



National Nuclear Security
Administration

Triad National Security, LLC

Performance Evaluation
Report (PER)

NNSA Los Alamos Field Office

Evaluation Period:
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2022

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~~Source Selection Information - See Federal Acquisition Regulation (FAR) 2.101, 3.104 and 42.1503~~

Executive Summary

This Performance Evaluation Report (PER) provides the National Nuclear Security Administration (NNSA) assessment of the performing entity, Triad National Security, LLC (Triad), performance of the contract requirements for the period of October 1, 2021 through September 30, 2022, as evaluated against the Goals 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) Part 16.4, 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 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 input obtained from NNSA Program and Functional Offices both at Headquarters and in the field.

Triad earned an overall rating of Very Good during this performance period. Triad earned a rating of Very Good, or 90 percent, for Goal One, a rating of Very Good, or 90 percent, for Goal Two, a rating of Excellent, or 95 percent, for Goal Three, a rating of Excellent, or 100 percent, for Goal Four, a rating of Very Good, or 80 percent, for Goal Five, and a rating of Very Good, or 90 percent, for Goal Six. Specific observations for each Goal are provided in the following pages.

Key Accomplishments

(b)(7)(E), (b)(7)(F) while improving build quality by leveraging Laboratory-wide capabilities in materials science and engineering. Triad also significantly improved Plutonium Facility (PF-4) facility availability (b)(7)(E), (b)(7)(F) by improving safety and security performance; optimized resource utilization for equipment installation activities; implemented around the clock operations; and recorded fewer safety incidents. (b)(7)(E), (b)(7)(F)

Triad's Off-Site Source Recovery Program (OSRP) exceeded source recovery expectations by recovering more sources than planned. Triad strengthened U.S. proliferation and nuclear security capabilities with the Big Explosives Experimental Facility test planning efforts, and advanced nuclear detonation detection capabilities by (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) The support for the response to Ukraine was immediate and effective.

Triad exceeded planned transuranic waste shipments while also making equipment improvements. This reduced the NNSA inventory and transferred containers for characterization; reducing the onsite risk associated with that extra material.

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The response to, and strategic monitoring of the Cerro Pelado fire was successfully collaborative. In addition, the partial activation of the Emergency Operations Center and deployment of shared assets was well-coordinated with all stakeholders.

Key Issues

Multiple safety culture initiatives demonstrate leadership commitment to improving disciplined operations for work execution. However, these initiatives have not resulted in improved consistent operations across the Laboratory. For example, inconsistent rigor in implementing Integrated Safety Management resulted in specific incidents to safe facility operations in several programmatic areas, which impacted worker safety.

The Advanced Sources and Detectors (ASD) project experienced cost growth of over 50 percent and schedule growth of four years and has forced reaffirmation prior to CD-2. Project management and estimating issues resulted in approximately \$105 million (M) of the \$234M of growth on the Triad portion of work.

Triad has not instilled a culture of consistent production that minimizes facility downtime and rapidly responds to events impacting production activities. Integration and cross organizational management that supports production operations, safety, and security is lacking and impacting production activities. For example, (b)(7)(E), (b)(7)(F)



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Goal 1: Mission Execution: Nuclear Weapons-- 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.

Triad National Security, LLC Amount of At-Risk Fee Allocation: \$9.3M

Under this goal, 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 Key Outcomes under this Goal in the PEMP, and generally met the overall cost, schedule, and technical performance requirements of the contract under this Goal in the aggregate. During FY 2022, the accomplishments greatly outweighed the issues and no significant issues in performance exist. Triad met performance expectations within expected cost.

Accomplishments

Triad produced and achieved NNSA acceptance of (b)(7)(E), (b)(7)(F) Triad Production Agency Quality, under interim delegation by the NNSA, performed product acceptance activities for (b)(7)(E), (b)(7)(F)

Triad addressed several pit build technical challenges resulting in improved build quality and completed (b)(7)(E), (b)(7)(F) Scientific analysis for this effort spanned the entire Laboratory capabilities focusing on world-class materials science and engineering to support resolution of issues, to include a certification build, and improved build quality supported (b)(7)(E), (b)(7)(F)

Triad made significant progress on integrating plutonium modernization equipment installation schedules within the plutonium facility and projects supporting Pajarito corridor upgrades. (b)(7)(E), (b)(7)(F) Room level installation plans were developed and implemented to optimize resource utilization for installation activities while supporting essential program work activities. Triad implemented (b)(7)(E), (b)(7)(F) programs to perform critical work, maintenance, and construction through effective shift scheduling. The productivity and effectiveness of the shift operations approach for programmatic and construction activities was positive and improved resource utilization. Management coverage for (b)(7)(E), (b)(7)(F) operations also increased resulting in improved performance.

