



---

---

National Nuclear Security  
Administration

*Triad National Security, LLC*

Performance Evaluation  
Report (PER)

---

---

NNSA *Los Alamos* Field Office

Evaluation Period:  
*October 1, 2020 - September 30,  
2021*

---

---

*December 10, 2021*

---

---

**OFFICIAL USE ONLY**

May be exempt from public release under the Freedom of Information Act (5 U.S.C. 552), exemption number and category: 5 - Privileged Information

Department of Energy review required before public release.

Name/Org: Theodore Wald  
Date: November 23, 2021  
Guidance: N/A

Executive Summary

This Performance Evaluation Report (PER) provides the National Nuclear Security Administration (NNSA) assessment of Triad National Security, LLC (Triad), performance of the contract requirements for the period of October 1, 2020, through September 30, 2021, as evaluated against the Goals defined in the Performance Evaluation and Measurement Plan (PEMP). 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 89 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 95 percent, for Goal Four, a rating of Very Good, or 82 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.

Triad was successful in the performance of Nuclear Stockpile mission work. (b)(7)(E), (b)(7)(F)

In addition, Triad experienced several programmatic challenges in executing the plutonium mission to include realized setbacks in pit development and product realization team activities; maintaining an integrated and reliable cadence across operational and programmatic lines; and in final delivery schedules. Triad fell behind in planned evaluations; completing 10 pits per year (PPY) work scope; completing equipment installations for 1-10 PPY work scope; and in-process product inventory activities.

The completion of the remediation activities at the Harborview Site in Seattle was a noteworthy success. The support of the space-based nuclear detonation detection mission was also a notable contribution to the success in this goal. Triad excelled in its performance supporting strategic national security needs of the U.S. government, and in responding to the evolving agenda of the new administration, including the support of multiple satellite delivery and deployments

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

However, Triad has fallen behind in meeting the schedule for the 34MT Surplus Plutonium Disposition program. Triad did not meet the Pu oxide production target which is a commitment to the Plutonium Management and Disposition agreement.

The performance in Science, Technology, and Engineering was exceptional with the advent of a new magnetic field visualization technique for use during dynamic experiments, an imaging technique to assess subsurface cracks in plutonium storage containers, and the world's first demonstration of quantum key security for the electric grid.

For pit production, Triad established a new directorate to enhance strategic planning and cross-organizational integration in an overall effort to drive towards meeting schedule baselines. The progress on TRU and low-level waste reduction and the successful completion of the Offsite Source Recovery Program (OSRP) were significant accomplishments. The efforts on the Plutonium Modernization Program

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

show proactive leadership. However, Triad experienced impacts to mission performance due to lapses in safety performance, work



execution practices and disciplined operations, as well as a lack of maturity in criticality safety limit development at PF-4.

Triad demonstrated excellent leadership through its Covid-19 response by leading the Nuclear Security Enterprise with its testing and vaccination implementation efforts, including the proactive mandate implementation, and the relatively high vaccination success rate. Excellent leadership was also demonstrated with the removal of nuclear materials from the Lovelace Biomedical Research Institute, the efforts on the Sandia [redacted] material characterization, and the technical support to the Nevada National Security Site [redacted] (b)(7)(E), (b)(7)(F)

Continued leadership attention is needed to improve CONOPS and disciplined operations; and integration of multiple program activities and requirements to deliver products on schedule, within budget and acceptance criteria.

**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: \$9,130,074

Under this goal, Triad earned a rating of Very Good, and 89 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 Fiscal Year (FY) 2021, the accomplishments outweighed the issues. Triad met performance expectations within expected cost towards the completion of Defense Programs' high priority items listed in the Getting the Job Done list.

**Accomplishments**

Triad completed 98.7 percent of Level 1 and Level 2 milestones (148 blue and 2 red). The Laboratory performed experiments and scientific analysis to support attainment of three Level 1 milestones [redacted] (b)(7)(E), (b)(7)(F) supporting the Stewardship Capability Delivery Schedule.

Triad provided outstanding support for the B61-12 Life Extension Program, the W88 ALT 370 Program, and the W93/Mk7 Program. Triad also provided excellent support for the W80-4 Life Extension Program [redacted] (b)(7)(E), (b)(7)(F) Triad actively participated in the W87-1 Life Extension Program.

