



National Nuclear Security
Administration

Consolidated Nuclear
Security, LLC

Performance Evaluation
Report (PER)

NNSA Production Office

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

December 10, 2021

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Department of Energy review required before public release.

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Date: 10/12/2021
Guidance: N/A

Executive Summary

This Performance Evaluation Report (PER) provides the National Nuclear Security Administration (NNSA) assessment of Consolidated Nuclear Security, LLC (CNS), performance of the contract requirements for the period of October 1, 2020-September 30, 2021, as evaluated against the Goals defined in the Performance Evaluation and Measurement Plan (PEMP). The NNSA took into consideration information (e.g., CAS, Program Reviews, etc.) obtained from NNSA Program and Functional Offices both at Headquarters and in the field.

Performance against the Goals summarized below resulted in an overall rating of 86 percent during this performance period. CNS earned Excellent ratings for Goals 2, 3, and 4, and Very Good ratings for Goals 1, 5, and 6.

CNS demonstrated effective leadership at Pantex and Y-12 while working collaboratively across the Nuclear Security Enterprise to solve key challenges and exceeded some requirements and achieved most nuclear security deliverables while sustaining a safe work environment with effective COVID-19 pandemic controls. Notable accomplishments are the W88 Alteration (ALT) 370 first production unit (FPU) completed ahead of schedule and the W80 ALT 369 last production unit completed on schedule. Not all production deliverables were achieved increasing risk to weapon programs and customer attention/concern, specifically with the W88 ALT 370, W87 Limited Life Component Exchange (LLCE) and W76 rebuilds. CNS must provide senior leadership attention to ensure availability of resources and facilities to meet production deliverables on schedule. CNS successfully leveraged an innovative solution to demonstrating new technologies including installation and testing of the Electron Beam Cold Hearth Melter producing two binary ingots. Significant progress was also made maturing Direct Casting, Additive Manufacturing and the development of Vacuum Arc Remelt Furnace technologies. CNS did not meet HEU metal production milestones nor Material Conversion Equipment Refurbishment scope primarily due to realized risks working on and in failing legacy systems and facilities. CNS overcame numerous challenges with degraded infrastructure to enable resumption of lithium metal production in October 2021. CNS continued to meet or exceed nuclear non-proliferation requirements. Of specific note is the 58 low enriched uranium-molybdenum castings, HEU removals, Distance Alarm Response Training courses, Low Equity Discards, preparation of 78kgU for Down Blending Offering for Tritium, and Virtual Table Top exercises. All deliverables and shipments to Naval Reactors were met on schedule and within budget. CNS continued to support strategic partners on schedule and within budget and also effectively managed a \$38M Plant Directed Research and Development portfolio.

The above work was accomplished while improving Recordable Cases, Days Away, Restricted or Transferred, Lost Time Injuries, and motor vehicle incident rates; implementing the Pantex Safety Basis Vision and Y-12 Nuclear Criticality Safety Program Roadmap improvements, and protecting Special Nuclear Material and classified matter. CNS successfully resumed waste shipments to the Nevada National Security Site. CNS improved project performance as evidenced by 92 percent of projects within cost and schedule as compared to 82 percent at last performance period. However, CNS continues to be challenged in project performance with four of eight line item projects below expectations and experienced cost growth on some projects. Key areas needing continued focus to drive improvement in project performance are project

planning, design, and requirements definition. CNS responded well to key equipment failures and weather-related events and maintained infrastructure through major outages. CNS has heightened awareness of disciplined operations performance expectations and created an environment where lapses in disciplined operations are evaluated through the Discipline Operations Council to drive sustained improvements. However, CNS management floor level engagement was not sufficient. CNS continued to improve the cybersecurity program by exponentially reducing the sites' vulnerabilities, closing a number of historic Corrective Actions Plans from 2018 and 2019, and developing and implementing a detailed plan to restore to a compliant program. Significant effort remains to address identified programmatic issues.

Specific observations for each Goal are provided in the following pages.

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.

