National Nuclear Security Administration

Triad National Security, LLC

Performance Evaluation Report

Contract No. 89233218CNA000001

NNSA Los Alamos Field Office

Evaluation Period: October 1, 2023,

through September 30, 2024

December 13, 2024

Controlled by: National Nuclear Security Administration,
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Executive Summary

This Performance Evaluation Report (PER) provides the Department of Energy's National Nuclear Security Administration (DOE/NNSA) review of the performing entity's, Triad National Security, LLC (Triad), performance of the contract requirements for the period from October 1, 2023, through September 30, 2024, as evaluated against the criteria defined in the Performance Evaluation and Measurement Plan (PEMP).

Pursuant to the terms and conditions of the contract, the PEMP sets forth the criteria by which NNSA evaluates Triad's performance, as required by Federal Acquisition Regulation (FAR) Subpart 16.4, *Incentive Contracts*, which outlines expectations for administering award-fee type incentive contracts. This is the type of contract in place between NNSA and its management and operating (M&O) partners. A key requirement of FAR Part 16, *Types of Contracts*, is to establish a plan that identifies award-fee evaluation criteria and "how they are linked to acquisition objectives which shall be defined in terms of contract cost, schedule, and technical performance."

In accordance with the regulation, the PER assesses Triad's performance against the PEMP and provides the basis for determining the amount of award fee earned by Triad. The NNSA took into consideration all input (e.g., contractor assurance system, program reviews) obtained from NNSA Program and Functional Offices both at headquarters and in the field.

The Nuclear Security Enterprise (NSE) and Triad have been working effectively and efficiently to achieve first production unit (FPU). This notable accomplishment will help in pit-manufacturing capabilities to meet production requirements. Due to the hard work by NSE staff and lab employees in demonstrating FPU, there were many other successes and some challenges.
Successes and challenges in fiscal year (FY) 2024 include the following:

- Triad completed the physical assembly of (b)(7)(E), (b)(7)(F), setting the stage for meeting the product sales and War Reserve product stamping milestone by the end of calendar year (CY) 2024.
- Leadership drove improvements in event response to minimize facility downtime with efficient and focused application of laboratory resources, thereby supporting rate production by reducing interruption to mission work.
- Triad successfully led high-priority research and development (R&D) activities focused on nuclear nonproliferation including an integrated field physics experiment at another site.
- Triad worked collaboratively with other sites to provide stockpile system capability improvements, promote stewardship evolution, and support FPU objectives.
- Vehicle and pedestrian safety are a concern Triad senior leadership attempted to remedy with several initiatives. Some progress is noted, but a relatively high occurrence rate of vehicle safety issues is still a challenge.
- Capital Asset Line Item and Major Items of Equipment construction progress (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) is hindered because Triad is not leveraging institutional resources to implement the (b)(7)(E), (b)(7)(F) and resulted in numerous projects with negative cost and schedule
- Project delays at the Waste Characterization Repackaging and Reduction Facility (WCRRF) related to facility maintenance issues pushed resumption of WCRRF operations beyond projected targets, (b)(7)(E), (b)(7)(F)

- While Triad addressed a non-compliance with performing systematic evaluations of the training and qualification programs, (b)(4), (b)(7)(E), (b)(7)(F)

Triad earned an overall rating of Excellent during this performance period. Triad earned Excellent ratings for Goals 1, 2, and 3, and Very Good ratings for Goals 4 and 5. Specific observations for each Goal are provided in the following pages.

Goal 1: Mission Delivery: Nuclear Weapons
Triad Amount of At-Risk Fee Allocation: $11,138,300

Goal 1 Summary

Triad earned a rating of Excellent, and 94 percent of the award fee allocated to this goal. Triad exceeded almost all the Objectives and Key Outcomes, and generally met the overall cost, schedule, and technical performance requirements of the contract under this Goal in the aggregate. During the year, accomplishments significantly outweighed issues, and no significant issues in performance existed.

Objective 1.1

The Triad Design Agency provided prompt expert support to maintain and improve production of the (b)(7)(E), (b)(7)(F) and displayed outstanding leadership in the design and preparation for production of (b)(7)(E), (b)(7)(F) while accelerating the design and improving the producibility and basis for (b)(7)(E), (b)(7)(F) The Triad Production Agency made key product deliveries to maintain (b)(7)(E), (b)(7)(F) and to support future (b)(7)(E), (b)(7)(F)

Triad completed the physical assembly of (b)(7)(E), (b)(7)(F), setting the stage for meeting the product sales and War Reserve product stamping milestone by the end of CY 2024. The Triad Production Agency exceeded the milestone goal for (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) The Production Agency increased the available inventory of (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Triad streamlined and improved their manufacturing processes and procedures, resulting in pit builds of very high quality. Triad mitigated challenges and risks to achieving first production unit and future rate production. Specific examples include Beta testing, implementing and executing the Manufacturing Modernization System, and (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) and installation and fielding of (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Triad has implemented proactive, cost-cutting and control measures to address FY 2024 budget challenges and mitigate risks to production.
Despite significant improvements during FY 2023 in conduct of operations, production rates, and product yield and continuing improvements and crucial product deliveries during FY 2024, (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) However, due to Triad's active engagement with stakeholders, these delays had no significant effect on next level of assembly needs.

Objective 1.2

Triad provided solid expert support for stockpile sustainment, including maintenance, surveillance, testing, modeling, issue resolution, annual assessment, and stockpile system capability improvements.