Triad made significant contributions to stockpile system capability improvements, including the [redacted] (b)(7)(E), (b)(7)(F)

Triad provided excellent support for stockpile systems throughout the NSE (e.g., NNSS, SNL, CNS), conducted all activities scheduled to support the annual assessments of stockpile systems and continued to fully support all required Nuclear Explosive Safety (NES) activities. Examples of this excellent support include the research and development highlighted in the LANL Electrostatic Discharge Weapon Response Initiative Symposium, conducting the fifth full system test as part of the surveillance program, completing all funded pit surveillance for the year, (b)(7)(E), (b)(7)(F)

The Laboratory successfully made advances in pit production processes resulting in multiple in-process build techniques being executed and a successful LDRD-related pit build. Further, Triad (b)(7)(E), (b)(7)(F) The laboratory successfully synthesized key information regarding the nature of defects and discontinuities in plutonium pit production from historical production data, production failures, subject matter expert deep dives, and experimental tests to diagnose issues realized during production activities -- thus expanding their metallography and chemistry capabilities and effectiveness.

Triad successfully executed the Red Sage Nightshade A, B, and C experiments at the Nevada National Security Site (NNSS). (b)(7)(E), (b)(7)(F)

The Laboratory took beneficial occupancy of the DARHT Weather Enclosure and executed two Hydrodynamic Experiments after an extended construction outage.

Triad performance in project management and technical contributions to the Advanced Sources and Detectors project was noteworthy and improved projections for budget and schedule performance of the project. This effort included execution of the (b)(7)(E), (b)(7)(F) static measurements at the DARHT accelerator.

The Laboratory utilized experimental facilities, including the NIF, Z-Machine, LANSCE, and local firing sites to gather data on weapons relevant materials in dynamic regimes, including experiments for plutonium equation of state measurements, radiochemical mix, turbulence, and double-shell fusion implosions. The Laboratory coupled experimental data with advances in simulation codes and platforms to enhance the weapons program's predictive capability to understand aging behavior and successfully completed the (b)(7)(E), (b)(7)(F) campaign on NIF. The Laboratory completed the (b)(7)(E), (b)(7)(F) experimental series to provide the physics certification basis (b)(7)(E), (b)(7)(F) to support the Level One Milestone. Finally, the Laboratory prepared experimental systems in preparation for the future Pu@pRad experiments, including design of the containment vessel and a Director's Project review.

The Laboratory successfully met the Crossroads Installation Design Level 2 milestone and completed the ASC Advanced Technology Development and Mitigation subprogram's FY 2021 L1 milestone which required Triad to perform a series of nuclear-weapons-relevant, 3D calculations with next generation integrated codes, using three current ASC advanced technology systems. These efforts are the NNSA contribution to the DOE Exascale Computing Initiative and will provide closure evidence to the FY 2021 GTJDL Exascale item.

The Laboratory recognized the challenges in executing the increased mission and programmatic scope and realigned the organization to establish a new directorate to enhance strategic planning and cross-organizational integration efforts.

Extensive work was accomplished this FY in managing the CMR de-inventory for risk reduction and facility de-inventory of legacy materials in support of the CMR facility exit plan. On August 26, the first emptied large 6-foot confinement vessel was shipped offsite to a waste disposition site. This initial shipment met a key FY 2021 milestone and set in motion the final chapter of this long and successful campaign.

**Issues**

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

Triad experienced several programmatic challenges in executing the plutonium mission to include realized setbacks in pit development and product realization team activities; maintaining an integrated and reliable cadence across operational and programmatic lines; and in final delivery schedules. Triad fell behind in planned evaluations; (b)(7)(E), (b)(7)(F) and in-process product inventory activities. These interruptions — whether contractual, maintenance, equipment, personnel, operational, programmatic, or functionality- based—required additional mitigations and reactive measures to restore resource availability and to continue to meet mission needs.

**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: \$3,912,889

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 2021, the accomplishments outweighed issues. Triad met performance expectations within expected cost.

