantlements and dispositions that are needed in FY 2024 for B61-12 production, W88 Alt 370 production, naval-reactor material, research-reactor material, and uranium to fuel the Watts Bar nuclear reactors in which tritium is produced.

Nuclear Enterprise Assurance (NEA)

The NEA program assists the nuclear security enterprise in actively managing subversion risks to the nuclear weapons stockpile and associated design, production, and testing capabilities from subversion threat pathways. The FY 2024 budget request of \$66.6 million, an increase of \$17.7 million, or 36.2 percent, over the FY 2023 enacted level, represents the planned ramp-up of this new program that began in its current form in FY 2022. The requested funding is needed to establish cross-site, multi-disciplinary assurance capabilities; address highest priority subversion risks at each of the eight NNSA sites; institute cybersecurity of nuclear weapon policy, requirements, and oversight processes; and establish, update, and expand NEA training and qualification programs.

Production Modernization

The production modernization program re-establishes and modernizes the manufacturing capabilities for nuclear weapons that degraded or were eliminated after the Cold War. The FY 2024 budget request for Production Modernization is \$5.6 billion, an increase of \$439 million, or 8.6 percent, above the FY 2023 enacted level. This funding is focused on the timely establishment of nuclear weapon production capabilities for primaries, secondaries, tritium and depleted uranium, and non-nuclear components.

Primary Capability Modernization

Pit Production: NNSA's most pressing recapitalization effort is reconstitution of plutonium pit production. NNSA is statutorily required to produce no fewer than 80 pits per year (ppy) by 2030. The Secretary of Energy and the Nuclear Weapons Council have previously notified Congress that NNSA will not meet the 80 ppy by 2030 requirement. However, NNSA remains firmly committed to achieving 80 ppy as close to 2030 as possible. Through close coordination with DoD, NNSA will maintain the reliability and effectiveness of the nuclear stockpile until pit production capabilities are fully established.

NNSA is proceeding with the two-site approach for producing at least 80 ppy, with the Los Alamos National Laboratory Plutonium facility set to produce 30 ppy and the Savannah River Plutonium Processing Facility (SRPPF) set to produce at least 50 ppy. The two-site approach is a key component of NNSA's development of a modern nuclear security enterprise, with an emphasis on flexibility and resilience. The FY 2024 budget request for the Los Alamos Plutonium Pit Production Project (LAP4) is \$670 million, an increase of \$82 million, or 13.9 percent, over the FY 2023 enacted level. For SRPPF, the FY 2024 request is \$858 million, a decrease of \$342 million, or 28.5 percent, over the FY 2023 enacted level. This decrease reflects the use of projected FY 2023 carryover for long lead time equipment purchases that will not need to be repeated in FY 2024.

At Los Alamos, production processes continue to mature. Forty development pits have been built, and build rates and quality are increasing. NNSA expects the first war reserve (WR) pit to be produced near the end of calendar year 2024 and an increasing number of WR pits to be produced each subsequent year. The FY 2024 budget request for LAP4 will support an increase in engineering evaluations and certification activities to produce WR plutonium pits in tandem with increased equipment purchases and installation activities. NNSA believes the fastest path to reaching 30 WR ppy at LAP4 involves balancing the priorities for production maturation and equipment installation so that both are ready for rate production. The budget request also supports the hiring, training, and qualification of additional staff necessary for WR pit production.

The FY 2024 request for SRPPF will continue to support design activities and the work started in FY 2023 on early site preparation, demolition and removal of old equipment and materials from the main process building, and long-lead procurements.

High Explosives and Energetics (HE&E) Program: The HE&E program focuses on modernization of high explosives processing facilities across five NNSA sites. The HE&E program enables the production of high explosives and energetic materials required for nuclear weapons, including the main charge, boosters, detonators, actuators, timer/drivers, and spin rockets.

The FY 2024 budget request for the HE&E program is \$195 million, a decrease of \$53.4 million, or 21.5 percent, below the FY 2023 enacted level. The decreased budget reflects the decision to put the High Explosives Synthesis, Formulation, and Production project at Pantex and the Energetic Materials Characterization Facility at Los Alamos on hold, while prioritizing the High Explosives Science and Engineering (HESE) facility at Pantex, including capital equipment purchases, construction, and transition to operation, as well as other key projects currently under construction throughout the nuclear security enterprise. The request also reflects prioritization of a partnership that began in FY 2022 with Naval Surface Warfare Center Indian Head to manufacture and supply insensitive high explosives equipment purchases and process development.

Secondary Capability Modernization

The FY 2024 request for Secondary Capability Modernization is \$1.64 billion, an increase of \$522 million, or 46.8 percent, above the FY 2023 enacted level. NNSA is restoring, modernizing, and enhancing its enriched uranium, depleted uranium, and lithium manufacturing processes needed to meet requirements for nuclear weapon secondary stage production. This request includes an additional \$398 million for the Uranium Processing Facility (UPF) and other investments needed to support overall secondary stage production.

Enriched Uranium Capability Modernization: NNSA's enriched uranium manufacturing modernization strategy includes the relocation of enriched uranium processing capabilities into UPF at the Y-12 National Security Complex (Y-12) and other enduring facilities to reduce mission dependency on Building 9212, which is over 75 years old. UPF will provide for the long-term viability and security of enriched uranium processing while improving worker and public safety and promoting environmental stewardship. Ongoing supply chain issues, delayed equipment delivery, contractor performance, inflation, and shortages of qualified labor have contributed to cost growth and schedule delays beyond the originally scheduled completion date of December 2025. UPF is just over 50 percent complete with the first four non-nuclear subprojects concluded.

In addition to UPF, NNSA is refurbishing buildings 9215, 9204-2E, and 9995 to establish modern processes and extend their operational lifetimes into the 2040s. A key change will be the establishment of electrorefining to provide purified uranium metal and eliminate the current high-hazard chemical process. To reduce overall mission risk during the transition, NNSA has a service contract with Nuclear Fuel Services in Erwin, TN for converting uranium oxide to metal.