Objective 1.3

Triad made important progress in the (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Triad also made significant advances in the design of (b)(7)(E), (b)(7)(F) Triad worked to address (b)(7)(E), (b)(7)(F)

Objective 1.4

Triad significantly advanced the understanding of plutonium aging through a rapid series of innovative experiments at numerous facilities throughout the NSE. Triad also made noteworthy advancements in diagnostic evaluations to assess stockpile aging, health status, and physics. Triad performed or

collaborated on a wide range of important experiments to further our understanding of weapon physics. Triad also made significant advances in manufacturing technology and digital engineering.

Key Outcome 1.1

The Triad Production Agency has conducted and submitted all required manufacturing process Engineering Evaluations to the Livermore National Security Design Agency. The Livermore Design Agency has issued all required corresponding Qualification Evaluation Releases (QER) necessary for War Reserve product stamping of the first production unit (b)(7)(E), (b)(7)(F) Key Outcome 1.1 was met.

Goal 2: Mission Delivery: Global Nuclear Security
Triad Amount of At-Risk Fee Allocation: $2,784,575

Goal 2 Summary

Triad earned a rating of Excellent, and 92 percent of the award fee allocated to this goal. Triad exceeded almost all the Objectives and Key Outcomes, and generally met the overall cost, schedule, and technical performance requirements of the contract under this Goal in the aggregate. During the year, accomplishments significantly outweighed issues, and no significant issues in performance existed.

Objective 2.1

Triad provided expertise for radiological security capacity building with international partners, addressing challenges with placing international source removal contracts for the recovery of over 500 disused radioactive sealed sources through the Off-Site Source Recovery Program. Triad also helped lead international infrastructure development efforts, including strategies for engaging countries embarking on or expanding civil nuclear energy infrastructure, provided subject matter expertise in nuclear material accounting and control, and successfully organized a site visit to Japan for a Global Material Security delegation to meet with key nuclear security stakeholders. Triad supported radiation detection, operation and maintenance of counter nuclear smuggling systems, nuclear forensics, and laboratory sample exchanges, among other priority areas for countering nuclear smuggling.

Objective 2.2

Triad successfully led and supported high priority R&D activities focused on nuclear nonproliferation. Triad and a multi-Lab team successfully conducted a multi-year integrated field physics experiment at another site. Triad also led a multi-lab study to develop an R&D plan focused on improving detection and characterization of foreign hydro-nuclear test activities. (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F)

Triad successfully machined critical components of 16 threat relevant high explosive test articles for a field campaign. Triad successfully led and executed a month-long campaign which focused on understanding signatures of uranium handling activities.

Culminating over 10 years of novel sensor development and system upgrades in support of defense nuclear nonproliferation missions, Triad delivered the Global Burst Detector (GBD) flight systems providing the Nation's next generation of space-based nuclear detection capability. In support of a nine-month early launch of a Global Positioning System space vehicle, Triad successfully conducted pre-launch verifications of the payload.

Objective 2.3

Triad provided technical support to fuel qualification and fuel fabrication efforts to support NNSA's reactor conversation efforts. Triad provided non-destructive assay-related technical support to the Mobile

Plutonium Facility. Triad provided significant non-proprietary technical support to U.S. companies for production of the medical isotope molybdenum-99 without the use of highly enriched uranium. Triad provided vital technical support to fuel qualification and fuel fabrication efforts for the U.S. High Performance Research Reactor Project. Triad supported the (b)(7)(E), (b)(7)(F) with extended collaboration (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F)

Objective 2.4

Triad provided excellent support to safeguards technology, export controls, nonproliferation policy, and nuclear monitoring and verification projects. Triad provided exemplary support planning and facilitating the 4-day Malaysia Strategic Trade Summit and (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Triad excelled in managing and operating the (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Finally, Triad experts provided important contributions for several nuclear monitoring and verification projects.

Objective 2.5

For the first time, (b)(7)(E), (b)(7)(F) This opened the discussion (b)(7)(E), (b)(7)(F) The Momentum Optimized Standard Explosives Separator (MOSES) conducted two successful (b)(7)(E), (b)(7)(F) Triad and the Naval Surface Warfare Center Crane have collaborated to advance MOSES from a Technology Readiness Level 3/4 to a fully deployable charge and is (b)(7)(E), (b)(7)(F) The Energetics portfolio has made substantial strides in enhancing our understanding of the thermal and mechanical responses, as well as the overall performance of energetic materials which plays a crucial role in refining the Thermal Response Simulator, (b)(7)(E), (b)(7)(F) Significant updates to the modeling capabilities have been implemented, including more precise estimates of ignition times and a reduction in the execution time required for simulations, thereby enhancing the accuracy of the predictions and streamlining the overall computational process. Triad successfully participated in pre- and post-detonation nuclear forensics exercises, drills, and trainings events supporting the collection, material analysis, and device assessment portfolios. Triad successfully conducted classified nuclear forensics (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) and provided exceptional support to a (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Triad also helped establish Nuclear Forensics-Material Analysis Program operational readiness data in the Counter Terrorism Counter Proliferation Asset Readiness Management System.

Key Outcome 2.1

Triad achieved the key outcome focused on oxide production, staffing, and small project execution. Triad produced over 100 kg of Pu oxide, exceeding FY 2024 target. Triad achieved the Advanced Recovery and Integrated Extraction System cumulative hiring goal of (b)(7)(E), (b)(7)(F) personnel since January of 2024. Key Outcome 2.1 was met.

Key Outcome 2.2

Triad successfully performed three exploratory experiments to determine material characteristics to validate a new experimental design that will be used to measure dynamic properties of certain materials. Triad continues to develop additional experimental platforms to improve the accessibility to experimental data. Key Outcome 2.2 was met.