**Accomplishments**

Triad completed major remediation activities at the Harborview Site in Seattle and resumed Off-Site Source Recovery Program (OSRP) activities by recovering more than 700 sealed sources this fiscal year under COVID-19 related travel restriction: 100 more than the milestone goal of

600 sources. Notably, the Laboratory completed the first source recovery using the new 380-B Type B Container utilizing the revised requirements in the corrective action plans. Triad provided outstanding support in the nuclear security capacity building with international partners, providing subject-matter expert (SME) support for material control and accounting (NMAC) for bilateral activities.

Triad demonstrated outstanding performance in support of the space-based nuclear detonation detection mission. The laboratory provided technical input and briefings during late-stage assembly, integration, and testing of an operational experimental payload onto a DoD satellite. This led to an effort to release critical space environment data and continued next-generation payload fabrication supporting a June launch and early on-orbit testing of a GBD payload on a USSF GPS satellite.

Additionally, the Laboratory executed the AJAX Experimental Campaign at the NNSS and a monitoring campaign at the Sigma Complex to support DNN R&D efforts towards evaluation of capabilities for detection and characterization of material handling and production operations. Triad successfully completed the final review of the Low Yield Nuclear Monitoring PE1 high explosive source by proving through a series of field tests and high-fidelity simulations, that the design will meet all scientific objectives. Triad provided high-quality innovative policy studies of safeguards at the state and international safeguards engagement levels. Triad also provided excellent support by providing quality technical reviews of interdiction cases in the nuclear, chemical/biological, and missile areas. Triad provided critical support of (b)(7)(E), (b)(7)(F) initiatives, including evaluating burnups, bare critical masses, doses, and methodologies for evaluating food and water contamination.

Triad provided technical support to the U.S. High Performance Research Reactor (USHPRR) Project to develop a commercial scale fabrication process for manufacturing a high-density Uranium-Molybdenum monolithic low enriched uranium (LEU) fuel. In addition, Triad provided excellent technical expertise to the Mobile Packaging program in the preparation for and execution of multiple exercises. The Laboratory effectively advanced the Molybdenum-99 effort by actively supporting the NNSA's technology execution partners by developing new technologies for accelerator and neutron capture. Triad continues technical support to the Pit Disassembly and Processing Analysis of Alternatives (AoA) planning, and development of assumptions for a plan to achieve Critical Decision (CD)-1. Provided significant technical analysis to support processing of challenging swap feed materials for oxide production in preparation for transition to use SAVY containers for packaging. This will expand the use of the NDA table for product MC&A measurements.

Triad continued to perform pioneering experimental work, as well as responsive, value-added technical analysis to inform counterterrorism and counterproliferation policy, and integrated new elements and tools into the larger nuclear incident response mission. Triad executed an experimental series utilizing the pRad diagnostic and supported planned integrated experiments at the NNSS. Triad supported threat science training and assessment for interagency partners and provided subject matter expertise during training curriculum development. This included the virtual Spectroscopic Alarm Adjudication Course (SAAC) to RAP team personnel from Nuclear Search Program and Consequence Management programs. In addition, this included training



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

Triad demonstrated successful program execution of the Capability Forward Initiative through support for new response equipment development and validation, development of new training facilities and training aid development, and skill set participation in 70 domestic and international training events and one international exercise.

Triad supported Global Security partners by providing operational support and training to the (b)(7)(E), (b)(7)(F) and providing critical support of (b)(7)(E), (b)(7)(F) including evaluating burnups, bare critical masses, doses, and methodologies for evaluating food and water contamination. Triad Successfully provided 100 percent manning of responders for watchbill requirements and scheduled events. Provided expertise and input to tools, techniques, and policy and procedure development to ensure a robust response capability in support of Nuclear Forensics Operations. (b)(7)(E), (b)(7)(F)

**Issues:**

Triad fell behind in meeting the ramp up schedule for 34MT surplus plutonium disposition program. Triad missed the 125 kg Pu oxide production target which is a commitment to the Plutonium Management and Disposition Agreement and a level 2 milestone only producing 86.8 kg (~ 70 percent).