Consolidated Nuclear Security, LLC

At-Risk Fee: \$13,976,550

Under this goal, CNS earned a rating of Very Good and 87 percent of the award fee allocated to this goal. During this period, the accomplishments greatly outweigh issues, and no significant issues in performance exist; however, some program areas have not met baselines for consecutive years. CNS 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. CNS met performance expectations within expected cost towards the completion of Defense Programs' high priority items listed in the Getting the Job Done list.

CNS completed 101 percent of planned Fiscal Year (FY) 2021 weapon deliverables after NNSA approved Universal Change Forms that adjusted the baselines. While CNS completed 101 percent of deliverables in the aggregate, there were three systems that did not reach 100 percent completion. Additionally, while CNS completed an overall 99 percent of Pantex deliverables, CNS did not complete the W76 Rebuild mission within that same scope.

Specific Performance through September 30, 2021

System	Total FY2021	System	Total FY2021
B61-12 Canned Subassembly (CSA)	100%	W88 Disassembly Alterations	100%
Base Surveillance - Pantex	100%	W88 ALT 370	75%
Base Surveillance - Y-12	102%	CSA Dismantlement	110%
W87 Limited Life Component Exchanges	76%	B61 Disassembly Life Extension Programs	100%
W80 Alteration (ALT) 369	100%	Warhead Dismantlement	91%

On the B61-12 LEP, CNS provided outstanding support for the All-Up-Round production, including prebuild activities of Center Case Subsection Assemblies and Preflight/Tail Subassembly operations. CNS continued to work toward steady state production rates on Main Charge Assemblies but did not maintain an adequate inventory of a specific component due to contamination issues. CNS is working with the design agency on the requirement while improving production processes. CNS fully recovered a significant schedule variance resulting from quality and equipment issues, ensuring the CSA mission was met. CNS was highly responsive to these issues and expeditiously communicated with federal customers and design agency representatives.

For the B83, leadership remained engaged and provided site coordination to ensure closure of Issue Response Group actions. CNS resolved actions from the Contractor Readiness Assessment; however, the program still suffered delays.

CNS staffing shortfalls for the W76 rebuild work led to being over 50 percent below goal; this pushed rebuild scope to FY 2022. This is the second year rebuild work pushed into the next FY.

For the W87-0/1, CNS synthesized a material for the first time in 15 years to support the W87-1 main charge production development. For the W88 ALT 370, CNS successfully built the first re-entry body assembly and the FPU three weeks early. CNS completed the Joint Test Assembly 8 FPU more than one week early. CNS continued to experience issues with PT3931 tester due to false failures. CNS did not meet the build or disassembly and inspection schedules. CNS did not timely notification of a gap in material availability for a 35 Account material. Technician shortages at Pantex impose risk to future ramp-up rates. Y-12 consistently generated select components ahead of its annual baseline commitments with no issues.

CNS did not complete its Weapons Dismantlement mission, coming in at 91 percent of the baseline. In Weapons Quality Assurance (QA), CNS failed to meet quality requirements for a unit, resulting in a quality escape. The NPO-approved Corrective Action Plan is on track.

For Uranium (U) Modernization, CNS met all but one (92 percent completed) Level 2 Milestones and all but three (96 percent completed) Level 3 Milestones. Due to extensive corrective maintenance problems (b)(7)(F) CNS did not meet purified metal production goals. Major accomplishments include (b)(7)(F) systems deactivation and downgrade (97.2 percent of planned); (b)(7)(F) out-of-service system isolations (100 percent of planned); (b)(7)(F) equipment removal (111 percent of planned); consolidation log casting (151 percent); briquette processing (110 percent); and dispositioning U from Area 5. For Special Materials, CNS achieved first use of the 500-ton heated press and is on track with projects strategy and execution to establish the new capability. For Depleted U Modernization, CNS met all Level 2 and 3 Milestones. The Electron Beam Cold Hearth Melt (EBCHM) installation was ahead of schedule and under budget; CNS produced two binary ingots. CNS made significant progress in maturing Direct Casting, Additive Manufacturing, and EBCHM and continued to produce binary ingots using the Development Vacuum Arc Remelt Furnace.