Goal 3: Mission Innovation: Advancing Science and Technology
Triad Amount of At-Risk Fee Allocation: $2,784,575

Goal 3 Summary

Triad earned a rating of Excellent, and 100 percent of the award fee allocated to this goal. Triad exceeded almost all the Objectives and generally met the overall cost, schedule, and technical performance requirements of the contract under this Goal in the aggregate. During the year, accomplishments significantly outweighed issues, and no significant issues in performance existed.

Objective 3.1

Triad successfully executed a research strategy focused on DOE/NNSA priorities with extensive, record funding optimally distributed through a high functioning Laboratory-Directed Research and Development (LDRD) program. Triad focused on achieving Critical Outcomes and Signature Institutional Commitments within the Laboratory Agenda and started a noteworthy total of 21 Director's Initiative projects.

Objective 3.2

Triad leveraged the Laboratory's capabilities and expertise in modeling, and innovatively evolved artificial intelligence and machine learning competencies. Triad's successful partnerships with the National Aeronautics and Space Administration continued with ongoing science operations of the ChemCam, SuperCam, and Scanning Habitable Environments with Raman and Luminescence for Organics and Chemicals instruments on Mars, and with production and integration on a significant number of other instruments. The Beam Plasma Interactions Experiment was successfully completed. Triad processed over 271 Strategic Partnership Projects (SPP) and Strategic Intelligence Partnership Program packages with excellent quality and timeliness.

Objective 3.3

Triad's execution of leading-edge research was accelerated by strategic investment in advanced computational capabilities. Triad scientists collaborated to develop first fully microscopic characterization and simulation of the scission, led the team that performed the first three-dimensional simulations to successfully model heavy-ion acceleration that happens during the physical process of explosions releasing magnetic energy in space, and achieved the first-ever measurement that revealed the tetraquark production rates are enhanced.

Objective 3.4

Triad provided exceptional learning opportunities to advance knowledge and growth through the application of advanced new computing capabilities, and continued execution of its advanced degree programs for its employees. Triad established a pilot program exclusive to Navajo Technical University with DOE's Hydrogen Fuels Technologies Office. The excellence of Triad's research environment was demonstrated by the numerous national and international awards and recognition received by scientific staff, and by the exceptional achievement of the receipt of eight R&D 100 Awards.

Objective 3.5

Triad achieved considerable impactful and diverse partnerships, advancing the development of high impact technologies. A new agreement the National Science Foundation's Artificial Intelligence Institute for Advances in Optimization at Georgia Institute of Technology "will drive research in applied artificial intelligence and engage students and other professionals in the future of the burgeoning field."

Objective 3.6

Triad successfully integrated advanced modeling and simulation with cutting edge experimentation, to support the safe and secure expansion of civil nuclear energy while decreasing proliferation risks, making significant R&D contributions to advance nuclear fuel development. Triad continued to provide technical leadership in multi-lab DOE consortia focused on developing clean energy technologies on behalf of the DOE energy programs and continued to successfully serve as the lead for the Four Corners Rapid Response Team.

Goal 4: Mission Enablement
Triad Amount of At-Risk Fee Allocation: $6,961,438

Goal 4 Summary

Triad earned a rating of Very Good, and 83 percent of the award fee allocated to this goal. Triad exceeded many of the Objectives and Key Outcomes, and generally met the overall cost, schedule, and technical performance requirements of the contract under this Goal in the aggregate. During the year, accomplishments greatly outweighed issues, and no significant issues in performance existed.

Objective 4.1

Triad provided support in several areas related to the *National Environmental Policy Act* (NEPA), most significantly preparation and stakeholder engagement for the draft Electrical Power Capacity Upgrade (EPCU) Environmental Assessment (EA), support for the Site-Wide Environmental Impact Statement draft development; and NEPA review and support for internal and external projects, including Bandelier National Monument and Los Alamos County.

Triad has executed nuclear safety management compliance with 10 Code of Federal Regulations 830, *Nuclear Safety Management*, by developing and sustaining technically sound nuclear facility safety bases. The development of Los Alamos Plutonium Pit Production Project (LAP4) Preliminary Documented Safety Analysis efforts exceeded expectations. Triad downgraded the WCRRF safety basis from a Hazard Category (HC)-2 to HC-3 facility completing a complex transition while ensuring safe operations through full implementation of the new DSA. In addition, the Interim Seismic Risk analysis was robust and gave confidence in the plutonium facility response during a seismic event. The approach used by the Triad project team is a best practice. In the area of criticality safety, Triad's Nuclear Criticality Safety Program has made substantial improvements and is stable, mature and compliant following many years rebuilding Criticality Safety Analyst staffing, developing and implementing compliant Criticality Safety Evaluation Documents and several other organizational challenges.

While Triad achieved staffing goals, there are ongoing challenges with leveraging the strengths of both experienced and inexperienced hires in (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) The establishment of the New Employee Training Academy delivered high quality, consistent, structured training tracks and timely qualification of new employees. Triad addressed the non-compliance with performing systematic evaluations of the nuclear training and qualification programs within the required 3-year cycle, however, (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) that have been identified by multiple Federal and contractor training assessments and Federal oversight activities.

Triad continuously improved by: (1) conducting self-evaluation activities and developing of new policies that increase operational efficiency in Radiation Protection; (2) regularly interfacing with NNSA counterparts and supporting the Cognizant Systems Engineering Program; (3) coordinating systems walkdowns and interfacing with counterparts; (4) enhancing reported performance measures and metrics; (5) ensuring Structures, Systems and Components are able to perform their safety functions; and (6) self-

assessing safety culture and operations through the Dupont Safety Survey and Disciplined Operations meetings with front line managers.