Many small projects experienced significant increases in projected estimates to complete and bases of estimates required additional revisions. For example, Two NA-20 capital projects planned to complete in FY 2019 (Simple Pit Cutter) and early FY 2020 (Thermogravitation Analyzer) experienced significant overruns and will not complete until early FY 2022. A third project to install inserts to increase storage capability in the vault will require correction to the design and fabrication rework with installation of inserts. Of the initial subset of Pu Modernization Horizon Plan BOEs submitted, 80 percent required additional rework, included schedule delays, and increased costs by over \$110M. Additionally, due to significant increases in capital project estimates to complete, three expense projects in NA-20 were paused during FY 2021. This was done to cover the cost increases and to remain within allocated funding.

Lack of qualified trained, workers remain an issue for Triad's effectiveness to manage Advanced Recovery and Integrated Extraction System small projects. Ongoing delays and significant overruns contributing to further cost growth remain a high risk for the program and require management attention.

While most of the National Nuclear Material Archive (NNMA) identification actions were completed by Triad and meet expectations, nominations and analysis remains delayed through FY 2021. These performance shortfalls have negatively impacted cost and schedule efforts for the NNMA program. Given existing obstacles, including site prioritization as directed by NA-10, it is unclear whether Triad will meet requirements even with a milestone extension into FY

2022.

**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: \$3,449,384

Under this goal, Triad earned a rating of Excellent and a percentage rating of 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. Triad is meeting performance expectations within cost.

### **Accomplishments**

Triad has provided significant contributions to address the strategic national security needs of the U.S. government, and successfully responded to the evolving agenda of the new administration. This is evident by the volume of new DOE/SPP proposals, the amount and significance of relevant new work, and the high level of performance of existing work. For example: LANL was selected to lead “Intermountain West Energy Sustainability & Transitions (I-WEST) which is focused on transitioning I-WEST region of the US to a carbon neutral energy system; and the New Industry-Lab Partnership which is funded by the Co-Optima Consortium which provides American industry with the scientific knowledge needed to maximize vehicle performance and efficiency, leveraging domestic fuel resources, and reduce life cycle emissions.

Triad executed 117 new work proposals and awards in support of/response to emerging and existing strategic national security through the Office of Science. Triad supported basic research on exploring new quantum science-enabled bio-imaging and sensing approaches, and in support of ensuring a stable U.S. supply of rare elements. Triad was selected to address biomanufacturing challenges, successfully executed, and was awarded a significant portfolio of work in support of energy security, and successfully executed Critical Experiment Hypatia in January.

Triad successfully continued to support the national isotope program, developed the “New Imaging Isotope Meets Promising Therapy Isotopes” for imaging human disease and guiding treatment for the DOE Isotope Program. Triad was also successful in the DOE Isotope Program to develop Curie-scale accelerator-based production of Ac-225 to produce the cancer-treating isotope that will be more widely available to the user community. The Triad Isotope Program also increased output at the Isotope Production Facility by developing a new particle-beam delivery system that delivers subatomic particles to modify atoms, transforming them into valuable isotopes. The DOE Isotope Program validated the success and value/contribution of Triad’s isotope program during a June visit, noting overall exceptional performance.

Triad had significant success in Strategic Partnership Projects that support vital national security



missions.

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

Triad improved Strategic Partnership and Technology Transfer programs, implemented systematic process improvements, enhanced compliance/efficiency by mitigating legacy work authorization issues, added scope focusing on improving efficiency of legal aspects and standardized processes through templates, electronic platforms, and other mechanisms.

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

**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: \$20,459,549

Under this goal, Triad earned a rating of Excellent and a percentage rating of 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. Triad is meeting performance expectations within cost.

**Accomplishments**

The exceptional nature of LANL ST&E workforce competencies and capabilities is illustrated by the significance of the national and international awards, honors and leadership positions bestowed upon Triad staff.