Depleted Uranium Modernization: Along with revitalized enriched uranium processing capabilities, NNSA continues to advance its depleted Uranium (DU) modernization program. Established in FY 2021 to meet mission requirements to produce radiation cases and other DU

components, this program will reconstitute lapsed DU alloying and component manufacturing capabilities at Y-12 while investing in new technology to improve efficiency, reliability, and capacity. The equipment at Y-12 formerly used in this process has been inoperable for the last 15 years, and its reconstitution is a critical component of successful weapons modernization. The timely introduction of new technology will allow rebuilding a limited capacity for the former processes.

Lithium Modernization: The NNSA Lithium modernization strategy includes restarting processes while constructing the Lithium Processing Facility to address increased mission demand in the future. LPF will replace the lithium manufacturing processes within Y-12 buildings 9204-2 and 9202, which are lithium recovery, purification, component fabrication operations and salvaging. These buildings are in disrepair and do not possess the capabilities or capacity to meet demands beyond 2035. LPF will provide modern technologies and a safer environment for both workers and the public.

Tritium and Domestic Uranium Enrichment Modernization

The FY 2024 budget request for the *Tritium and Domestic Uranium Enrichment Modernization* effort is \$593.0 million, an increase of \$13.0 million, or 2.2 percent, above the FY 2023 enacted level.

Tritium Modernization: The Tritium modernization program provides tritium supplies for nuclear weapon requirements, including recycling tritium gas and sustaining reliable supply chain infrastructure and equipment. Multi-year modernization plans reflect increasing future demand. NNSA is already increasing production levels at the Tennessee Valley Authority and extracting the produced tritium at the Savannah River Site (SRS). NNSA is designing and initiating site preparations for the Tritium Finishing Facility (TFF) at SRS, which will replace a 1950s-era facility. The TFF site preparation subproject began in FY 2023 using carryover funds from prior years. The FY 2024 budget request reflects a prioritization decision to complete the site preparation subproject but move the remainder of the project out in time, as we focus resources on SRPPF and other higher-priority construction projects.

Domestic Uranium Enrichment: Tritium production relies on enriched uranium. The Domestic Uranium Enrichment (DUE) program is responsible for providing sufficient capacity of unobligated enriched Low Enriched Uranium (LEU) for tritium production and Highly Enriched Uranium (HEU) for naval propulsion fuel, as well as obligated or unobligated High Assay LEU (HALEU) for research reactors. The FY 2024 budget request for the DUE program is \$258.3 million, an increase of \$113.4 million, or 78.3 percent, above the FY 2023 enacted level. The FY 2024 budget request continues support for HEU downblending that will extend the need date for unobligated LEU for tritium production to 2044. The funding request also supports ongoing enrichment technology development and acquisition activities to meet future unobligated enriched uranium needs. New funding is requested to leverage the Office of Nuclear Energy's procurement of HALEU from industry to support defense needs and to begin conceptual design activities for an unobligated enrichment technology pilot plant. Such efforts complement the investments provided in the Inflation Reduction Act to the Office of Nuclear Energy for HALEU to help the private sector establish domestic uranium enrichment capabilities for the long term,

so we will be able to reduce our dependence on Russia and address a critical strategic vulnerability.

Non-Nuclear Capability Modernization (NNCM)

The NNCM program funds the capability and capacity for non-nuclear components (external to the primary or secondary stage of the nuclear explosive package) in weapon systems. Non-nuclear components provide arming, fuzing, and firing functions and safety and use control features, among others. Providing these functions requires a wide range of technologies and components including radiation-hardened microelectronics, neutron generators, gas transfer systems, power sources, electrical assemblies, cables, connectors, structural elements, pads/cushions, and a multitude of other parts that are incorporated into the systems that support or weaponize the nuclear explosive package. NNCs make up more than half the cost of weapons due to the number and complexity of the elements, and the need for qualification in extreme environments over the warhead life. The FY 2024 budget request is \$167M, an increase of \$44M over the FY 2023 enacted level. The request includes funding to provide equipment for increased manufacturing capacity at the Kansas City National Security Campus (KCNSC); reconstitute thermal spray capability at Sandia National Laboratories; recapitalize radiation and major environmental test facilities at Sandia National Laboratories for design and qualification; and provide tools and equipment for the Microsystems Engineering, Science, and Applications (MESA) Complex at Sandia National Laboratories as the only approved source of trusted, strategically radiation hardened microelectronics.

FY 2024 funding will also be used to develop production modernization strategies for weapon staging and warhead assembly operations at Pantex.

Infrastructure and Operations

A well-organized, well-maintained, and modern infrastructure system is the bedrock of a flexible and resilient nuclear security enterprise. NNSA's infrastructure consists of \$134 billion in assets and facilities. More than 60 percent are beyond their life expectancy, with some of the most important dating back to the Manhattan Project. Modernization and recapitalization of deteriorating infrastructure will allow NNSA to meet expanded mission needs, provide a safe and up-to-date work environment to attract and retain a high-quality workforce, and incorporate new technologies and techniques to make the nuclear security enterprise more efficient, reliable, secure, and environmentally responsible. NNSA must accelerate infrastructure delivery while also balancing investments to optimize execution capacity and value delivery. NNSA is challenging its traditional mindset to shift to agile delivery methods, such as focusing on minimal viable projects, phased delivery, and whole site approaches.

When the Cold War ended NNSA was left with large and aged buildings, environmental contamination, and the need to close facilities for some key weapon components such as plutonium pits. Going forward, we need to be creative in facility design and cultivate capabilities that can rapidly scale up or down depending on the international environment and mission need while being minimally disruptive to contracts, workforce, facilities, and the environment. This includes developing strategic partnerships with industry and using new

acquisition approaches to purchase facilities rather than pursuing traditional federal construction projects. NNSA is increasingly exploring the use of its real estate authority to achieve timely acquisition of modern, non-complex infrastructure to support the mission.