Triad formed a collaborative working group to address unwanted fire alarms, started process improvements for fire system impairments; completed Fire Protection Program self-assessments, the Fire Hazards Analysis and Fire Protection Facility Assessments; supported Pre-Incident Planning activities and replacement of the PF-10 diesel fire pump. Poor integration of qualified Fire Protection Program staff at deployed facilities and work planning and control was observed. In addition, Triad's Fire Protection Program experienced challenges, which include longstanding fire system impairments without a clear path to resolution, unwanted alarms and untimely procurement of a commercial pre-planning software solution.

Confidence in the overarching Worker Safety and Health program remains positive. Triad made efforts to improve conditions and mitigate hazards by implementing strategies to increase resiliency and reduce the likelihood of human error. Triad continued process improvements on Hazardous Energy Control (HEC), including conducting HEC and Electrical Events Workshops.

Triad improved integration across programs, projects, and operations through the Operations Integration Center. Triad continued to resolve emergent issues and completed required facility maintenance outages. Triad delivered a focused response to quickly restore the production facility material transfer system to service by aggressively addressing the malfunction. This solution was unprecedented in reducing system restoration time enabling the plutonium production group to meet its milestones.

Occupational safety and health implementation of existing program requirements at the execution level hampered Triad's performance; Triad continued to struggle with work planning and control, energy isolation and motor vehicle incidents. Concerns were noted with disciplined operations related to Work Planning and Control, Integrated Work Management (IWM), and Integrated Safety Management, where elements were neglected, omitted, or not performed to expectations which resulted in injuries. Causal analyses identified gaps and errors in proper IWM execution. Triad has a set of robust processes in place to ensure the safety and health of employees; however, the execution of those requirements often remained incomplete or inconsistent.

Triad has been slow to close legacy Design Change Forms, had inconsistent implementation of operability determinations, not managed equipment/component degradation due to aging and technical obsolescence, had inconsistent configuration management practices, and was slow to update implementing procedures. Project progress and schedule were prioritized over code compliance and design quality causing unnecessary risk and potentially impacting future operations of existing facilities.

There were issues with procedural compliance in the areas of radiation protection, electrical safety, seasonal preservation and disciplined operations. Challenges included failure to make timely notifications of multiple abnormal events, communication gaps among different groups, and multiple radiological contamination events in relatively short period of time.

Triad experienced events related to electrical safety and Lockout/Tagout during maintenance activities and recognized inadequate inspection, testing, and maintenance of GFCI as required by National Fire Protection Association 70E and has yet to revise the Electrical Safety Program procedure.
Triad's Quality Assurance Program was approved following close and transparent discussions with the Institutional Quality and Performance Assurance Division staff.

Triad developed a draft strategy to increase waste efficiency and size-reduce Waste Isolation Pilot Plant (WIPP)-bound waste. Triad shipped a classified transuranic (TRU) waste shipment to WIPP and is on track to demonstrate the Standard Large Box 2 container loading to support implementation of new WIPP container and progressing to develop a long-term contingency plan for TRU waste. On the regulatory side, Triad provided high-quality analysis to maintain regulatory processes for operating permits for environmental programs. Triad's responsiveness and performance was noted for short-notice data calls,

leadership for hosting New Mexico Environment Department site tour, Emergency Operations Center annual drill support, and leadership in regulatory impacts discussions.

Triad has improved implementation of work controls at projects with cultural resources and has provided exemplary cultural, biological, and utilities support. In National Pollutant Discharge Elimination System, Triad had issues and in Title V air quality compliance. While Triad emergency response effectively addressed a bulging container in Q2, hazardous waste regulatory requirements were not properly integrated into the emergency response process, resulting in increased compliance risk to the LANL Resource Conservation and Recovery Act (RCRA) Hazardous Waste Facility Permit.

Objective 4.2

To address an increased trend in vehicle accidents, Triad expedited installation of speed cameras and signage on laboratory roads to help enforce traffic policy. Triad also completed 52 emergency priority 1 and 2 utility repairs across the site to help reduce or eliminate impacts to facilities.

Triad implemented a complex strategy that successfully balanced weapons program production time with infrastructure investment under the 30 Diamonds strategy, thereby enabling completion of (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) ahead of schedule. Triad also began implementing initiatives aimed at improving the efficiency and effectiveness of the 30 Diamonds by addressing deficiencies in institutional policies, resource availability, and resource management. Examples include 5 major and 20 minor outages at the production facility which were completed on time, within scope, and minimized impacts to the weapons production program. Triad established an Issue Response Team to rapidly address and resolve numerous items (e.g., production facility; revision of a Safety Basis policy to enable in-field redlines, added Electrical Safety Officers to increase the availability of critical human resources needed to accelerate the Integrated Work Document review and approval process). In addition, Triad worked towards implementation of 24 hours per day, four day per week facility operations, and partnering with Savannah River Nuclear Solutions, LLC (SRNS) to improve nuclear criticality safety deliverable items and streamlining the development and review process to improve overall product quality. Triad also collaborated with SRNS in a Knowledge Transfer Program to increase cross-training of personnel.

Triad did not adequately leverage institutional resources to ensure projects are completed in accordance with established costs and baselines and in support of 30 diamond design construction efforts (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) In addition, despite progress made this fiscal year, Triad continues to experience delays and cost overruns associated with the (b)(7)(E), (b)(7)(F) in efficient utilization of available resources as well as work planning controls.

