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**Department of Energy**  
**National Nuclear Security Administration**  
**Production Office**



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June 23, 2020

Mr. Morgan N. Smith  
President and Chief Executive Officer  
Consolidated Nuclear Security, LLC  
Post Office Box 2009  
Oak Ridge, Tennessee 37831-8001

Dear Mr. Smith:

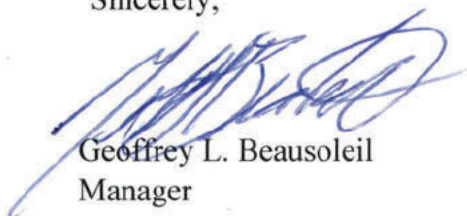
**CONTRACT DE-NA0001942, CONSOLIDATED NUCLEAR SECURITY, LLC, FISCAL YEAR 2019 PERFORMANCE INCENTIVE FEE**

The National Nuclear Security Administration (NNSA) has completed its assessment of Consolidated Nuclear Security, LLC's (CNS) effectiveness in meeting the performance expectations established in the Fiscal Year (FY) 2019 Performance Evaluation and Measurement Plan.

Enclosed is a memorandum from David Huizenga, Associate Principal Deputy Administrator, NNSA, along with the FY 2019 Performance Evaluation Report. The memo contains the fee determination for FY 2019. CNS is hereby authorized to draw down funds in accordance with the attached figures, less any fee that has already been received through provisional fee payments during the year.

If you need additional information, please contact Laura Gideon at (865) 576-4340 or Geoffrey Beausoleil at (865) 576-0752.

Sincerely,



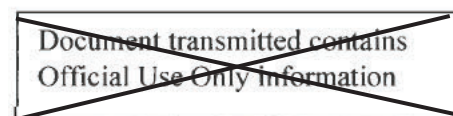
Geoffrey L. Beausoleil  
Manager



Laura G. Gideon  
Contracting Officer

Enclosures

cc w/enclosures:  
T. Robbins, NPO-01  
W. Eckroade, NPO-1  
L. DeSerisy, NPO-50  
K. Hamilton, NA-APM



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**Department of Energy**  
**National Nuclear Security Administration**  
 Washington, DC 20585

June 23, 2020

OFFICE OF THE ADMINISTRATOR

MEMORANDUM FOR GEOFFREY BEAUSOLEIL  
 MANAGER  
 NNSA PRODUCTION OFFICE

FROM:  DAVID HUIZENGA  
 ASSOCIATE PRINCIPAL DEPUTY ADMINISTRATOR

SUBJECT: Consolidated Nuclear Security, LLC DE-NA0001942 Fiscal Year 2019  
 Performance Incentive Fee Determination

The Department of Energy's National Nuclear Security Administration (DOE/NNSA) has completed its assessment of Consolidated Nuclear Security, LLC (CNS) performance of the contract requirements for the period of October 1, 2018 through September 30, 2019, as evaluated against the Goals defined in the Performance Evaluation and Measurement Plan. Based on assessments provided in the NNSA Performance Evaluation Report, award fee amounts are as follows:

	<u>Adjectival</u>	<u>Rating</u> <u>Percent</u>	<u>At Risk Available</u>	<u>Final</u>
Goal-1: Manage the Nuclear Weapons Mission	Very Good	90%	\$13,976,550	\$12,578,895
Goal-2: Reduce Nuclear Security Threats	Excellent	95%	\$5,989,950	\$5,690,453
Goal-3: DOE & Strategic Partnership Projects Mission Objectives	Excellent	99%	\$ -0-	\$ -0-
Goal-4: Science, Technology & Engineering (ST&E)	Excellent	95%	\$ -0-	\$ -0-
Goal-5: Operations & Infrastructure	Satisfactory	50%	\$11,979,900	\$5,989,950
Goal-6: Leadership	Satisfactory	50%	\$7,986,600	\$3,993,300
<b>Total</b>	<b>Good</b>	<b>70.8%</b>	<b>\$39,933,000</b>	<b>\$28,252,598</b>

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 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: Keith Hamilton, NA-APM Date: 6/22/2020  
 Guidance (if applicable): N/A

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With an adjectival rating of “Good” and a rating percentage of 70.8%, CNS did not achieve the standard of performance necessary to satisfy the Gateway Decision criteria outlined in *Clause F-5, Evaluation of Performance and Exercise of Option(s)* of the contract. Therefore, the NNSA will not exercise Option Term 2.