CNS did not meet Level 2 Milestones for Calciner, Electrorefiner (ER), or Direct Chip Melt

(DCM) Front Load Furnace (FLF) projects. Calcliner and ER are not meeting Performance Management Baselines, primarily due to vendor delays, but are forecasted to be within the approved Total Project Cost/Schedule, which supports mission need. The FLF is significantly behind schedule due to vendor delays, design, and operation problems. CNS met DCM Bottom Loading Furnace Milestones and obtained Critical Decision 0 approval. By providing vendors with engineering, quality, and management support, CNS made progress but did not overcome vendor performance issues; therefore, CNS did not fully meet KO-1.4 expectations.

For Lithium Modernization, CNS completed most Level 2 milestones (4 of 5), including supplying material for Stockpile programs, completing salvage operations to meet environmental requirements, and continuing technology development projects. CNS proactively collaborated with the design agencies on the Parts Cleaning Station-Sanding process qualification plans and reduced the planned qualification period by four months. CNS started the qualification of the cell and small scale wet chemistry operations; however, late completion of the Material Conversion Equipment Refurbishment (MCER) delayed the overall qualification schedule. CNS did not meet the Level 2 milestone to execute process equipment recapitalization, primarily due to Parts Cleaning Station-Sanding piping design error that is expected to require at least six months and \$2M to correct, and the incomplete MCER Reactor Wash and Cell scope. MCER delays were primarily due to realized risks working on failing legacy systems and facilities. The MCER Cell restart reached beneficial occupancy and is scheduled to produce metal in October for the first time in a decade. CNS continued to meet expectations in support of the Tritium and Domestic Uranium Enrichment Program's Highly Enriched Uranium (HEU) down blending campaign.

CNS completed W93 Phase 1 objectives and its evaluation of the potential weapon design concepts against criteria and identified technical and programmatic risks. CNS continued supporting the Aging and Lifetimes program and met all performance metrics, including its Studies and Assessments. The Hand Held Diffuse Reflective Infrared Fourier Transform is fully implemented in Quality Evaluation as a regular surveillance tool. The E-gun rebuild design was reviewed, and a new location was determined, indicating progress toward restarting this process.

CNS continued to support W80 surveillance deliverables and accomplished additional disassembly and inspections ahead of schedule. CNS improved CSA nondestructive evaluation activities that significantly improved reacceptance and surveillance decisions for W88 CSAs.

CNS overcame multiple production challenges. This contributed to meeting the W88 ALT 370 FPU and recovering the B61-12 CSA production baseline. While component disposition shipments to NNSS resumed, CNS still has open corrective actions. CNS successfully started the Cell 8 project to address pit staging limitations. CNS also deployed a new software tool at Pantex to enable surveillance Sample Select processes in a more automated fashion and deployed a new Engineering Authorization subscription service to enable engineers to watch for new Engineering Authorizations of interest to ensure a timely and reliable response. CNS was also generally successful in executing scope for supporting programs, including Capabilities Based Investment, Production Operations, and Multiple Weapons Systems. These programs completed all Special Nuclear Material Packaging deliverables, supported NA-121 Lightning Detection Warning System Nuclear Explosive Safety Validation, and obtained authorization for multi-level storage of components (b)(7)(F), significantly expanding available storage

capacity. However, the installation of the (b)(7)(F) originally scheduled for FY 2020, was delayed to Q1 of FY 2022. The Mill installation was rescheduled multiple times during FY 2021 as a result of ongoing design delays and installation issues.

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.

Consolidated Nuclear Security, LLC

At-Risk Fee: \$5,989,950

Under this goal, CNS earned a rating of Excellent and 95 percent of the award fee allocated to this goal. During this period, the accomplishments significantly outweigh issues, and no significant issues in performance exist. CNS 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. CNS met performance expectations within expected costs.

In support of the U.S. High Performance Research Reactor program, CNS completed 58 low enriched uranium-molybdenum castings, installed a microdot peen machine that resulted in significant cost savings per casting, and exceeded shipping and staging requirements for ingot and samples to BWXT-Lynchburg.