Triad effectively supported the FY 2022 and FY 2023 pegposts; collected unique data by creatively combining the capabilities of Los Alamos Neutron Center (LANSCE) and the Turbulent Mixing Tunnel; completed studies looking at hydrodynamic instabilities in multi-shell inertial confinement fusion; and managed platform procurement and research and development (R&D) partnerships.

Triad completed 150 out of 153 milestones as noted in the Milestone Reporting Tool. Triad provided great support for stockpile systems throughout the Nuclear Security Enterprise (NSE), including resolution of issues such as unsatisfactory reports, significant finding notices, and significant finding investigations. Triad conducted all activities scheduled to support the annual assessments of stockpile systems and continued to fully support all required Nuclear Explosive

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Safety (NES) activities.

Triad made significant contributions to stockpile system capability improvements. Triad struggled with some production in the first half of the fiscal year. In March, Triad worked with the NNSA to re-baseline the schedule, which was approved in June. Triad successfully maintained production consistent with this re-baselined schedule throughout the second half of the fiscal year.

Triad provided exemplary Design Agency support for the several programs allowing two programs to achieve Phase 6.6, Full-Scale Production and another program to complete Phase 1, Concept Study, and begin Phase 2, Program Feasibility Study. Triad also provided solid support for Life Extension Program through independent peer review, drafting, and hardware design and production; and significant and timely independent peer review and production support.

Issues

Insufficient planning impacted production equipment operability and availability to support pit production FPU efforts. (b)(7)(E), (b)(7)(F)

Triad did not augment resources and improve resource utilization to effectively integrate production and equipment installations to ensure progress toward meeting FPU and full rate production. Several plutonium modernization equipment installation projects are behind the baseline schedule. Improved integration and focus on recovering schedule are underway to ensure continued progress toward meeting the FPU and rate production.

Production of some assemblies are behind schedule, but still ahead of program needs (b)(7)(E), (b)(7)(F)

The Los Alamos National Laboratory (LANL) Design Agency actively worked with Pantex to resolve issues with Pantex production of select components.

Goal 2: Mission Execution: Global Nuclear Security-- 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 Counter Proliferation and Incident Response missions in accordance with DOE/NNSA priorities, Work Authorizations, and Execution/Implementation Plans.

Triad National Security, LLC Amount of At-Risk Fee Allocation: \$3.99M

Under this goal, Triad earned a rating of Very Good, 90 percent, of the award fee allocated to this goal. Triad exceeded many of the Objectives and Key Outcomes under this Goal in the PEMP, and generally met the overall cost, schedule, and technical performance requirements of the contract under this Goal in the aggregate. During FY 2022, the accomplishments greatly outweighed issues and no significant issues in performance exist.

Accomplishments

Triad's Off-Site Source Recovery Program (OSRP) recovered 47 High Activity Beta-Gamma

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(HABG) devices, significantly exceeding its FY 2022 goal of recovering 35 devices. In addition, OSRP recovered 670 Transuranic (TRU) sources, exceeding its FY 2022 goal of 500 TRU sources.

Triad met overall cost, schedule, and technical performance requirements in the aggregate thereby strengthening U.S. proliferation and nuclear security capabilities. Triad led coordination and planning efforts for an April hydrodynamic testing campaign at the Big Explosives Experimental Facility. Triad greatly advanced U.S. nuclear detonation detection capabilities by serving as the system integrator for NNSA payloads.

Triad successfully supported Mo-99 industry partners in their goal to produce non-highly enriched uranium (HEU) Mo-99 for medical use in support of NNSA's HEU minimization mission. Triad also supported NNSA's efforts in reactor conversion work on casting material and examining fundamental properties for research reactors and uranium-molybdenum based fuels.