Institutional procurement quality lacked adequate oversight and surveillance of (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) There was also a lack of adequate flow down of requirements to subcontractors and a lack of knowledge of the specific requirements at the subcontractor level.

Project delays at the WCRRF related to facility maintenance issues pushed resumption of WCRRF operations beyond projected targets, (b)(7)(E), (b)(7)(F) Another challenging area is that Triad is slow to coordinate and provide minor construction project data to support assessment of project/portfolio health. Timely design review for some projects resulted in a disproportionate number of comments gathered at 90 percent, resulting in increased costs and schedules of recapitalization projects.

Objective 4.3

Triad improved personal security vetting, streamlining access for staff who require access to critical information and facilities. This achieved reduced Nuclear Material Control and Accountability (NMC&A) inventory timelines through improved tracking of metrics, complemented by improved process efficiencies. Triad successfully addressed (b)(7)(E), (b)(7)(F)

Additionally, Triad provided staff support to (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Another notable success area for Triad includes demonstrated excellence in performing safeguards and security activities, which will improve productivity, grow the capacity to execute mission, and manage risk by volunteering to pilot for a new combat-simulation initiative. Triad's classification training program was recognized as a best practice across DOE.

Objective 4.4

Triad delivered efficient, effective, responsible, and transparent financial management operations and systems including financial integration reporting; budget formulation and execution; programmatic cost estimates; and internal controls.

Objective 4.5

Triad delivered effective management of legal risk, while incorporating best legal practices. Laboratory counsel coordinated with field counsel on significant risk issues such as proposed open burn/open detonation regulations/LANL impacts, the Savannah River Site NEPA litigation, Site Wide Environmental Impact Statement preparation, EPCU EA, and timely responded to field office and headquarters inquiries as needed. LANL has an extremely heavy Freedom of Information Act (FOIA) workload, and Triad's FOIA processing was effective during FY 2024, with 74 FOIA requests and 13 Privacy Act requests completed.

Objective 4.6

Triad was successful but there are challenging areas. For example, Triad introduced a Radio Frequency Identification pilot project, which has potential to improve process efficiencies across the NSE. The appointment of Triad's Authorizing Official Designated Representative enables timely approvals for critical information technology (IT) systems. Triad implemented an approval process for the use of medical devices within Secure Space and is planning for integration with the NSE reciprocity program. Triad quickly recovered from the CrowdStrike outage with minimal impact to operations, demonstrating the effectiveness of LANL's continuity of operations and disaster recovery process. In addition, Triad successfully implemented the (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) directly supporting the LANL plutonium mission. Finally, the Triad Biological Resources Program mapping, field monitoring, and reporting of sensitive species and habitat had a positive quality impact to Triad fire management and actions.

Triad's efforts in IT specific areas are a challenge. Specifically, Triad did not meet (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) did not meet expectations identified within the NNSA Program Execution Guidance. Triad's delay in developing and updating processes impacted the management of (b)(7)(E), (b)(7)(F) resulting in a breach of employee personal information. (b)(7)(E), (b)(7)(F) requires considerable (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Triad's lack of urgency implementing fire protection software solutions for managing pre-incident planning activities impacted schedule and execution of projects. Lastly, Triad made limited progress with continuous authorization and did not demonstrate measurable progress towards milestones of a federally approved plan. Triad did not meet expectations for implementing Internet Protocol version 6 for IT and applicable information systems.

Objective 4.7

Triad accomplished preparedness activities that provided the opportunity to continually assess and improve site safety through successful exercises, partnering and workshops. The LANL Continuity of Operations Program also conducted its first relocation exercise to another site to improve LANL's ability to ensure continual performance of essential functions in the event of an emergency. LANL was very

involved in supporting Emergency Management Issues Special Interest Group activities, the rewrite of DOE Order (O) 151.1E, *Comprehensive Emergency Management System*, and the development of Emergency Management National Training Center courses. However, Triad did not (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) during the full-participation exercise (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) a repeat issue from the FY 2023 full-scale exercise.

Objective 4.8

Triad delivered efficient, effective, and compliant business operations. Triad implemented Enhanced Mission Delivery Initiative 9 recommendations including finalizing purchasing system policies and procedures to streamline the procurement process. Triad submitted high-quality non-construction procurement packages for subcontract consent, however, a few did not adhere to the approved Procurement system or internal purchasing policies. Triad significantly improved the quality of construction solicitation packages submitted for consent. Construction project packages received no Critical comments or significant findings.

Triad improved Human Resources processes, took measures for robust data protection, improved access to workforce data analytics, and focused on and improved user/employee experiences through ServiceNow. Triad received several awards that demonstrated their commitment to diversity and inclusion. In addition, Triad enhanced small business engagement by publicizing competitive procurement requirements, increasing small company set asides, awarding a new mentor protégé agreement, and measured specific small business performance. Triad delivered an efficient and effective personal property system, reducing risk to the government. While Triad exceeded two of the six small business goals and met one, they did not meet the remaining three goals.

Key Outcome 4.1

(b)(7)(E), (b)(7)(F) is over budget and behind schedule due to subcontractor delays i (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Key Outcome 4.1 was not met.

Key Outcome 4.2

Two out of the five milestones in Key Outcome 4.2 were not achieved.