The FY 2024 budget request for Infrastructure and Operations is \$2.77 billion, an increase of \$164.5 million, or 6.3 percent, above the FY 2023 enacted level. This increase will enable NNSA to operate and modernize NNSA's infrastructure to support expanded mission objectives and future enterprise resilience. The increase also enables NNSA to address external factors such as supply chain delays, inflation, and labor shortages which have raised costs and extended timelines for projects, making it difficult to deliver projects within the baselines established. To address these challenges, NNSA is focused on improving early-stage project and portfolio level planning, identifying and applying lessons learned through independent project reviews, and taking actions to streamline project delivery and increase buying power.

A significant portion of the requested increase will support the Kansas City Non-Nuclear Expansion Transformation (KCNEXT) plan. NNSA is currently pursuing acquisition of 245 acres of land immediately adjacent to the KCNSC because the current KCNSC manufacturing capacity is inadequate to support the Program of Record. Since its initial conception, the KCNEXT strategy has shifted from a land acquisition with government construction to a lease-purchase acquisition with landowner construction. The execution of the lease-purchase agreement in FY 2024 will allow for immediate construction using commercial building standards and accelerate completion of the first major phase of the expansion. Funding in FY 2024 will protect NNSA's interests in the property and accelerate overall completion of KCNEXT.

Funding is also requested to initiate three new mission enabling construction projects at the site.

NNSA continues to refine innovative solutions developed over the last several years to streamline low-risk, non-nuclear construction projects to save time and money. Consistent congressional support has been invaluable in bringing these innovations to fruition. NNSA is grateful for the additional authority in the National Defense Authorization Act (NDAA) for FY 2023, which raised the minor construction threshold from \$25 million to \$30 million and provided a three-year pilot program to raise the threshold to account for inflation. This will make a critical difference in NNSA's ability to further innovate minor construction and complete low-risk projects on time even during a period of higher-than-normal inflation.

Using data-driven risk-informed tools, NNSA pinpoints when and where infrastructure investments are needed and develops innovative execution initiatives to streamline processes, accelerate delivery, and increase buying power. For example, in FY 2019 NNSA established the EMC² pilot program to streamline commercial-like construction projects. The initial program quickly expanded from four projects to ten in 2021, including the addition of five office buildings at LANL to support plutonium pit production. In FY 2022, NNSA completed the LLNL's Emergency Operations Center in just 13 months after receiving full construction funding, the first project under this pilot program. This year, NNSA held the ribbon cutting for the Y-12 Fire Station and the Y-12 Emergency Operations Center. Both projects began construction in 2021 and were ready for full operations in just two years.

Stockpile Research, Technology, and Engineering

For Stockpile Research, Technology, and Engineering, the FY 2024 budget request is \$3.2 billion, an increase of \$246.6 million, or 8.4 percent, above the FY 2023 enacted level. Approximately \$100M of the requested increase is for the Z-pinch Experimental Underground System (Zeus) Test Bed Facilities Improvement Project and the Advanced Sources and Detectors Scorpius radiography capability, which provide the main capabilities within Enhanced Capabilities for Subcritical Experiments at the Nevada National Security Site (NNSS).

The Stockpile Research, Technology, and Engineering portfolio covers activities that serve as the foundation for science-based stockpile activities, including the capabilities, tools, and components that are used every day to assess the active stockpile and to certify warhead modernization programs without the need for underground nuclear testing. NNSA's unparalleled science and technical capabilities, and commitment to their constant improvement, helps cultivate the knowledge and expertise to maintain confidence in the stockpile. The major activities in the Stockpile Research, Technology, and Engineering portfolio are described here.

Enhanced Capabilities for Subcritical Experiments (ECSE)

The FY 2024 budget request for ECSE is \$292.3 million, an increase of \$15.1 million, or 5.5 percent, above the FY 2023 enacted level. ECSE will produce experimental data in underground tunnels at the NNSS that enables high fidelity assessment of the current stockpile and certification of the future stockpile without the need to return to underground nuclear explosive testing. ECSE experiments are designed to remain subcritical throughout the experiment to adhere to the current U.S. policy of a "zero yield" nuclear testing moratorium. Funding in FY 2024 will support the continued preparation and implementation of ECSE.

Stockpile Responsiveness Program (SRP)

The FY 2024 budget request for SRP is \$69.8 million, an increase of \$6.1 million, or 9.6 percent, above the FY 2023 enacted level. SRP is responsible for exercising and enhancing capabilities through the entire nuclear weapons lifecycle to improve the responsiveness of the United States to future threats, technological trends, and international developments not addressed by current warhead modernization programs. SRP is investing in efforts to address issues in design for manufacturability, digital engineering, component, and system prototyping and testing.

Weapons Technology and Manufacturing Maturation (WTMM)

The FY 2024 budget request for WTMM is \$327.7 million, an increase of \$41.5 million, or 14.5 percent, above the FY 2023 enacted level. The WTMM program invests in system-agnostic technology development and advanced manufacturing capabilities to reduce the technological risks and life-cycle costs of maintaining and enhancing the stockpile. Technology and manufacturing maturation enables the development and delivery of design-to-manufacturing capabilities to meet the current programs of record and future nuclear weapons design and production needs of the nuclear security enterprise.

Inertial Confinement Fusion Program (ICF)

The FY 2024 budget request for ICF is \$601.6 million, a decrease of \$28.3 million, or 4.5 percent, below the FY 2023 enacted level, reflecting the use of projected carryover for FY 2024 requirements. The ICF program provides high energy density (HED) science capabilities and expertise that support research and testing across the breadth of the Stockpile Stewardship Program. Its two-fold mission is to meet immediate and emerging HED science needs to support the deterrent of today, and to advance the R&D capabilities necessary to meet those needs for the deterrent of the future. In a breakthrough on December 5, 2022, the ICF Program reached fusion ignition and achieved net energy gain for the first time in history. The FY 2024 request supports ICF research and facilities, enabling access to experimental data that underpins the safety, security, and effectiveness of the nuclear stockpile and building on the success of last year's achievement.