Triad provided critical support to the Nuclear Compliance Verification (NCV) Program by contributing critical custodianship of NCV's deployment and advanced Non-Destructive Assay activities. Triad experts provided important contributions for several Warhead Verification Program activities, including warhead monitoring and verification capability development and prototype development projects with other laboratories (b)(7)(E), (b)(7)(F) Triad also provided valuable contributions towards the United States Government support of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization's International Monitoring System and International Data Center.

Triad fully supported the Nuclear Emergency Support Team's (NEST) response (b)(7)(E), (b)(7)(F) (b)(7)(E), (b)(7)(F) Triad's expertise proved indispensable to NEST for radiological and nuclear items and networks. These networks provide the most accurate and actionable information to support authorities in public health and safety decision making in the event of a radiological or nuclear emergency or event.

Triad completed seven blend lots and have now produced ~25 percent of the challenging swap material which supports (b)(7)(E), (b)(7)(F) Triad initiated metal-oxide exchange shipments with Savannah River Site, which will ultimately support permanent removal of the material from South Carolina.

Triad was instrumental in a successful high-visibility nuclear forensics/Nuclear Threat Reduction foreign exchange, providing device assessment expertise, and significantly contributing to, and directly engaging in, key meetings and presentations. Triad conducted (b)(7)(E), (b)(7)(F) training events that provided invaluable training and team building (b)(7)(E), (b)(7)(F)

The National Nuclear Materials Archive (NNMA) program made significant progress in FY 2022 but also faced continued challenges. Triad was tasked with the analysis of eight samples in FY 2022, which represented a combination of unanalyzed samples from FY 2021 along with newly nominated samples for FY 2022. Triad successfully overcame the NNMA challenge

caused by nuclear material control and accounting issues.

Strong progress was made in support of on-going United States Nuclear Detonation Detection System payload modernization efforts, including completion of flight qualification testing of the Hard Radiation Sensor (HRS) subsystem of the GPS-hosted modernized Global Burst Detector (GBD-IIIF) payloads.

Triad met six of the seven major equipment milestones, despite vendor limitations and supply chain challenges for the Surplus Plutonium Disposition program.

Issues

Triad did not complete scope modifications in the procurement system and had difficulties obtaining adequate insurance for foreign operations, which caused delays in the placement of international source removal contracts and was unable to make any of the three awards.

Unplanned outage for corrective maintenance activities and difficulties processing swap material that paused operations for problem solving have contributed to not reaching the overall oxide production target, resulting in delays in lifecycle planning. Triad's analysis and shipping delays in FY 2022 for the NNMA program impacted programmatic milestones and impacted other NNMA site schedules and milestones. The configurations of the samples retrieved from the vault could not be received at other sites.

Triad did not adequately execute vault upgrade planning and design, which resulted in schedule slip and cost impacts.

Goal 3: DOE and Strategic Partnership Projects Mission Objectives--Successfully execute high-impact work for DOE and Strategic Partnership Projects Mission Objectives safely and securely. Demonstrate the value of the work in addressing the strategic national security needs of the U.S. Government.

Triad National Security, LLC Amount of Fixed Fee Allocation: \$2.98M

Under this goal, Triad earned a rating of Excellent, and 95 percent. Triad has exceeded almost all the Objectives, and is generally meeting the overall cost, schedule, and technical performance requirements of the Contract for this Goal in the aggregate. The accomplishments significantly outweigh issues and no significant issues in performance exist.

Accomplishments

Triad's response to the evolving and increasing strategic national security needs and priorities was exceptional. Triad successfully provided the technical leadership and fully utilized its exceptional core capabilities to address the President's agenda as enacted legislation continued to drive essential DOE projects such as the 2030/2050 climate and clean energy objectives. Most notably, Triad is leading DOE's I-WEST initiative, looking at strategies and pathways for equitable transition to carbon neutrality, and co-leading initiatives to pioneer new materials and devices to enable hydrogen and fuel-cells for decarbonizing transportation. Additionally, the LANL Isotopes program successfully responded to DOE and national initiatives to address isotope related supply chain disturbances caused by the conflict in Ukraine.

Triad continued to significantly succeed in supporting the national security mission with high-priority, high-impact SPP/SIPP. Triad made significant progress in the development of plutonium-238 capsules for lightweight radioisotope heater units. This success leads the way for the production phase and provides risk reduction for mission needs. Triad successfully developed and demonstrated novel unmanned air vehicle technologies (b)(7)(E), (b)(7)(F) Triad successfully initiated two new programs to combat biological threats.