1. LAP4 TA-51 Temporary Warehouses – Operational: **Achieved.** These temporary warehouses achieved beneficial occupancy and became fully operational (e.g., receipt, storage, and issuance of items). (b)(7)(E), (b)(7)(F)
2. CNC2 Lathe – Construction Complete: **Achieved**. Installation was completed and end users are performing operational testing.
3. NW Foundry D&D – Construction Complete: **Achieved.** Gloveboxes and trunkline were disconnected, wrapped, and removed from room. Floor space has been cleared, and LAP4 Daytime Radiography site preparation started in August 2024.
4. Final Machining #2 – Construction Complete: **Not Achieved.** This milestone was impacted due to field conditions. It is forecast to complete in first quarter FY 2025. Lessons learned from Final Machining #2 (FM2) are being applied to FM3 and FM4.
5. Post 118 – Construction Complete: **Not Achieved.** This project was paused during the FY to address technical, cost, and schedule issues. The contract was awarded in August 2024 to a technically suitable subcontractor to complete the scope; the subcontractor mobilized to initiate field work activities in September 2024.

Goal 5: Mission Leadership
Triad Amount of At-Risk Fee Allocation: $4,176,863

Goal 5 Summary

Triad earned a rating of Very Good, and 90 percent of the award fee allocated to this goal. Triad exceeded many of the Objectives and generally met the overall cost, schedule, and technical performance requirements of the contract under this Goal in the aggregate. During the year, accomplishments greatly outweighed issues, and no significant issues in performance existed.

Objective 5.1

Leadership drove improvements in response to minimize facility downtime through efficient and focused efforts that strategically leveraged appropriate resources from across the laboratory to support rate production.

Triad provided stockpile system capability improvements by working with the Sandia National Laboratories and the Kansas City National Security Complex. The work was collaborative and promoted stewardship evolution. Triad worked closely with LLNS in support of FPU objectives, enabling 70 percent of the QER to be issued, with 8 more QER data sets under review.
Triad improved its nuclear safety issues management practices, although individual Site Management Plan areas (i.e., training, maintenance, criticality safety, and fire protection) continued to have issues in resolving concerns.

While Triad collaborates well at the program level, there was a trend of a lack of high-level collaboration and planning across programs to maximize operations and minimize risk to mission. There were areas where Laboratory resources were not leveraged to their full extent to bring rapid closure to long-standing open issues.

Challenges existed at the execution level which hampered Triad's performance of activity-level work. Triad sought improvement in the rigor of work planning and control and adherence to work documents, as well as with maintaining peak facility and safety system operability, all of which have the potential to delay mission work.

Triad leadership did not successfully address cost and schedule overruns on nearly all (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Triad leadership did not effectively coordinate craft resources, work planning and control, design control, abnormal event response, and construction management to improve level of effort vs discrete work metrics. The current amount of discrete work accomplished (b)(7)(E), (b)(7)(F)

Triad did not collaborate effectively with internal management organizations or NNSA to resolve project cost and schedule overruns, examples of which include the TA-55 Reinvestment Project Phase 3, Post 118, PF3 Changeroom and Fire Station 5 projects. A decentralized approach resulted in broad internal procedural non-compliances and lack of authority over other organizational lines necessary to regain a positive trajectory for project recovery.

A pattern of integration gaps for events and negative environmental performance trends occurred early in the year. Some regulatory requirements were not integrated with operations in routine activities, abnormal event, and planned growth increases the risk to the mission. Negative performance trends adversely affect stakeholder and regulatory relationships and can impact permit and operational requirements. Triad made efforts to improve risk management for unplanned releases and regulatory compliance issues.

Vehicle and pedestrian safety are a concern Triad attempted to remedy by publishing an updated version of their Vehicle and Pedestrian Safety Program, campaigns led by senior leadership to address unsafe

driving, and expeditious installation of speed cameras and signage on laboratory roads to help enforce traffic policy. The lab was challenged with high occurrences of events related to vehicle safety and a reportable pedestrian injury.

Objective 5.2

Triad led the way on Safety Analytics, Forecasting and Evaluation Reporting development, ahead of the rest of NNSA in module completion.

Triad worked to adopt the Occupational Safety and Health Administration+ (OSHA+) framework into their existing Exhibit F Subcontractor Environment, Safety, and Health Program to reduce certain construction project costs while maintaining focus on jobsite safety.
Triad implemented a user-friendly interface for its CAS database modules, enhanced worker safety feedback, integrated operating experience/lessons learned, and utilized parent company resources for independent reviews of electrical safety and facilities and operations continuous commissioning.

Objective 5.3

Triad partnered well with the rest of the NSE on weapons programs activities. Outstanding examples are the (b)(7)(E), (b)(7)(F) programs where Triad coordinated extensively with the other design and production agencies to support production and assembly schedules. Triad's proposals for the (b)(7)(E), (b)(7)(F)

The process to evaluate, review, and issue new information requires improvement to ensure mission and safety impacts are evaluated and understood by key stakeholders. This is particularly important in issues that impact other sites where clear communications are of utmost importance. For example, issuing the Information Engineering Release for the (b)(7)(E), (b)(7)(F) which included new information that wasn't thoroughly reviewed by affected parties prior to issuance, created significant challenges with (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F)

Objective 5.4

Triad collaborated well with other sites on the study of plutonium aging, Advanced Sources and Detectors Project, subcritical experiments, and many other scientific experiments to improve the capabilities of the NSE.

Objective 5.5

Triad continued positive performance efforts in hazardous chemicals management and time sensitive chemicals to support emergency management and RCRA compliance. The site has been working towards a site-wide inventory system since FY 2017. Triad submitted high-quality procurement packages and consistently reviewed and accepted Work Authorizations in a timely manner.