NNSA Advanced Simulation and Computing (ASC)

The FY 2024 budget request for ASC is \$782.5 million, a decrease of \$7.5 million, or 1.0 percent, below the FY 2023 enacted level. ASC will provide NNSA with leading edge simulation capabilities to support weapons design, science-based stockpile stewardship, and stockpile certification activities. The FY 2024 budget request will continue funding maturation of next-generation simulation and computing technologies. Additionally, *El Capitan*, the first exascale computer for national security, is expected to come online at LLNL for classified computing in 2024. At over two exaflops, it will be the world's fastest supercomputer.

Academic Programs and Community Support

For Academic Programs and Community Support, the FY 2024 budget request is \$152 million, an increase of \$40 million, or 36 percent, above the FY 2023 enacted level. This budget increase includes the addition of \$30 million for the new Community Capacity Building Program.

Starting in FY 2024, NNSA is proposing to elevate Academic Programs from a congressional-control level within SRT&E to a stand-alone Government Performance and Results Act (GPRA) Unit/control level, and to also establish a Community Capacity Building Program to provide benefits to disadvantaged communities, including Tribal Nations and rural communities, that are affected by activities at NNSA's sites. These changes will enable improved program integration, agility, development, and alignment to critical workforce needs, promote the President's goal of advancing diversity, equity, inclusion, and accessibility through the Federal Government, and bolster underserved communities affected by activities at the NNSA sites in the areas of job creation, community restoration, infrastructure projects, and educational resources.

The challenges of modernizing our nuclear stockpile demand a strong and diverse base of national expertise in specialized technical areas that uniquely contribute to nuclear stockpile stewardship. Academic Programs supports educational capacity building in unique disciplines, such as nuclear science, radiochemistry, materials at extreme conditions, high energy density science, advanced manufacturing, and high-performance computing. This budget supports our key objectives to strengthen these fields of research through scientific advancement, drive

academic innovation that can be leveraged by our national laboratories, ensure that a diverse and robust cadre of experts are trained in these key fields and recruited into careers in the nuclear security enterprise, and maintain U.S. preeminence in these disciplines to ensure that nuclear deterrence remains effective. This budget supports managing academic solicitations and competitive awards in these disciplines, enabling connections between these academic research communities and the nuclear security enterprise, and attracting and retaining this pipeline of developed talent to ensure the future workforce of NNSA can meet the evolving needs of the enterprise. NNSA is also building the pipeline for technicians and skilled craft trades to meet ongoing and emerging needs at national laboratories, plants, and sites. The Apprenticeships for Complete and Committed Employment for Specialized Skills (ACCESS) program – outlined in the FY 2020 NDAA – was motivated by the need to support apprenticeships for specialized skills that are vital to the nuclear security enterprise. A Funding Opportunity Announcement was issued late last year and the first awards for this program were distributed in February 2023.

Secure Transportation Asset

The FY 2024 budget request for Secure Transportation Asset (STA) is \$357.1 million, an increase of \$12.6 million, or 3.7 percent, above the FY 2023 enacted level. STA supports the safe and secure transportation of nuclear weapons, components, and special nuclear material throughout and across the nuclear security enterprise to meet nuclear security requirements. Multiple activities critical to the successful execution of NNSA’s missions, including weapon modernization programs, limited-life component exchanges, surveillance, dismantlement, nonproliferation activities, and experimental programs, rely on STA for safe, secure, and on-schedule transport.

The Office of Secure Transportation’s (OST) priorities for FY 2024 include the sustainment and ongoing modernization of operations and equipment. This includes the Safeguards Transporter life extension program until it can be replaced by the Mobile Guardian Transporter (MGT). The FPU for the MGT is planned in FY 2028. Additional funding is requested to support minor construction projects essential for replacement and refurbishment of aging facilities and mission requirements.

OST remains focused on recruiting and retaining a well-trained, highly qualified Federal Agent and staff workforce to support mission requirements. OST has implemented strategies to increase the Federal Agent workforce by offering higher incoming pay, recruitment incentives, and the creation of ladder positions for high performers.

Defense Nuclear Security

Defense Nuclear Security’s FY 2024 budget request is \$1.02 billion, an increase of \$144.7 million, or 16.6 percent, above the FY 2023 enacted level. The Office of Defense Nuclear Security’s primary mission is protecting the facilities, assets, and people responsible for successfully carrying out NNSA’s national security missions. Growth in NNSA’s mission portfolio, and the associated growth in projects in secure areas such as LAP4, UPF, and SRPPF, along with increased resources necessary to meet core security requirements, has led to increased program requirements for Defense Nuclear Security.

Full funding of the FY 2024 budget request will support these larger requirements as well as high-priority initiatives for the Physical Security Center of Excellence and the Center for Security, Technology, Analysis, Response, and Testing. Additionally, this increase includes additional funding for the West End Protected Area Reduction (WEPAR) project at Y-12 to address cost increases associated with contractor performance, delays in other projects outside WEPAR's scope, and external factors affecting projects enterprise wide.

Information Technology and Cybersecurity

The FY 2024 budget request for information technology and cybersecurity is \$578.4 million, an increase of \$132.7 million, or 29.8 percent, above the FY 2023 enacted level. This request funds current operations and continues investments across NNSA to modernize both unclassified and classified systems and the execution of a robust and effective cybersecurity capability.

The FY 2024 budget request supports the cost necessary to maintain a secure and resilient cyber program. The request invests in operations, mission support, infrastructure modernization, labor growth, and associated investments to execute statutory requirements, Executive Order 14028, policy requirements, and Office of Management and Budget memorandums. The FY 2024 requested increase reflects investments in endpoint detection and response, zero trust architecture, operational technology, enterprise cybersecurity tools and services, and cyber workforce growth at the labs, plants, and sites.