Triad leveraged unique core capabilities to provide superior mission delivery to customers ranging from NASA to the Department of Defense, and with products ranging from first-of-a-kind nuclear materials to federally recognized leadership on projects vital to the national security mission. Triad also successfully executed numerous initiatives to achieve the increased efficiencies, to maintain a high level of compliance, and to successfully execute the increasing scope and volume of work.

Triad's template/standardization initiatives resulted in significantly improved Strategic Partnership Projects and improved collaboration with the NNSA, achieving process efficiencies and reduced processing time essential to accommodating the increased volume and complexity of new work.

Issues

None.

Goal 4: Mission Execution: Science, Technology, and Engineering (ST&E)--

Successfully advance national security missions and advance the frontiers of ST&E. Effectively manage Site Directed Research and Development (SDRD) and Technology Transfer, etc. in a safe and secure manner in accordance with DOE/NNSA priorities, Work Authorizations, and Execution/Implementation Plans.

Triad National Security, LLC Amount of Fixed Fee Allocation: \$20.9M

Under this goal, Triad earned a rating of Excellent, and 100 percent, Triad has exceeded almost all the Objectives, and is generally meeting the overall cost, schedule, and technical performance requirements of the Contract for this Goal in the aggregate. The accomplishments significantly outweigh issues and no significant issues in performance exist.

Accomplishments

Triad's research strategy successfully addressed national security challenges, achieving outcomes, and enabled ongoing continuous programmatic improvements to effectively ensure aligned achievement of current and emerging DOE/NNSA and LANL mission priorities.

Triad won 9 R&D 100 awards. The competition is worldwide and is open to corporate, government, and academic R&D organizations across the globe. Triad's performance in this competition continued to lead that of other national laboratories.

Triad successfully completed an extensive set (seven) of intensive Capability Reviews to contribute to the strategic sustainment of the current high level of leading-edge research. These

highly critical reviews were performed by recognized external experts and in most cases, validated the Laboratory's strategic planning in these capability pillars. Several reviews highlighted areas where a re-focusing of the scientific thrust of the pillar was recommended; the consensus was that the Laboratory's quality of science was very strong.

Triad successfully executed leading edge research contributing to the achievement of national security priorities, significantly advancing predictive modeling capabilities, and performing impactful new quantum research and discovery, as well as successfully developing an adaptive approach to machine learning for compact particle accelerators, and earthquake detection capabilities.

Triad continued to successfully evolve staff/student development opportunities to ensure alignment with changing workforce demographic and achievement of current and future mission. Triad also achieved success increasing the post-doc conversion rate to ensure preservation of staff quality & pipeline capacity.

Triad successfully leveraged the Laboratory's extensive capabilities through impactful partnerships that provided significant benefit. Benefits included assistance to companies and successful utilization of the Technology Readiness Initiative (TRGR) to transition high-value lab technologies. Significant focus was also successfully achieved in support of the nation's energy and environmental priorities.

Issues

None.

Goal 5: Mission Enablement-- Effectively and efficiently manage the safe and secure operations of the Los Alamos National 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.

Triad National Security, LLC Amount of At-Risk Fee Allocation: \$7.99M

Under this goal, Triad earned a rating of Very Good, and 80 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 for this Goal in the aggregate. During FY 2022, the accomplishments greatly outweighed issues and no significant issues in performance exist

Accomplishments

Triad's Safety Basis team provided over 70 safety basis items for review and approval to support operations and mission. Most items were approved with minimal comments and overall quality and technical basis to support were spot-on. The responsiveness and working relationship in addressing issues was commendable.

Triad completed a significant multi-year effort of writing or revising a backlog of criticality safety evaluation documents (CSEDs), improving criticality safety compliance, and progressing towards mission. Triad consolidated glovebox D&D activities into an overarching CSED, a significant milestone for LAP4 that reduced CSEDs for planned LAP4 D&D activities by ninety percent.

Triad significantly improved PF-4 facility availability (b)(7)(E), (b)(7)(F) by improving safety and security performance; optimized resource utilization for equipment installation activities; implemented around the clock operations; and recorded fewer safety incidents. Triad sustainability engineers and scientists excelled in meeting the Presidential Mandate for assessing the potential consequences of Climate Change through active participation in the NNSA Climate Adaptation and Resiliency Group and delivery of the Vulnerability Assessment Resiliency Plan (VARP) as well as continued execution of the Site Sustainability Plan. These actions led to innovative projects that will reduce the adverse effects of Climate Change on LANL missions.