Triad executed high impact technologies through effective partnerships and technology transfer mechanisms ensuring that research is relevant to national security missions and leading edge/high quality. Triad developed a new capability allowing for visualization of magnetic fields during dynamic experiments, utilizing the pRad facility to radio-graph targets that purposefully include electromagnetic fields, advancing on electrical flow prediction capability. Triad also developed, for the first time an imaging technique to assess subsurface cracks in containers, providing crucial information for ensuring the safe storage of plutonium material. Triad created advanced innovative Regional Economic Diversification Initiatives, which includes the Regional Engagement Challenge that provides funding for new mechanisms and approaches stimulating new business startups, creating job opportunities and in turn attracting businesses and capital in New Mexico. Triad drove internal and regional innovation through: "Educating the

next generation of innovators” to develop business models around Triad’s scientific breakthroughs, and “Driving New Innovation into New Mexico Companies” working on products that can enhance key design & manufacturing capabilities. Triad initiated two Technology Readiness Gross Receipts Tax Technical Assistance agreements with NM companies. Triad provided the assistance for the Rebuilding Infrastructure Leveraged project. Triad continued to innovatively create staff and student development opportunities, working successfully with parent companies, as well as executing a set of regional educational partnerships to achieve workforce competencies that align the evolving demographics with current and potential mission requirements, most recently the BS Mechanical Engineering program with UNM-LA.

The Laboratory contributed to the advancement of STE, partnering to achieve high impact technologies such as the Space Domain Awareness (SDA) which was launched out of the FedTech Start-up Studio, the world’s first demonstration of quantum key security for the electric grid; modeling unprecedented freshwater spillover into the Atlantic, developing fracture caging as method to prevent human-induced quakes; and developing a new approach for high-quality epitaxial actinide thin films.

**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: \$7,825,777

Under this goal, Triad earned a rating of Very Good, and 82 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 2021, the accomplishments slightly outweighed issues. Triad met performance expectations within expected cost.

### **Accomplishments**

For Pit Production, Triad established a new directorate to enhance strategic planning and cross-organizational integration efforts to meet and exceed schedule baselines within the initial cost targets. Further, Triad leadership engaged and championed working sessions to address emerging issues in the areas of Safeguards & Security, horizon planning, infrastructure, production, and conduct of operations.

Though maintaining sustained shipping priority remained a challenge throughout the FY because of external entities, Triad made continued progress with Packaging and Inventory and deinventory

of TRU waste in TA-55. The Offsite Source Recovery Program (OSRP) successfully completed the first operation of 380 B Package and (b)(7)(E), (b)(7)(F)

meet mission needs. Furthermore, Triad successfully began combined shipments with EM-LA/N3B out of the Radioactive Assay and Non-destructive Testing (RANT) facility. In addition, Triad accomplished the deinventory of Low-Level Waste out of Area L in TA-54, reduction of TRU waste characterization cycle time, and proof of concept for (b)(7)(E), (b)(7)(F)

Triad provided good quality safety basis products (e.g., PF-400 DSA, TLW PDSA) that support current and future nuclear facility, accelerator activities, on-going operations, and mission. Overall, the safety basis products are excellent although a few submittals required extra effort (e.g., LAP-4 SDS). In collaboration, Triad's USQ procedure was revised and approved which will increase efficiency and improve the PISA process.

Triad significantly reduced hazardous energy control events. Specifically, implemented an effective beryllium management and legacy contamination program; increased Radiological Control Technician training capability, acquisition of new instruments, and incorporation of new technologies; ensuring worker safety at the Radiological Laboratory Utility Office Building with repairs to fire rated construction in stairways; and eliminated backlog of Fire Hazards Analyses and Fire Protection Assessments. Triad established a robust wildland fire mitigation program that operates as a cross-organizational effort, with contributions from internal and external stakeholders.

Triad performed well and was under budget/ahead of schedule in the Chemistry and Metallurgy Research Replacement (CMRR) Radiological Laboratory/Utility/Office Building (RLUOB) Equipment Installation Phase 2 (REI-2) and was under budget in the CMRR Re-categorization of RLUOB to Haz. Cat. 3 (RC3) projects. Triad successfully executed the Electrical Power Capacity Upgrade (EPCU), Energetic Materials Capability Characterization (EMC), CMRR PF-4 Equipment Installation Phase 2 (PEI-2), and Los Alamos Plutonium Pit Production Project (LAP4) projects. Further, Triad is EVMS certified and provided timely and adequate monthly EVMS data.