The request funds cybersecurity programs at NNSA's laboratories, plants, and sites to address the significant increase in technology use and keep pace with expanded NNSA mission requirements. The funding increase supports the ongoing modernization of NNSA's network architecture and classified systems, including the Emergency Communications Network. The FY 2024 request includes the costs associated with classified infrastructure and capabilities, implementation of cloud infrastructure, and unclassified IT services. These improvements reflect NNSA priorities in improving both unclassified and classified collaboration tools and network services, as well as providing redundancy and improved performance for mission partners around the world.

Defense Nuclear Nonproliferation

The FY 2024 budget request for the *Defense Nuclear Nonproliferation* account is \$2.51 billion, an increase of \$19 million, or 0.8 percent, above the FY 2023 enacted level. The request will be supplemented with prior year balances of \$20.0 million. Reducing nuclear risks and supporting a robust nonproliferation regime and partnerships improves the effectiveness of our deterrent and enhances U.S. and global security. Expanding priorities include support for Ukraine with our allies and partners, preparing for a growing and evolving nuclear power fleet, assuring allies who might be rethinking the need for nuclear weapons, and getting ahead of biological threats.

This account funds all nonproliferation-related activities in the offices of Defense Nuclear Nonproliferation (DNN), Emergency Operations (EO), and Counterterrorism and Counterproliferation (CTCP). The activities carried out by these offices support the

Administration's 2022 *National Security Strategy*, 2022 *Nuclear Posture Review*, *Presidential Strategy to Counter Weapons of Mass Destruction*, and the recently signed National Security Memorandum to *Counter Weapons of Mass Destruction Terrorism and Secure Nuclear and Radioactive Material*. NNSA's defense nuclear nonproliferation programs are part of a whole-of-government approach to extend U.S. defenses against nuclear threats far beyond our borders. They help prevent adversaries from acquiring nuclear weapons or weapons-usable materials, technology, and expertise; develop monitoring technology for arms control and early detection of proliferation activities; counter adversary efforts to acquire such weapons or materials; and respond to nuclear or radiological incidents and accidents worldwide.

Defense Nuclear Nonproliferation

From its inception, DNN has developed and implemented policy and technical solutions to minimize or eliminate proliferation sensitive materials and limit or prevent the spread of materials, technology, and expertise necessary for nuclear and radiological weapons. Longstanding and growing cooperation with partner governments; international organizations such as the IAEA, the World Customs Organization, and INTERPOL; and the private sector help develop and implement solutions. These programs work side-by-side with both NNSA's Weapons Activities and Naval Reactors programs to implement best practices for nonproliferation and materials security in our own programs.

The FY 2024 budget request will allow DNN to work in a global landscape that has radically changed in the last twelve months. Russia's unprovoked full-scale invasion of Ukraine; the expansion and diversification of Russian and Chinese nuclear arsenals; the destabilizing activities of Iran and the Democratic People's Republic of Korea (DPRK); the expected growth in nuclear material, technology, and technical expertise resulting from the global expansion of nuclear power and nuclear technology adoption; and the associated risk of illicit smuggling and procurement networks all complicate nuclear nonproliferation missions and demonstrate the need for additional resources and deeper engagement with allies and partners. DNN will utilize these resources to improve capacity and capabilities, develop and incorporate cutting-edge technology required to address future threats, and deepen cooperation with partners.

Material Management and Minimization (M3)

The M3 program's FY 2024 budget request is \$446 million, a decrease of \$18.3 million, or 3.9 percent, below the FY 2023 enacted level. This reduction reflects the availability of prior year balances to fund planned activities for FY 2024.

M3 programs are focused on the reduction and, when possible, elimination of weapons-usable material globally. The FY 2024 budget request supports the conversion or shutdown of research reactors fueled by HEU. The program will build on the success of the molybdenum-99 (Mo-99) program, which last year enabled the Secretaries of Energy and Health and Human Services to jointly certify that a sufficient supply of non-HEU-based Mo-99 is available to meet the needs of patients in the U.S. The request further supports the optimization of proliferation resistance in new reactor designs, the recovery of critically needed high-assay low-enriched uranium (HALEU), the removal and disposal of weapons-usable material located abroad, and the removal

of HALEU from a partner country. Finally, the budget request supports the downblending of the removed HEU in the United States, and the downblending and removal of surplus plutonium from South Carolina per the settlement reached in August 2020. As previously noted, at the end of 2022 the first shipment of downblended surplus plutonium was shipped from K Area at SRS to WIPP in New Mexico. Additionally, to date, M3 has removed or confirmed the disposition of nearly 7,300 kilograms of weapons-usable nuclear material from 48 countries and Taiwan and has eliminated the need for weapons-grade material at 108 civilian research reactors and isotope production facilities.

Global Material Security (GMS)

The GMS program's FY 2024 budget request is \$524.0 million, a decrease of \$8.7 million, or 1.6 percent, below the FY 2023 enacted level. The FY 2024 request supports program efforts to prevent terrorists and other non-state actors from acquiring the nuclear and radioactive materials, equipment, and technical expertise for the construction and use of an improvised nuclear device (IND) or radiological dispersal device. This work is carried out in coordination with domestic and international partners to improve the security of vulnerable materials and facilities and build partner capacity to detect, disrupt, investigate, and interdict illicit trafficking of these materials. This workload is expected to increase with the anticipated growth in nuclear material acquisition and usage. Nuclear and radioactive materials have widespread power generation, agricultural, medicinal, and industrial applications. In 2021 alone the IAEA's Incident and Trafficking Database recorded over 120 incidents of attempted theft and/or smuggling of such materials. GMS maintains 84 bilateral partnerships and works with multilateral organizations such as the IAEA, INTERPOL, and the United Nations Office of Drugs and Crime (UNODC) to counter theft and smuggling networks and improve security of vulnerable assets. Finally, as part of an ongoing strategic analysis process, GMS is exploring innovative approaches, technologies, and tools to adapt to emerging threats and the growing demand for nuclear energy and technology. This includes ongoing efforts to replace all 400 cesium-137 based blood irradiators in the United States by 2027 as mandated in the FY 2019 NDAA and further contributions to find alternatives for Cobalt-60 in the recycling and reuse of plastic waste.