Triad expertly responded to electrical outages during the monsoons in a timely manner to ensure no mission impacts.

Minor construction project execution improved overall Schedule and Cost variance averages in the past year, showing an 87.7 percent improvement in average Schedule variance and a 26.9 percent improvement in average Cost variance.

Triad successfully staggered material inventories and completed a one-time alternative inventory approach providing additional workdays to meet FPU goals. Triad improved physical security, personnel security, and internal reviews. Triad supported NNSA sites, non-NNSA DOE partners, and several partnering countries by exchanging Counter-Unmanned Aerial Systems (CUAS) implementation details and lessons learned.

Triad progressed implementation of Real Property Asset Management guidance as seen in demolition and decontamination projects, compliance of lease acquisitions, consolidation of adjacent leases, and sustainment of the Campus Master Plan. Reorganization of infrastructure programs synergistically led to project developments addressing net zero carbon emissions goals for inclusion in the Site Wide Environmental Impact Statement.

Triad delivered efficient, effective, responsible, and transparent financial management operations and systems, which helped to ensure mission work is not at risk. Triad drove compliance and controls over financial reporting and proactively collaborated and engaged with DOE and NNSA to address ongoing and emerging requirements

Triad effectively managed legal risk as exemplified by Complex-leading, proactive management of COVID vaccine issues, adaptive disposition of FOIA requests, and superb representation in environmental matters – particularly emerging issues involving disposition of waste explosives.

Triad excelled through the implementation of evolving security strategies, architecture, and technical solutions; and developed Information Operations Conditions security measures and guidance in preparation for increased protection measures.

Triad exceeded planned fiscal year wildland fire fuels mitigation schedule by conducting fuel mitigation treatments on an additional 18 miles property and site-adjacent property and removing an additional 1,500 tons of fuel, which resulted in greatly improved wildland fire resiliency.

The Annual Site Emergency Exercise included a challenging, robust scenario based on the Technical Planning Basis that exercised multiple site and offsite response elements. An insightful and accurate critique after the exercise identified areas for improvement demonstrating a continuous improvement and learning organization.

Triad developed new recruiting strategies and streamlined approval processes that resulted in the highest hiring rate in Laboratory history. Triad announced a new Paid-Time-Off program that resulted in an increase in applications and employee retention. Triad identified various corrections and changes that promoted accuracy as well as reduced the overall benefit cost study scores in outyears.

Triad responded in an effective and efficient manner to an unanticipated HQ memo regarding a potential racially motivated gesture at a worksite. Triad addressed the issue before it became a potential media concern.

Triad significantly improved the quality of procurement submittals, resulting in the award of several large dollar, key strategic procurements, such as the pro-force subcontract. Triad's procurement management system facilitated improved subcontract management through robust reporting capability, task management, automated alerts, and other functionality. This enabled Triad to conduct reliable market research to identify potential offerors for acquisitions. While Triad did not meet FY 2022 Small Business Goals in five of the six socio-economic categories, the actual dollars spent to small business was ~\$915M.

Triad successfully executed many NNSA and DOE-EM shipments, exceeding the WIPP forecast for LANL, further reducing the overall NNSA inventory and reaching new lows in waste volume utilization of 24%. Waste operations were conducted with an emphasis on safety by making improvements in drum lift equipment and the use of a color-coded banding system for ease of dose identification. Two shipments (b)(7)(E), (b)(7)(F) from Sandia were successfully transported to Area G for processing and eventual disposal IPP.

Several capital line item projects met baselined expectations. Three subprojects generally met cost, schedule, and scope. Triad successfully reached Critical Decision (CD) 4 on a project.

Issues

Inconsistent rigor and discipline in implementing Integrated Safety Management (ISM) resulted in specific impacts to safe facility operations- nuclear safety, electrical safety, hazardous energy control, radiation protection, facility safety, and worker safety - continuing a trend seen in previous performance periods. The number and severity of safety incidents with operations performed outside the approved work control documents, resulted in increased risk. These incidents occurred through the year and at different facilities. Examples included: three electrical events at (an Arc flash, capacitors not properly discharged, fish-tape incident that interrupted

power); unintended exposure of high radiation to personnel; and a worker experienced potential uptake resulting from the lack of configuration management system to document and understand the condition of equipment that led to an Incident Review Board.