In support of the National Nuclear Materials Archive (NNMA), CNS shipped 66 sub-samples for analysis to DOE laboratories, exceeding the milestone. CNS sample identification and nominations for the NNMA are on schedule and meeting scope and cost expectations. Sample collection and shipping delays have been overcome and meet NA-80 requirements.

CNS completed three removals of HEU from international locations. CNS completed consolidation castings of the Fast Critical Assembly plates, exceeding the FY 2021 goal by 80kgU.

CNS completed 26 Distance Alarm Response Training courses, more than scheduled, and launched a new Dispatcher Training course, conducting 20 such courses in FY 2021. CNS also conducted 10 Virtual Table Top Exercises in support of the Office of Global Material Security. CNS provided valuable support for the Mobile Packaging program, including the Mobile Uranium Facility's Exercise Relentless Rook.

CNS delivered the Concepts for Hypothetical Total Warhead Monitoring at Pantex report, to the NNSA Office of Nuclear Verification's Warhead Verification Program, as part of the ongoing Pantex Monitoring Project effort. CNS conducted a successful dry run of the Baseline Monitoring Exercise, a high-visibility event to evaluate arms control procedures and technologies.

CNS led a Congressionally mandated effort focused on developing and characterizing a novel enrichment approach and also led a multi-lab team to investigate a priority thrust to understand and develop signatures of light elements processing.

CNS exceeded the Low Equity Discards by 43 discards and prepared 78 kgU more than planned for Down Blending Offering for Tritium but shipment to processors was delayed until FY 2022.

CNS identified 1.7 MTU of high-assay low enriched uranium, material remaining from prior down-blend contracts, as well as material recently returned to the United States as part of the Remove Program, in need of a disposition pathway. Some of these material forms are not currently approved for storage in the (b)(7)(F)

The Nuclear Emergency Support Team successfully executed key deliverables at both sites in FY 2021, including the use of additive manufacturing for component builds to support the Accident Response Group, the design and testing of a new Department of Transportation 7A container, and the support and execution of training events, drills, and exercises.

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.

Consolidated Nuclear Security, LLC

Estimated Fixed Fee: \$1,270,000

Under this goal, CNS earned a rating of Excellent, at 95 percent. During this period, the accomplishments significantly outweigh issues, and no significant issues in performance exist. CNS exceeded almost all 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. CNS met performance expectations within expected costs.

CNS completed all FY 2021 Naval Reactor deliverables and shipments on schedule and within budget. CNS completed the annual U3O8 material goal and all planned computed tomography scans on schedule for High Flux Isotope Reactor Project. The NBL Center received and completed 57 orders on schedule.

CNS completed nine shipments on schedule in support of NNSA supply contracts. CNS executed technical support and training deliverables for other government agencies on schedule and within budget. CNS completed all FY 2021 deliverables for the White Sands Missile Range Fast Burst Reactor Upgrade Project.

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.

Consolidated Nuclear Security, LLC

Fee: \$0

Under this goal, CNS earned a rating of Excellent, at 95 percent. During this period, the accomplishments significantly outweigh issues, with one issue in performance existing. CNS exceeded almost all 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. CNS met performance expectations within expected costs.

Plant Directed Research and Development and Strategic Partnership Projects utilized roughly \$38M in funding across 102 projects. CNS continued to achieve the program intent by ensuring research is relevant, enables the national security missions, and benefits NNSA programs. CNS continued to maintain a program in strong support and alignment with the High Explosive Operations and the HEU Storage and Component Manufacturing mission at Y-12. CNS submitted zero of eight Accepted Manuscripts required under DOE's Public Access Plan.

Goal 5: Mission Enablement

Effectively and efficiently manage the safe and secure operations of the Pantex Plant and Y-12 National Security Complex 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 assuring 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.

Consolidated Nuclear Security, LLC At-Risk Fee: \$11,979,900

Under this goal, CNS earned a rating of Very Good and 79 percent of the award fee allocated to this goal. During this period, the accomplishments greatly outweigh issues, and no significant issues in performance exist. CNS 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. CNS met performance expectations within expected costs.

Overall, Environment, Safety, Health, and Quality Programs are on track with some exceptions.