Nonproliferation and Arms Control (NPAC)

The NPAC program's FY 2024 budget request is \$212.4 million, a decrease of \$18.3 million, or 7.9 percent, below the FY 2023 enacted level. The reduced request reflects a planned decrease in annual budget required for the International Atomic Energy Agency (IAEA) test bed because the peak budget year has passed. It also reflects successful efforts to accelerate the Advanced Reactor International Safeguards Engagement (ARISE) program in FY 2023. Activities funded under this request support NNSA efforts in two critical areas: (1) preventing nuclear and dual use technology from becoming nuclear proliferation concerns; and (2) bolstering the international verification regime by technology development and implementation for safeguards, arms control, and emerging challenges. Ensuring the highest nonproliferation standards for AUKUS while protecting naval nuclear propulsion technology has become an added dimension to our nonproliferation efforts.

The greater use of nuclear technology is an issue of increased salience for NPAC. In particular, nuclear energy programs are rapidly expanding as countries seek sources of zero-carbon electricity to combat climate change. Promoting stringent safeguards and security policies, and developing new monitoring and verification technologies are key to preventing proliferation. NPAC also supports the development and implementation of Section 123 agreements and the regulation of nuclear technology exports through Part 810 authorizations.

The FY 2024 request supports IAEA and partner countries' efforts to implement international safeguards obligations and builds domestic and international capacity to implement export control obligations. The request also supports the Arms Control Advancement Initiative (ACAI) to maintain expertise and technology development during a period when new arms control agreements are less likely and to be prepared for future opportunities. NNSA also continues development of approaches and strategies to address emerging nonproliferation and arms control challenges and opportunities.

During the 18-month consultation period on AUKUS, we participated in an international working group tasked with developing nonproliferation and safeguards aspects of the AUKUS program fully consistent with our status as a responsible nuclear power and our obligations as a nuclear-weapon State Party to the Nuclear Non-Proliferation Treaty (NPT). NNSA provided technical advice to the interagency and our AUKUS partners on the full suite of requirements that underpin nuclear stewardship to implement the strongest possible safeguards and verification measures and achieve the overall objectives of AUKUS. NNSA looks forward to taking the next steps in the process of helping a key ally improve both its security and the security of the Indo-Pacific region, while maintaining the highest nonproliferation standards. The FY 2024 request supports the foundation of our nonproliferation and safeguards work on AUKUS.

Defense Nuclear Nonproliferation Research and Development (DNN R&D)

DNN R&D is vital in the development of technical capabilities which support nonproliferation, counterterrorism, and emergency response missions. In addition, DNN R&D sustains and develops the foundational nonproliferation technical competencies that promote the agility needed to support a broad array of nonproliferation missions and potential threats. These include the detection of nuclear detonations; foreign nuclear weapons programs' activities; and the presence, movement, or diversion of special nuclear materials.

The DNN R&D program FY 2024 budget request is \$728.2 million, a decrease of \$39.7 million, or 5.2 percent, below the FY 2023 enacted level. The decrease is a result of the early completion of Phase 1 of the Uranium Science and Technology Center testbed at Oak Ridge National Laboratory.

The FY 2024 budget request supports planned activities for the early detection of proliferation-related R&D and the continued production of nuclear detonation detection satellite payloads. The request also supports continued efforts to sustain and develop foundational nonproliferation technical competencies by providing targeted, long-term support for enabling infrastructure, science and technology, and an expert workforce. The request also continues to develop and

maintain advanced technical nuclear forensics analysis capabilities at the U.S. national laboratories that can support time-critical decisions in the event of a nuclear or radiological incident and assist in determining the origin of interdicted materials or nuclear devices.

NNSA Bioassurance

The bioassurance program's FY 2024 budget request is \$25 million, an increase of \$5 million, or 25 percent, above the FY 2023 enacted level. NNSA appreciates Congress' support in the establishment of this program. The program focuses on developing core capabilities at the U.S. national laboratories, such as high-performance computing for accelerated threat assessment and rapid countermeasure design; surveillance and detection capability development; safeguards and export controls; and forensics to support attribution. NNSA coordinates closely with the DOE's Office of Science in leveraging national laboratory capabilities and technical expertise by making complementary investments in biological sciences and engineering, computational capability, and classified workspaces to advance fundamental understandings of biology and adapt those understandings to bio-resilience. The FY 2024 request supports the establishment of the initial operating capability and coordinated DOE programs in biosciences, including phased science plan implementation with exploratory research and equipment purchases.

Nonproliferation Construction

The nonproliferation construction program FY 2024 budget request is \$77.2 million, an increase of \$5.4 million, or 7.6 percent, above the FY 2023 enacted level. This program consolidates construction costs for DNN projects. In support of the dilute and dispose strategy for surplus plutonium disposition, the Surplus Plutonium Disposition (SPD) project will add additional glovebox capacity at SRS to increase plutonium dilution and aid in the removal of plutonium from the state of South Carolina. The FY 2024 request will support completing the final design review and activities to request CD-2/3, *Approval of Performance Baseline and Start of Construction*, to initiate full construction of the SPD project.