Triad encountered challenges with fire protection and radiation program implementation as evidenced by an increase in duration and number of fire protection impairments, procedure violations, and radioactive source control issues.

Triad did not adequately implement corrective actions to prevent recurrence of issues, for example, continued incidents involving hazardous energy and unplanned releases from routine maintenance operations.

Triad did not transparently coordinate with co-permittees. Triad did not timely implement the chemical/hazardous inventory management procedures developed as part of the corrective actions and does not yet have a comprehensive inventory and accountability of chemicals and materials onsite.

Triad's execution of Major Items of Equipment (MIE) had an aggregate schedule performance index of 0.62. (b)(7)(E), (b)(7)(F)

Several recapitalization projects experienced issues involving inadequate planning, design and coordination that led to cost growth, scope reduction, and schedule slippages. (b)(7)(E), (b)(7)(F)

(b)(7)(E), (b)(7)(F)

. Triad experienced challenges providing project estimates that were executable and aligned with security requirements. Triad did not execute funding in accordance with the approved Annual Operating Plan but met the rebased spend plans. Survey of Triad's Material Control and Accountability (MC&A) Program received a program rating of marginal.

Several Preliminary Real Estate Packages were delivered too late to be actionable. Triad also procured sub-contracts that included real estate elements without required Federal approval. Moreover, Triad lagged in progress on Facilities Information Management System corrective action plans.

(b)(7)(E), (b)(7)(F)

Triad did not follow through on required collaboration with the NNSA on union agreements and incurred increased costs to the government by exceeding approved parameters.

Triad was non-compliant with small business requirements, such as incorrect process for obtaining size self-certifications, lack of NAICS code assignment on subcontracts, and lack of

clarity of all subcontracting transactions reported.

Triad struggled to fully execute some capital line-item construction projects. Specifically, one project suffered schedule delays deviating from baseline construction plans and recovery plans and was 258 days behind the Performance Measurement Baseline. Triad did not follow previous recovery plans and did not provide an updated recovery plan that shows a path to project completion within baseline parameters. One subproject experienced continued delays in completion of facility drawings, integrated work documents, and start on construction despite implementation of a single-point adjustment and recovery plan. Another subproject experienced continued delays stemming from quality of the subcontractor not being adequate and necessitating re-work, and issues with submittals and deliverable acceptance.

ASD cost growth of over 50 percent and schedule growth of 4 years has forced reaffirmation prior to CD-2. The project experienced \$739 million of cost growth among the partners overseen by Triad. Project management and estimating issues resulted in approximately \$105M of the \$234M of growth on the Triad portion of work. The Earned Value Management System (EVMS) implementation review established that the Triad EVMS is the authoritative source for managing LANL projects; however, Triad did not consistently follow the revised system description and core EVMS subprocesses did not provide the requisite definition and discipline to carefully plan and control work.

Triad did not establish a baseline for 100 percent hold up locations for in active processes nor develop a statistical sampling plan to validate inaccuracies.

Goal 6: Mission Leadership-- 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 Los Alamos National Laboratory 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 Los Alamos National Laboratory and the Enterprise.

Triad National Security, LLC Amount of At-Risk Fee Allocation: \$5.3M

Under this goal, 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 Key Outcomes, and generally met the overall cost, schedule, and technical performance requirements of the contract for this Goal in the aggregate. During FY 2022 the accomplishments greatly outweighed issues and no significant issues in performance exist.

Accomplishments

Triad continued to make significant progress in implementing a realistic strategic vision for the laboratory that is in alignment with the NNSA Strategic Vision. The lab demonstrated enterprise leadership and effective collaboration across the NSE to ensure DOE/NNSA success. For example, Triad demonstrated effective strategic planning efforts for the NSE that are imperative to U.S. policy (b)(7)(E), (b)(7)(F) responded timely to NNSA's request on an integrated deterrence study and on providing technical support for the updated Nuclear Posture Review; pursued the Director's Strategic Resilience Initiative to advance and sustain U.S. deterrence capabilities; provided an analysis at the request of the White House Office of Science

and Technology Policy; (b)(7)(E), (b)(7)(F) and contributed to a tri-lab study on developing a net assessment capability; and co-hosted the 2022 SW21 conference with LLNL. In addition, Triad continued to support NNSA priorities for the Bioassurance program.