Objective 5.6

Leadership takes decisive action, as a cooperative partner of NNSA, to attract and retain the workforce needed to achieve the NSE missions with particular emphasis on critical and under- resourced skill sets. Triad implemented changes to benefits, and compensation including retention plan initiatives (b)(4), (b)(7)(E), (b)(7)(F)

Triad was recognized for diversity and inclusion efforts and received the following diversity awards: 50 Best Companies for Latinas, Latina STYLE Magazine; HIRE Vets Medallion Award, Gold Medallion (U.S. Department of Labor); Careers, and the Disabled Magazine; 2023 Public-Sector Employer of the Year Award; and, Top 20 Government Employers, Careers, and the Disabled Magazine.

ATTACHMENT 1 – FY 2024 Performance Evaluation and Measurement Plan (PEMP)

Goal 1

Successfully execute the cost, scope, and schedule of the Nuclear Stockpile mission work for Defense Programs work in a safe and secure manner in accordance with DOE/NNSA priorities, Work Authorizations, and Execution/Implementation Plans.

Objective 1.1

Work as a team across the Nuclear Enterprise on stockpile program scope to 1) achieve and maintain program delivery schedules; 2) lower risk to achieving FPU, Initial Operational Capability (IOC), and Final Operational Capability (FOC); 3) improve manufacturability and supply chain execution; and 4) control costs.

Objective 1.2

Execute stockpile maintenance, surveillance, assessment, and development studies/capability improvement requirements and meet transportation and weapon container schedules.

Objective 1.3

Work as a team to support and execute production modernization processes and activities to sustain and improve production capabilities, equipment, and infrastructure for 1) War Reserve production; 2) components (particularly pit production); 3) strategic materials capabilities; 4) improve safety margins, technology maturation strategies, and qualification, logistics, and security plans collaboratively across the NSE; and 5) Triad and Savannah River Nuclear Site (SRNS) collaborate on establishing NNSA's ability to produce 30 pits-per-year at LANL and 50 pits-per-year at the Savannah River Site, including Knowledge Transfer supporting training for SRNS personnel, integrating with SRPPF for glovebox/equipment procurement strategies, and sharing experiences and lessons learned on equipment design, fabrication and installation.

Objective 1.4

Provide the knowledge and expertise to maintain confidence in the nuclear stockpile without additional nuclear explosive testing by developing, maturing, and applying innovative strategies and technologies to sustain a robust stockpile and improve science and engineering capabilities, facilities, and essential skills to support existing and future NSE requirements. Triad, LLNS, NTESS, and MSTS will collaborate to execute subcritical experiments relevant for obtaining data for developing predictive models for improving production, assessing the current stockpile and certifying the future stockpile in accordance with milestone schedules.

K.O. 1.1

Triad and LLNS complete all necessary engineering evaluations and obtain production QERs required in FY 2024 to submit for WR product stamping.

Goal 2

Successfully execute the cost, scope, and schedule of the authorized global nuclear security mission work in a safe and secure manner to include the Defense Nuclear Nonproliferation, Nuclear Counterterrorism and Counterproliferation, and Incident Response missions in accordance with DOE/NNSA priorities,

Work Authorizations, and Execution/Implementation Plans.

Objective 2.1

Support efforts to secure, account for, and interdict the illicit movement of nuclear weapons, weapons-useable nuclear materials, and radioactive materials.

Objective 2.2

Support U.S. national and nuclear security objectives in reducing global nuclear security threats through the innovation of technical capabilities to detect, identify, and characterize: 1) foreign nuclear weapons programs, 2) illicit diversion of special nuclear materials, and 3) global nuclear detonations.

Objective 2.3

Support efforts to achieve permanent threat reduction by managing and minimizing excess weapons-useable nuclear materials and providing nuclear materials for peaceful uses.

Objective 2.4

Support efforts to prevent proliferation, ensure peaceful nuclear uses, and enable verifiable nuclear reductions to strengthen the nonproliferation and arms control regimes.

Objective 2.5

Sustain and improve nuclear counterterrorism, counterproliferation, and forensic science, technology, expertise and associated Nuclear Emergency Support Team (NEST) capabilities; execute response missions, implement policies and procedures in support of response and forensics missions, and assist international partners/ organizations.

K.O. 2.1

Convert surplus plutonium to oxide in preparation for final disposition in accordance with TA-55 integrated planning and overall capacity, including executing activities and specified small projects to enable ramp up consistent with program requirements.

K.O. 2.2

Perform priority material characterization, preparation, and movement to meet key requirements and criteria in support of the Nuclear Threat Science Program FY 2024 experimental plan.

Goal 3

Successfully advance national security missions through innovation by expanding the frontiers of Science, Technology, and Engineering (ST&E). Execute transformative and leading-edge Research and Development (R&D) by creating a vibrant, creative, environment that leverages effective partnerships (including SPP) and technology transfer endeavors. Effectively manage high-impact DOE Work and Laboratory Directed Research and Development (LDRD or PDRD) and Technology Transfer, etc. in a safe and secure manner consistent with DOE/NNSA priorities, Work Authorizations, and Execution/Implementation Plans.

Objective 3.1

Execute a research strategy that is clear and aligns discretionary investments (e.g., LDRD) with Laboratory strategy and supports DOE/NNSA priorities.

Objective 3.2

Ensure that research is relevant, enables the national security missions, and benefits DOE/NNSA and the nation.

Objective 3.3

Ensure that research is transformative, innovative, leading edge, high quality, and advances the frontiers of science and engineering.

Objective 3.4

Maintain a healthy and vibrant research environment that enhances technical workforce competencies and research capabilities.