Recordable Cases, Days Away, Restricted or Transferred, Lost Time Injuries, and motor vehicle incident rates are favorable. CNS completed phase one (of three) of its QA consolidation plan, quality issues resulted in increased shipped nonconformances, including multiple Unsatisfactory Reports from the U.S. Department of Defense. Waste management improvements resulted in limited restart of shipments to NNSS. Highly chlorinated water entered East Fork Poplar Creek, resulting in two fish kills and a Notice of Violation from the State of Tennessee. Issues remain with Pantex fire protection maintenance, 35-account management, and Pantex dosimetry performance. Y-12 fire protection corrective maintenance and transportation safety program (subcontractor motor carrier compliance) implementation require improvements. A near-miss to a fatality occurred when a transportation employee was pinned between a semi-tractor and a transportation trailer.

CNS continued to execute Pantex Safety Basis deliverables to support the Vision Plan and the Defense Nuclear Facilities Safety Board 2019-1 Implementation Plan. CNS exceeded its Pantex Unreviewed Safety Question backlog reduction goal. The Roadmap was developed to track Nuclear Criticality Safety Program improvements; however, some scheduled activities are behind schedule. Nuclear Explosive Safety was effective at managing the backlog issues.

CNS exceeded sustainability expectations, earning the DOE GreenBuy Silver-level award and the Electronic Product Environmental Assessment Tool Purchaser award. CNS provided acceptable support to the Energy Savings Performance Contracts (ESPC) at Y-12, but Pantex support was unacceptable specific to planning and supporting the ESPC contractor. Roof Asset Management Program and Cooling and Heating Asset Management Program performance at Pantex meet expectations. CNS projects executed more than 2.4 million hours without a lost time injury. The Emergency Operations Center and Fire Station projects executed work within their overall cost and schedule baselines.

Most active projects (92 percent) were within cost and schedule, an improvement from last period (82 percent); however, CNS experienced significant cost and schedule delays on some projects. Inadequate CNS planning resulted in significant increases in estimated funding needed to complete project execution and the cancellation or deferral of several direct and indirect projects. Several projects with designs awaiting award of construction contracts were not executed. The delays resulted in significant carryover and uncosted balances for projects including the Alpha-5 and Beta-4 utility reroutes and Electrical Distribution System. Bay and Cell Modernization successfully completed 15 of 16 system upgrades but experienced significant cost increases far exceeding estimates as a result of emerging issues. Issues on Recapitalization Programs and key security projects, such as the Counter Unmanned Aircraft System (CUAS) and range facilities, led to increased funding requests, schedule delays, and/or reductions in scope. Design and requirement definition issues impacted project performance, including on the Parts Cleaning Station Sanding, Bay and Cell Radiation Alarm Monitoring System, and Cooling and Heating Asset Management Program 9737. Four of eight Line Item projects were below expectations. The High Explosives Science and Engineering Project is under budget and at least three months behind schedule due to poor subcontractor management and submittal quality. Coordination between CNS and National Technology and Engineering Solutions of Sandia, LLC (NTESS) notably improved; however, the West End Protected Area Reduction remains behind schedule yet with specific focus and actions from CNS and NTESS being implemented to recover schedule.

CNS effectively protected Special Nuclear Material and classified matter as demonstrated through force-on-force exercises and successful Office of Enterprise Assessments (EA) activities that included a multi-topic assessment at Pantex and limited notice performance tests at Y-12. Several CNS staff members were recognized for excellence in 2021 (e.g., Contractor Security Professional of the Year, Classification Award of Excellence, and NNSA Security Team Members of the Year). CNS effectively addressed ongoing budgetary shortfalls through its FY 2021 Financial Status Mitigation Strategy Plan and provided timely updates and appropriate communications.