Triad exceeded performance in the protection of special nuclear material and classified matter while successfully exercising COVID-19 protocols. Triad also hired critical NMC&A staff participated in a contractor Technical Qualification Program Triad Pilot and advanced the development of a Process Monitoring Program. (b)(7)(E), (b)(7)(F)

Being the first in the complex, Triad is paving the way for complex-wide implementation.

Several small projects continue to experience negative budget, scope & schedule variances. Despite these difficulties, the program team has been proactively reporting these issues as they occur while working to resolve them as well as making progress in implementing new commercial grade construction policies.



Triad maintained regulatory compliance with inspection requirements while standing up new permit programs in collaboration with stakeholders. Triad performed exceptionally well in presenting a site-wide perspective to the New Mexico Water Quality Control Commission for the Triennial Review, which was inclusive of NNSA and EM scope.

Triad improved real estate processes and communications with real property stakeholders, realigned resources that improved performance outcomes, hosted a highly successful NA-50 Deep Dive, generated a detailed analysis for a real estate acquisition pilot project, and developed an outstanding campus master plan and an innovative geographic information system dashboard for site infrastructure. Triad was also a key participant in the NNSA Team of Team's working group on rightsizing and realigning space and refined the telework pilot to utilize assets more efficiently during the pandemic by implementing a two-tiered compression ratio strategy for office space.

Triad provided excellent assistance on the development of the new Climate Action Plan in response to the new Executive Order for Climate Change Initiative and continues to support ongoing projects such as the TA-3 Substation, Electrical Power Capacity Upgrade Project. Triad continued to capitalize on opportunities to meet energy and water sustainability goals in the absence of funding to accomplish the metrics, particularly considering increased mission requiring additional staff and operations which led to DOE award as a sustainability champion. Triad excelled in maintaining and operating utilities systems across the site and made substantial investments in building automation systems, upgrading lighting systems to Light-Emitting Diodes, and supporting the Field Office in pursuit of on-site Photovoltaic power generation.

Triad delivered efficient, effective, responsible, and transparent financial management operations and systems and effectively managed corporate indirect rate variances and indirect costs throughout the fiscal year. Triad was outstanding in supporting the Nuclear Security Enterprise (NSE) Recruitment Strategy Group and implemented incentive programs to retain critical skills. Triad successfully supported special hiring events for pit production hiring 400 employees, including a record 31 employees at one hiring event, reduced cycle by 83 days to hire an employee for pit production, and implemented a new strategy to apply market salary adjustments, which demonstrated CY 2021 CIP allocations were effective in addressing below market salaries and positions.

Triad successfully executed over \$1.4 billion in procurements in support of national security missions and awarded an innovative \$190 M Multiple Award Task Order Contract (MATOC). In addition, Triad proactively developed a repeatable, sustainable, comprehensive acquisition practices manual that streamlined and expedited procurement processes and strengthened alignment to federal regulations. In parallel, Triad replaced an antiquated contract paper process with a new electronic system, Ariba. Triad exceeded the overall small business goal (actual 64.08 percent versus the target of 63.7 percent) and continued to host supplier forums to assist small and local businesses.

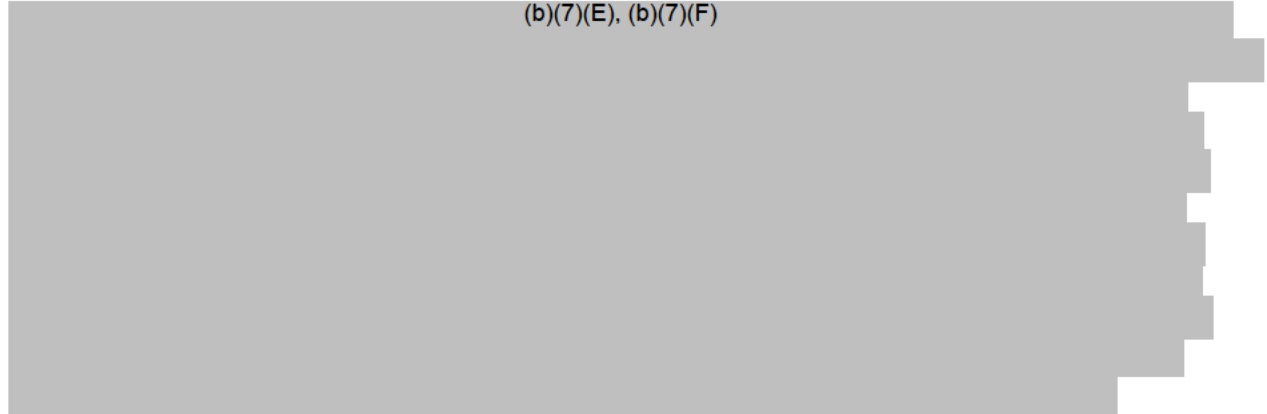
Triad provided robust leadership on the UW Cesium-137 cleanup and successful project closure. In addition, Triad provided proactive legal support despite the unique challenges of the COVID-19 pandemic, especially during complex New Mexico administrative rulemakings affecting