Objective 3.5

Research and develop high-impact technologies through effective partnerships, and technology transfer mechanisms that support the Laboratory's strategy, DOE/NNSA priorities and impact the public good; and ensure that reporting, publishing, and information management requirements of federally funded scientific research and development are implemented (via DOE's Public Access Plan) and per DOE's Scientific and Technical Information Management directive (DOE O 241.1B).

Objective 3.6

Pursue and perform high-impact work for DOE that strategically integrates with the DOE/NNSA mission, and leverages, sustains and strengthens unique science and engineering capabilities, facilities, and essential skills.

Goal 4

Effectively and efficiently manage the safe and secure operations of the Laboratory in accordance with cost, scope and schedule while maintaining an NNSA enterprise-wide focus; demonstrating accountability for mission performance and management controls; successfully executing cyber, technical, informational, and physical security requirements, and assure mission commitments are met with high-quality products and services while partnering to improve the site infrastructure. Performance will be measured by the contractor's assurance system, NNSA metrics, cost control, business and financial operations, project baselines, implementation plans, assessment, and audit results, etc., with a focus on mission enablement.

Objective 4.1

Deliver effective, efficient, and responsive Environment, Safety, Health (ES&H), Quality (including weapon quality), and radioactive waste management. Advance DOE/NNSA's climate resiliency and sustainability goals with a focus on maximizing energy efficiency and supporting Carbon Pollution-Free Electricity (CFE) objectives.

Objective 4.2

Deliver mission capabilities through the planning, design, acquisition, operation, maintenance, recapitalization, and disposition of facilities and infrastructure. Execute design and construction projects to achieve the scope on schedule, on budget, and in alignment with the 30 pits-per-year mission.

Objective 4.3

Deliver effective, efficient, and responsive safeguards and security, including assigned enterprise initiatives.

Objective 4.4

Deliver efficient, effective, responsible, and transparent financial management operations and systems including financial integration reporting; budget formulation and execution; programmatic cost estimates; and internal controls.

Objective 4.5

Deliver efficient and effective management of legal risk and incorporation of best legal practices. Deliver timely and actionable recommendations and analysis to Freedom of Information Act and Privacy Act requests.

Objective 4.6

Deliver effective, efficient, and responsive information technology systems and cybersecurity that provides for a comprehensive mission and functional area delivery through the execution of the implementation factors established in the NA-IM IT and Cybersecurity Program Execution Guidance, and adaptive day-to-day IT and cybersecurity operations to support, protect, and defend mission/business systems and networks.

Objective 4.7

Deliver effective, efficient, and responsive site emergency management programs in support of the DOE/NNSA Emergency Management Enterprise.

Objective 4.8

Deliver efficient, effective, and compliant business operations including, but not limited to, procurement, human resources, and property systems, in support of NNSA missions. Focus areas to include achievement of small business and socioeconomic goals; timely and high-quality subcontract actions; support provided to the NSE Workforce Recruitment Strategy; and strategic management of integrated recruiting, retention, and diversity programs.

K.O. 4.1

Plan and execute the Enhanced Capabilities for Subcritical Experiments portfolio projects in accordance with approved scope and baselined cost and schedule milestones; leading the Advanced Sources and Detectors Project; risk management; cost estimating and cost control.

K.O. 4.2

Successfully integrate and execute scopes, schedules, and acquisitions to meet the 30 pits per year project milestones in accordance with established baselines. Specifically, achieve at least 4 of the following 5 project milestones in FY 2024:

- LAP4 TA-51 Temporary warehouses – Operational
- Post 118 – Construction complete
- CNC2 lathe – Construction complete

- NW foundry D&D – Construction complete
- Final Machining #2 – Construction complete

Goal 5

Successfully demonstrate leadership in supporting the direction of the overall DOE/NNSA mission, cultivating a Performance Excellence Culture that encompasses all aspects of operations and continues to emphasize safety and security, improving the responsiveness of Triad's leadership team to issues and opportunities for continuous improvement internally and across the Enterprise, and parent company involvement/commitment to the overall success of the Laboratory and the Enterprise.

Objective 5.1

Define and implement a realistic strategic vision for the Laboratory, in alignment with the NNSA Strategic Vision, which demonstrates enterprise leadership and effective collaborations across the NNSA enterprise to ensure DOE/NNSA success.

Objective 5.2

Demonstrate performance results through the institutional utilization of a Contractor Assurance System and promoting a culture of critical self-assessment, transparency, and accountability through the entire organization, while also leveraging parent company resources and expertise.

Objective 5.3

Develop and implement a National Security Enterprise-wide partnership model that enhances collaboration, reinforces shared fate, and enables mission success including transformation of the stockpile and the enterprise.

Objective 5.4

Exhibit professional excellence in performing roles/responsibilities while pursuing collaborative opportunities for continuous organizational and enterprise learning and demonstrated improvements that will improve productivity, grow the capacity to execute mission, and manage, rather than avoid, risk.

Pursue innovations to increase agility and resilience while controlling costs. Advance the operational capabilities of the National Security Enterprise (NSE) by identifying and employing latent capacity existing in the NSE.

Objective 5.5

Demonstrate leadership in driving enhanced and sustainable formality and rigor of operations through proactive implementation of effective and efficient measures to minimize operational upsets that have potential to impact mission.

Objective 5.6

Leadership takes decisive action, as a cooperative partner of NNSA, to attract and retain the workforce needed to achieve the NSE missions, with particular emphasis on critical and under- resourced skill sets, reaching back to parent company resources as necessary.