Nuclear Counterterrorism and Incident Response

The FY 2024 request for *Nuclear Counterterrorism and Incident Response (NCTIR)* is \$493.5 million, an increase of \$23.6 million, or 5 percent, above the FY 2023 enacted level. The NCTIR program supports two subprograms: *Counterterrorism and Counterproliferation (CTCP) and Emergency Operations (EO)*. The CTCP FY 2024 budget request is \$474.4 million, an increase of \$34.3 million, or 7.8 percent, above the FY 2023 enacted level. The EO FY 2024 budget request is \$19.1 million, a decrease of \$10.7 million, or 36 percent, below the FY 2023 enacted level.

The CTCP subprogram advances the nation's technical capabilities to understand, defeat, and attribute nuclear threat devices, including INDs and lost or stolen nuclear weapons; provides technical guidance on physical security requirements for nuclear materials; and conducts Nuclear Threat Reduction exchanges with the United Kingdom and France to prevent, counter, and respond to nuclear terrorism and nuclear proliferation.

CTCP also manages NEST, NNSA's multi-mission emergency response capability comprised of scientific and technical experts who are trained and equipped to respond rapidly in the event of a nuclear or radiological incident or accident worldwide. NEST includes nuclear forensics capabilities that enable technical personnel to identify the origin of nuclear material interdicted outside of regulatory control or used in a nuclear attack.

Russia's full-scale invasion of Ukraine has resulted in an increased operational posture for CTCP since February 2022. In FY 2023, CTCP received supplemental appropriations of \$110.3 million to support the U.S. Government's response to the conflict in Ukraine. CTCP is using these funds for radiation detection and monitoring of Ukrainian nuclear facilities; personal protective equipment; emergency diesel generators; and procurement of diesel fuel and consumables for Ukraine's nuclear power plants. CTCP will continue to deliver incident response training and build capacity among responders in Ukraine and other partner nations.

The FY 2024 budget request is driven by changes in the operating environment, as CTCP's core capabilities are being leveraged by key domestic and international partners, including DoD, Federal Bureau of Investigation (FBI), U.S. allies and partners bilaterally and multilaterally, and international organizations such as the IAEA. The request will support additional NEST capacity for large and complex nuclear and radiological emergencies, with a particular focus on nuclear threat reduction activities as part of the U.S. Government's response to the Ukraine conflict. Additionally, this increased capacity will allow NEST to expand interagency partner training to improve regional capabilities nation-wide to characterize and defeat weapons of mass destruction (WMD) devices. This effort leverages many of the investments made and experiences gained from the recently completed "Capability Forward" initiative to train and equip the FBI's regional render safe teams in 14 U.S. cities to take decisive action against a wide range of WMD devices. Additional funding will also enable the continuation of planned investments to provide solutions for countering nuclear proliferation through applied analysis, testing, concept development, technology development, predictive modeling, and testing. These investments include targeted funding for High Performance Computing, which will support modernizing and improving the unique assessment capabilities at the NNSA national laboratories.

The CTCP subprogram also supports the interagency National Technical Nuclear Forensics (NTNF) mission, a central pillar of the U.S. strategy to deter hostile states from providing nuclear material to terrorists. FY 2024 funding enables CTCP to support NTNF efforts to close gaps in the fulfillment of new interagency forensics and attribution requirements. Funding will bridge a longstanding gap between research and development activities geared toward technology transition and NTNF operational capabilities.

The EO subprogram provides both the structure and processes to ensure a comprehensive and integrated approach to all-hazards emergency management across the Department. The EO program aims to improve readiness and effectiveness of the DOE Emergency Management System and the nuclear security enterprise response regardless of the nature or location of the emergency. This unity of effort and culture of continuous improvement helps safeguard the health and safety of workers and the public, protect the environment, and enhance the resilience of the Department and the Nation. EO coordinates plans and procedures for prevention,

protection, mitigation, response to, and recovery from, all hazards emergency accidents, incidents, events, and to support operational emergencies. In addition, the FY 2024 budget request supports Continuity of Operations, Continuity of Government, and Enduring Constitutional Government programs to advance the National Continuity Policy and ensure the continued performance and delivery of essential lines of business and services under any circumstances. FY 2024 funding provides for 24/7/365 Consolidated Emergency Operations Center communications and coordination support to the DOE/NNSA Emergency Management Enterprise, nuclear security enterprise, and Departmental senior leadership. The decrease in the budget request for FY 2024 is due to the completion of certain investments in the consolidated emergency operations center's and alternate operations centers' infrastructure and supporting communications equipment, and classified communications systems improvements in FY 2023.

Naval Reactors Appropriation

With 79 ships, or more than 40 percent of the Navy's major combatants², relying on nuclear propulsion technology, maintaining a qualitative edge in this area remains critical to our national security posture. Providing the nation's submarines and aircraft carriers with unparalleled mobility, flexibility, responsiveness, and endurance is vital in today's complex geopolitical environment. The ability to maintain robust fleet capabilities on long-term missions is essential for the security of global trade and our allies. The Office of Naval Reactors remains the foundation of this national achievement in global security. Continuous progress in the Naval Nuclear Propulsion Program gives the U.S. Navy a decisive edge in naval warfare and enhances the security and reliability of the sea-based leg of our nuclear triad.

The FY 2024 budget request for *Naval Reactors* is \$1.96 billion, a decrease of \$117.3 million, or 5.6 percent, below the FY 2023 enacted level. This decrease reflects the revised funding profile for the Spent Fuel Handling Recapitalization Project that was recently re-baselined, and near-complete refueling and overhaul of the S8G Prototype land-based reactor in New York. The budget request supports the continued safe and reliable operation of the nuclear-powered fleet and provides for the continued maintenance, oversight, and operations at the four Naval Nuclear Laboratory sites and the associated contractor workforce. Funding also supports requirements for the office's major initiatives: *Columbia*-class ballistic missile submarine reactor systems development; development of the next generation SSN(X) attack submarine; and continued progress on base technology development, infrastructure recapitalization at program sites, and decontamination and decommissioning efforts.