surface and ground water, pandemic response, and expeditious processing of Freedom of Information Act matters.

While there were numerous operational events, Triad showed some improvement in their ability to respond and recover to minimize delay to mission work.

**Issues**

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



Triad experienced lapses in safety performance, work execution practices and disciplined operations, which impacted mission execution during the fiscal year. Many events were the result of not following approved procedures, lack of effective line management engagement, and normalizing adverse conditions (e.g., degraded equipment, outdated procedures, deferred maintenance, and lockout/tagout issues). Significant events such as: not adhering to glovebox requirements/glove use; IWD adherence/implementation; prohibited articles inadvertently brought in to limited areas; contamination events at TA-55; the vault water bath overflow event at TA-55; the PF-4 water WetVac system/Zone 1 ventilation water spill resulting in significant cleanup efforts and operation disruption; safety class fire door operability issue at WETF; broad issues with procedural adherence; repeat process deviations at PF-4; numerous unauthorized work activities during maintenance and construction; and deferred maintenance practices further demonstrate corrective action management and safety culture improvements were not effective in several areas across the organization.

The Evaluation of the Safety of the Situation (ESS) submitted for the PISA associated with the PF-4 water spill was not approved due to inconsistencies and incomplete information. This spill event resulted in several safety and operational implications impacting program mission by several months.

Triad was behind schedule on the Technical Area 3 (TA-3) Substation, the TA-55 Reinvestment Project Phase 3 (TRP III) project, and the Transuranic Liquid Waste (TLW) project (operating under a recovery plan). The Advanced Sources and Detectors (ASD) (ECSE) experienced an approximate forty-one-day delay and -\$17M dollar unfavorable schedule variance.

Triad continued to have a negative RCRA compliance performance trend site wide. Triad's self-assessment program to evaluate environmental and waste compliance performance continues to lack site-wide trending between FODs to evaluate risk and communicate issues beyond localized

deployed staff, with analysis and trending occurring outside of the CAS process. After multiple feedback reports highlighted this deficiency, Triad initiated actions intended to correct the issue, but improvement efforts are ongoing.

Triad's corrective maintenance backlog has continued to grow this year in both nuclear and non-nuclear facility maintenance. Communication of issues, status of issues, and timeliness of repairs contributed to the growth. DNFSB Tech Report 46 issues identified concerns that led to a PISA that was not self-identified.

Triad experienced issues executing authorized funding in accordance with approved spend plans. Triad did not meet expectations on 7 of 63 Cyber/IT Implementation Factors, and in addressing concerns with the management of institutional baselines, hardware, and software inventory. For (b)(7)(E), (b)(7)(F)

In addition, Triad did not disclose the breach of data when it operated an unauthorized Amazon Web Services Web Site outside of the Federal Authorization Process. Finally, Triad contracted with a sub-contractor that executed network penetration testing without federal approval.

Triad did not effectively plan, develop, and execute documents which created significant rework for consent packages and other major activities (e.g., an abandoned project, staff augmentation, Buy American Act waivers, wireless re-compete, scheduling and planning of the ProForce re-compete). Triad did not achieve any of the goals in the six socio-economic small business categories.