CNS facility aging management practices were used as a key benchmark in the development of American National Standards Institute/American Nuclear Society-3.14-2021, *Process for Infrastructure Aging Management and Life Extension of Nonreactor Nuclear Facilities*. CNS maintained plant infrastructure and safely executed major utility outages in support of asset management strategies defined at the sites. CNS responded well to key equipment failures and weather-related events. Major strides in asset reliability initiatives were made at both sites with Y-12 realizing real benefits in the Utilities systems. CNS received recognition for asset reliability efforts by receiving Efficient Plant Magazine's Best Culture Startup award. The new Computerized Maintenance Management System that is integral to asset reliability and key to resolving several open issues is behind schedule. Proactive maintenance performance improved but is still below industry standards. CNS developed action plans to address NNSA-identified deficiencies related to difficult to follow maintenance plans and the electrical distribution breaker test program. CNS is currently investigating a recent maintenance activity that resulted in a spread of radioactive contamination outside of a facility.

CNS provided critical input for the enhanced indirect rate monitoring process, which NNSA-identified as best practice. This effort provided an early indicator for potential indirect rate issues, more proactive oversight, and programmatic communication. CNS transferred funds to support NNSA activities on short notice, ensuring timely execution of grants/interagency agreements. CNS did not submit the updated Internal Audit Implementation Design Plan on time, delaying NNSA contract transition review.

Legal provided value-added mission support across multiple areas of operations, including a craft incentive program; providing guidance on the Coronavirus Aid, Relief, and Economic Security Act; and procurement support for the Lithium Processing Facility project. Legal continued to manage ongoing litigation and provided assistance to field counsel, such as in areas of pension benefits, Strategic Partnership Programs, and environmental compliance issues.

CNS met with NPO weekly to continue to work on addressing the existing weaknesses within the cybersecurity program, and overcame challenges that included ransomware, the SolarWinds Orion Cybersecurity exploit, the Nashville bombing, and numerous emergency Department of Homeland Security Cybersecurity directives. Even though CNS addressed many cybersecurity and IT Program Execution Guidance implementation factors (IFs) and closed a number of historic Corrective Action Plan items from 2018 and 2019, they still failed to meet a significant number of IFs, and need to continue to execute on the cybersecurity and IT program improvement plan that was developed. CNS conducted a Ransomware exercise to improve response; bolstered the cyber

workforce; exponentially reduced sites' vulnerabilities; completed Phase 1 migrations to the McAfee Secure Web Gateway (SWG); and continued transition of the local email services to the Microsoft Office 365 Cloud solution. CNS executed IT infrastructure enhancements focused on redundant power, alternate telecommunication services, and server virtualization. Additional efforts are still necessary from CNS to address the significant number of identified programmatic and technical issues, while maturing the overall Cybersecurity and IT program to meet federal expectations and requirements.

CNS effectively implemented the Emergency Management (EM) program as demonstrated during EA assessments at both sites. The EM program continues to be actively involved with the site pandemic response and leads many of the initiatives. CNS safely conducted drills and exercises throughout the year with COVID-19 controls in place, which included the Office of Secure Transportation at Y-12.

CNS's homegrown system optimization tool, Acquires, streamlined operations and increased efficiency across supply chain management. CNS exceeded all but two of its Small Business Goals, surpassing the total goal by 5 percent. CNS engaged in vendor forums/trainings and leveraged Vendor Inventory Agreements. CNS Real Estate supported several activities, such as acquisitions, licenses, leases, and easements. CNS supported the Nuclear Security Enterprise Recruitment Strategy Group to improve technical candidate pools, retention, and collaborative efforts. CNS implemented new apprenticeship programs designed to provide critical skills training and successfully negotiated bargaining agreements. CNS had no findings in the Office of Federal Contract Compliance Program audit. CNS had a higher than acceptable Benefit Cost Study Value and did not meet a key deadline in its Corrective Action Plan due to extenuating circumstances with pending contract change. CNS's overtime utilization reached 21.1 percent of total bargaining unit/direct hire labor, which exceeds the contract target of less than 4 percent. CNS identified and corrected multiple retirement plan errors and must establish a robust internal control plan to limit future errors across all plans.

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 CNS 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 Pantex Plant and Y-12 National Security Complex and the Enterprise.

Consolidated Nuclear Security, LLC At-Risk Fee: \$7,986,600

Under this goal, CNS earned a rating of Very Good and 88 percent of the award fee allocated to this goal. During this period, the accomplishments greatly outweigh issues, and no significant issues in performance exist. CNS 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. CNS met performance expectations within expected costs.