Consistent, sustained funding is vital for the support of these efforts and will allow Naval Reactors to meet current and future force needs; this foundational support of Naval Reactors is critical to our ability to deliver on AUKUS. The *Columbia* -class lead ship remains under construction and the Spent Fuel Handling Recapitalization Project at the Naval Reactors Facility in Idaho is ongoing. Additionally, work is underway to invigorate long lead-time technology development for the current and future nuclear fleet while supporting specific requirements to meet the Navy's timeline for the next-generation attack submarine ship authorization.

² Major combatants, in this instance, include aircraft carriers, submarines, and surface combatants based on the "Active in Commission" column from the Naval Vessel Register

Federal Salaries and Expenses Appropriation

The FY 2024 budget request for *Federal Salaries and Expenses* (FSE) is \$539 million, an increase of \$64 million, or 13.5 percent, above the FY 2023 enacted level. Part of the increase is driven by the one-time use of carryover balances in FY 2023. The increase in this account will support an additional 90 Federal Full-time Equivalents (FTE) for a total of 2,006. FSE appropriations will also support pay and benefit escalation, travel costs, support service contractors, training, space and occupancy expenses, the working capital fund, and other related expenses.

NNSA's workforce represents the backbone of the nation's nuclear security enterprise. The FY 2024 request supports staffing levels sufficient to provide oversight and leadership for our growing mission requirements in the modernization, recapitalization, nonproliferation, and counterterrorism programs. NNSA seeks to recruit and retain top talent in a wide array of fields including science, engineering, crafts and trade, business, foreign affairs and social sciences, and project and program management. This workforce is distributed across the nuclear security enterprise and can be found in eight states and Washington, D.C.

NNSA continues to face significant demographic and competition-based challenges to its recruitment and retention strategy. As of FY 2023, 18.7 percent of NNSA FTE Federal staff are eligible to retire, a number that is expected to rise to 34.3 percent by FY 2028. While attrition rates are today lower than the above-average rates in FY 2021, high overall attrition remains a concern. NNSA must also compete for top-tier talent with private sector companies. Many of the skills needed for NNSA to meet expanded and future mission requirements are also in high demand for both established and emerging industries, all of whom are drawing from a limited applicant pool.

NNSA must continue achieving modest increases in the size of the Federal workforce required to manage the nation's national nuclear security programs. Using innovative recruiting techniques, coupled with available excepted service and direct hiring authorities, NNSA's recruitment team will focus on outreach and recruitment for mission critical occupations. We will continue agency-sponsored career fairs and other events targeted towards college students, military personnel and spouses, as well as persons with disabilities. Additionally, NNSA continues to expand use of programs with engaged and dedicated entry-level talent, including the Presidential Management Fellows Program, Pathways Intern Program, Operation Warfighter Program, Minority Servicing Partnership program, and the NNSA Graduate Fellowship Program among others.

NNSA's hiring efforts will support mission and growth requirements with an overall goal of reaching 2,130 FTEs by FY 2027. These goals will also support the Administration's objective of promoting diversity, equity, inclusion, and accessibility across the Federal government as a means of fostering new technological advancements, cultivating the next generation of researchers to maintain America's role as a leader in scientific excellence, and enhancing national security.

Conclusion

NNSA's enduring responsibility is to provide the United States with a nuclear weapons stockpile and naval nuclear propulsion systems capable of providing a credible and effective deterrent while simultaneously executing nonproliferation and counterterrorism programs aimed at reducing global nuclear risk. In an increasingly complex international environment where the existential threats of both nuclear war and climate change loom larger than ever, these efforts are vital to protecting and promoting American and global security.

As the only U.S. government organization capable of designing, manufacturing, and delivering nuclear weapons, NNSA has a unique responsibility to protect our Nation and our allies. The FY 2024 budget request recognizes the urgency with which NNSA must execute its present mission needs while simultaneously preparing the nuclear security enterprise to handle future missions in a less stable geopolitical climate. It provides funding for the five concurrent life extension and modernization programs supporting all three legs of the nuclear triad, as well as two phase one studies. It also continues significant investments in revitalized or new production facilities for plutonium pits, secondaries, and other critical nuclear and non-nuclear components. The budget request has made priority decisions on construction projects recognizing that worker shortages and supply chain issues that confound progress will not improve if more projects are underway in the enterprise simultaneously. The request supports the manufacturing base of the future by advancing the incorporation of scientific and technological breakthroughs during our revitalization. NNSA will continue to provide a safe, secure, and reliable stockpile without resuming nuclear explosive testing by advancing our scientific tools and understanding. We will be innovative and responsive to recruit and retain the brightest, most diverse scientific and engineering minds of the next generation.

The Defense Nuclear Nonproliferation budget request reflects the ongoing need to minimize and secure nuclear and radiological materials to prevent them from falling into the wrong hands and pairing it with policies and cooperation in an international community that is rapidly embracing nuclear energy and technology. The DNN portfolio recognizes a world where risks are more diffuse and new innovations in arms control verification and international cooperation are both necessary to maintain security and more challenging to realize. The increased budget for the counterterrorism and counterproliferation program is similarly attuned to the changing threat environment and supports the nuclear aspects of Russia's invasion of Ukraine. Finally, the growth in NNSA's bioassurance program recognizes a future where these threats must also be managed while allowing the full benefit of new technology.

The Naval Reactors budget request recognizes and supports the incredible partnership between NNSA and the U.S. Navy in consistently supporting the most survivable leg of the nuclear triad through infrastructure recapitalization, a new spent fuel handling facility, ongoing work to deliver the *Columbia*-class propulsion system on time for deployment, and investment in the nuclear propulsion for SSN(X).

Not since the Manhattan Project has there been a more challenging moment for NNSA. We face an urgent, expanded mission at a time when labor is limited, supply chain disruptions abound, and inflation rates are higher than planned. Successfully meeting our objectives requires

consistent investment and clear-eyed prioritization. We appreciate your support for our FY 2024 budget.