Triad's newly integrated Contractor Assurance System (CAS) enhanced regulatory compliance and quality assurance principles by consolidating twelve systems into a single system facilitating contractor assurance reporting by employees. The CAS enabled repeatable, reliable, and verifiable risk and performance reviews, data analytics, and identification of operational issues. Notable improvements included increasing collaborative prime contracts management partnership with NNSA for timely deliverables; employing a rigorous and dependable internal audits program; and improving the Operating Experience (OPEX) program with high usage rates enabling robust facilitation of lessons learned.

Triad exhibited significant leadership within the NSE through collaborative activities to enhance mission execution for nuclear weapons programs. This includes stockpile sustainment, stockpile system capability improvements, and stockpile modernization, including plutonium pit production.

The ECSE/ASD project partners (National Technology and Engineering Solutions of Sandia, LLC, Triad, Lawrence Livermore National Security, LLC, and Mission Support and Test Services, LLC) continued to demonstrate strong collaboration during the year.

Triad demonstrated exceptional response to the Cerro Pelado fire by responding rapidly and effectively and maintained strategic monitoring of the fire by activating the Emergency Operations Center using a graded approach. Triad collaborated with NNSA, Los Alamos County and DOE-EM-Los Alamos in the development and implementation of response objectives to include management action points (Ready-Set-Go triggers) to protect the people working on LANL property as well as the site's assets. Triad also promptly and accurately facilitated news releases and responded to media inquiries in a rapidly changing response environment.

Triad implemented strategies and initiatives to address attrition and hiring to meet mission needs, especially pit production. Further, Triad implemented a targeted retention incentive plan, which resulted in increased craft and construction/project management personnel. While there has been some success, market conditions continue to challenge Triad's ability to staff critical position needs (b)(7)(E), (b)(7)(F) New employee hires outpaced total attrition, resulting in net growth, but not at the level needed to meet Triad's staffing plans.

Triad demonstrated leadership within the NSE with a sustainable long-term transition plan from employer sponsored Covid testing, case management, and contact tracing to responsible Covid-19 self-care by employees. Triad proactively required Covid vaccines in October of 2021, that led to a return to normal operations by May of 2022. Bivalent Covid-19 boosters were made available on-site by late September 2022.

Triad made organizational changes to improve equipment installation and programmatic work

integration. The new Operations Integration Center (OIC) served as the focal point to integrate equipment installation and facility upgrades with ongoing program activities in the facility. This office developed a comprehensive integration strategy with a tactical focus to ensure project and program objectives were met. Laboratory leadership also expanded focus on operational and maintenance improvements to ensure facility and equipment availability.

While there have been several operational events, Triad has also initiated and coordinated several safety culture training programs, safety culture surveys, and partnerships with other Battelle Labs to share best practices and drive longer-term performance improvements.

Issues

Triad has not instilled a culture of consistent production that minimizes facility downtime and rapidly responds to events impacting production activities. Integration and cross organizational management that supports production operations, safety, and security is lacking (b)(7)(E), (b)(7)(F)

Triad began efforts to develop an integrated schedule for plutonium facility operations. The scope of work that can be accomplished within the facility does not consistently and broadly exist. Analysis does not currently account for transportation, shipping, personnel access, measurement, and material flow. (b)(7)(E), (b)(7)(F)

Triad senior leadership continued to have issues with communications on capital-line-item projects. Several examples include misalignment on requirements, misunderstandings prior to design execution, inadequate strategic guidance and information dissemination, conduct of engineering issues, quality assurance issues, procedural implementation issues, and a lack of buy-in from lower-tier managers.

Inadequate execution and document quality supporting the readiness process delayed the PF-400 upgrade to a Hazard Category-3 (HC-3) Nuclear Facility, which impacted the schedule to exit the existing Chemistry & Metallurgy Research building.

Multiple efforts in safety cultural improvement demonstrate leadership commitment to improve disciplined operations for work execution. Despite these leadership efforts, there remain areas showing weak implementation of Integrated Safety Management. This has been a core focus area for Triad for several years, but floor-level work execution continued to lag expectations in several areas.