At Y-12, issues related to Gas Mass Spectrometer were managed and overcome to meet annual deliverables. CNS Projects leadership increased project performance transparency by supporting weekly comprehensive project briefings (e.g., Fulmer and Bays and Cells) to improve situational awareness, began providing 30/60/90-day outlooks for a quick view of upcoming milestones, and improved monthly project performance status to NNSA, connecting project performance to the top threats. These activities more clearly articulated the status and issues related to individual projects.

CNS demonstrated extensive leadership participation by providing vendors with project management, QA, and engineering support, including site visits, joint acceptance testing, and document development, in an effort to improve vendor performance.

CNS devoted substantial resources toward disciplined operations improvements, and several disciplined operations initiatives have planted the seeds for meaningful change. Examples include the peer-to-peer commitment and supervisor coaching frameworks, the Y-12 tiered tactical disciplined operations improvement strategy, and the Pantex Labor and Management Partnership initiative. However, while these initiatives show promise and CNS was responsive to NNSA feedback, CNS managers have not routinely demonstrated engagement with the workforce at the floor level to drive consistent disciplined operations performance. CNS missed the opportunity to build on the momentum of the April 2021 Verbatim Compliance Practical Achievable Understandable Safety Expectations, which stunted efforts to institutionalize a disciplined operations culture.

Despite occasional challenges with integration between stakeholder organizations, CNS made significant progress in addressing NNSA concerns with the on-the-job training program for Y-12 Production Operations personnel. CNS implemented an enterprise-wide assessment and issues management system that is fully transparent to NNSA. As a result, CNS deployed a Contractor Assurance System Health dashboard that uses data analytics to track and trend issues. CNS hosted the annual Top 10 Risks Workshop in collaboration with NNSA where the top threats and opportunities for the sites are identified. The CNS Enterprise Risk Management process was recognized across DOE. CNS deployed 16 Value Stream Element Teams across both sites improving mission work. CNS successfully implemented Phase 1 migration to the HANA Learning Management System at Y-12.

CNS participated in the FY 2021 NNSA Strategic Outlook Initiative over-the-horizon study; Operations and Efficiency Board; Safety Culture Improvement Panel, Safety, Analytics, Forecasting and Evaluation Reporting; and took on leadership roles in the NNSA Enduring Organizational Improvement Initiative. CNS led two NNSA-wide benchmarking activities through the Nuclear Security Enterprise Operating Systems Working Group for Tiered Escalation and Continuous Improvement training.

CNS maintained COVID-19 protocols, which allowed approximately 80 percent of employees to work safely on site while meeting mission deliverables. The Nuclear Emergency Support Team elements successfully provided 100 percent of responders to satisfy watch bill requirements throughout the pandemic; executed drills, exercises, and incident responses while implementing

COVID-19 controls; and maintained effective capabilities. CNS worked through COVID-19 protection protocols and supply chain disruptions. CNS produced and supplied a COVID-19 disinfecting agent. CNS participated in the Improper Payment Guidance and Best Practices Payment Integrity Working Group that provided NNSA with prompt responses to catch up classified accounting activities that could not be completed due to COVID-19 restrictions. CNS effectively collaborated and responded to multiple NNSA data calls and COVID-19 cost reports and accepted and implemented unilaterally issued contract modifications related to the COVID-19 pandemic without delay. Vaccines and testing continue to be available onsite to minimize non-productive time. Both sites were approved as COVID-19 vaccine points of distribution, and vaccination rates exceed local community vaccination rates (Pantex 57 percent vs. community 46 percent; Y-12 65 percent vs. community 52 percent).

During FY 2021, NNSA issued five Management Concerns, the most significant issue type representing broad-scoped, crosscutting or significant system breakdowns in management or operations. Specifically, concerns continued with CNS cybersecurity; failure to reduce fire protection compensatory measures and unresolved signals at Pantex; ongoing issues managing the dosimetry program; a quality escape; and continued concerns with managing 35 Account items. While Corrective Action Plans are in place for most of these issues, actions to date have not been effective for the dosimetry and fire protection issues.