**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: \$5,217,185

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 2021, the accomplishments outweighed issues. Triad met performance expectations within expected cost.

### **Accomplishments**

Triad demonstrated excellent NNSA enterprise-wide leadership during the COVID-19 pandemic and maintained an effective telework posture to minimize mission impacts. Triad effectively implemented NNSA COVID-19 guidance and maintained good communication with NNSA. Triad effectively collaborated and responded to multiple data calls, COVID-19 cost reports, accepted, and implemented unilaterally issued contract modifications related to the COVID-19



pandemic without delay. Triad's projects were able to absorb COVID-19 impacts through implementation of work safety protocols and via telework as applicable with limited impacts to their respective performance baselines. Triad was first in the complex to stand-up onsite vaccinations, limit CARES Act Leave to its employees as the pandemic continued, reach 86 percent fully vaccinated rate by the end of the fiscal year, and to mandate COVID-19 vaccines.

Triad engaged its executive board to understand and address complex, cultural and systemic issues with plutonium-focused infrastructure areas, which resulted in the consolidation of associated functional areas under a new single Associate Laboratory Directorate for Plutonium Infrastructure.

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

Triad successfully completed the removal and two shipments of Type B quantity nuclear materials from a biomedical research institute, under budget and ahead of schedule, even when met with the challenges and limitations of working during the pandemic.

Triad resolved path forward for completing characterization of the (b)(7)(E), (b)(7)(F) containers from Sandia by utilizing the SAWAs and N3B for the effort and is prepared to offload at TA-55 and transfer to Area G upon scheduling by WIPP for transfer of containers.

Triad took leadership role on the office space discussions, briefings, and benchmarking efforts, and assisted with drafting the pilot plan and data metrics for the Rightsizing and Realigning Space and Improving Workplace Efficiencies Team. They have shown rapid progress reconfiguring their office space to alleviate short-term space concerns by targeting telework, increasing onsite space density, and developing hotel space for teleworkers.

Triad demonstrated exceptional technical support to the Nevada National Security Site (b)(7)(E), (b)(7)(F) and provided Laboratory SME's utilizing an existing task order for Academic support, in a collaborative effort to resolve the issue.

The Laboratory continued to self-identify and track findings and question costs through the internal audit process. However, corrective actions are not always applicable to the root cause of the issue and are sometimes too narrowly focused resulting in missing the broader condition. In addition, Triad implemented several ethics initiatives, including a designated ethics month, updated the Code of Conduct, and hosted a series of WebExes to enhance ethics across the organization and to positively affect organizational culture.

Triad has been leading the complex to standardize how NNSA manages material characteristics data, as well as planning how to address the NSE's needs related to future weapons requirements management system(s) and processes.

## Issues

Triad's inconsistent approach to managing and reporting abnormal events in safety and environmental occurrences increases risk for repeat events, compliance violations, releases, and permit issuances. Triad's reporting and categorization of abnormal events in the Issues Management tool was not consistent across the Laboratory, with some organizations reporting at an apparent low threshold while others only report if the event trips an Occurrence Reporting and Processing reporting level. Triad has taken action to address these issues; however, there has been minimal improvement in this area.

Revitalization of safety cultural improvement efforts by the culture alliance demonstrate leadership commitment to the improvement of workforce knowledge. Despite the leadership efforts to improve work force knowledge, there still exists areas showing weak implementation of CONOPS/disciplined operations.

Triad struggled with the integration of multiple program activities and requirements to deliver products and deliverables on schedule, budget and within acceptance criteria. For example, 70 percent of FY 2021 L3 Capital Asset Milestones were not met in the Pu Modernization portfolio and Advanced Recovery and Integrated Extraction System small projects experienced significant increases in total cost to complete. Further, operational efficiencies (such as facility availability), COVID-19 impacts and resource sequencing issues within and across several Bases of Estimates and other project management documents were not adequately addressed. Laboratory Leadership did not execute strategic planning to address issues in infrastructure improvements, realized risks, and sustainable portfolio integration efforts.

Challenges from a recent build at the plutonium facility highlight the need for senior management focus to mature criticality safety limits at the plutonium facility to enhance operational flexibility needed for production and research missions.