In addition, the fixed fee and total fee summaries are provided below for your information:

Fixed Fee	\$ -0-	\$ -0-
SPP (Fixed Fee)	\$1,270,000	\$1,270,000
Total Fixed Fee	\$1,270,000	\$1,270,000
<b>Total Summary</b>	<b>\$41,203,000</b>	<b>\$29,522,598</b>

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National Nuclear Security  
Administration

Consolidated Nuclear  
Security, LLC

Performance Evaluation  
Report (PER)

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NNSA Production Office (NPO)

Evaluation Period:  
October 1, 2018-  
September 30, 2019

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June 12, 2020

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**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: Keith Hamilton, NA-APM  
Date: 6/22/2020  
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, 2018 - September 30, 2019, as evaluated against the Goals defined in the Performance Evaluation and Measurement Plan (PEMP). NNSA took into consideration all input provided (e.g. CAS, Program Reviews, etc.) 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 Good for CNS. CNS' performance was rated Very Good to Excellent in the mission delivery goals that account for 50% of the overall rating. However, this was offset in the remaining 50% by ratings of Satisfactory in the mission enabling and leadership goals which were characterized by the existence of significant performance issues and the failure to correct serious, longstanding performance problems that either introduced or perpetuated unacceptable risk to the overall operation of the NNSA. Specific observations for each goal are provided in the following pages.

CNS earned a Very Good on Goal 1 accomplishing most objectives while successfully delivering on our nation's stockpile requirements. Completion of the W76-1 program of record; completing on time component first production units in support of B61-12 life extension program; exceeding baseline production of high quality enriched uranium metal; and restarting lithium capabilities while enabling advancement of W80-4 and other nuclear security missions are notable achievements. Dismantlements, base surveillance and limited life component exchange baselines were mostly, but not fully achieved.

CNS earned Excellent ratings on Goals 2, 3, and 4 exceeding almost all of the Objectives. CNS exceeded the highly enriched uranium (HEU) disposition metric and other HEU milestones in support of the Non-Proliferation program, including the removal of the largest shipment of HEU from a key European partner. Feedstock deliveries to Naval Reactors were ahead of schedule and stretch goals for the production of High Flux Isotope Reactor fuel were exceeded. CNS continued to supply enriched uranium to foreign countries in a safe and timely manner. Science, Technology and Engineering were advanced through 87 Plant Directed Research and Development and Demonstration projects that were tactically aligned to NNSA missions and worked collaboratively with other NNSA entities and private partners.

CNS earned a Satisfactory rating on Goal 5. Significant issues in performance exist. Serious Cybersecurity and Information Technology performance issues persist and have further declined during this period; immediate and aggressive action from senior leadership is essential to eliminate unacceptable risk and preclude the program from further degradation or extended denial of service. Safety performance met requirements for most safety disciplines, but Nuclear Safety at Pantex and Nuclear Criticality Safety at Y-12 have performance issues necessitating further improvement. CNS is executing the largest portfolio of small projects and a large portfolio of line item projects. However, further improvements are still needed in project execution at Pantex where some projects are chronically over budget and behind schedule. CNS maintained aged and degraded infrastructure to allow essential mission operations.

CNS earned a Satisfactory for Goal 6. CNS demonstrated leadership commitment to a culture of performance excellence in mission execution but has failed to correct significant longstanding performance issues in multiple high risk areas including cybersecurity and conduct of operations. CNS failed to timely identify and address a significant time keeping issue and serious abuse of overtime resulting in overcharges, unnecessary costs, and the extended unavailability of critical production technicians. The lack of leadership focus on the information technology and cybersecurity program implementation put the site's implemented protection strategies for unclassified and classified systems and networks at great risk. Response to self-identified non-compliant legacy waste shipments was immediate, rigorous, and self-critical. CNS provided responsive support of the nuclear security enterprise on the B61-12 and W88 ALT 370 programs.

**Goal-1: Mission Execution: Nuclear Weapons**

Successfully execute 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 90% of the award fee allocated to this goal. CNS exceeded many of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate. Accomplishments greatly outweigh issues. Specific performance on the key deliverables achieved follows:

System	Total FY19 Baseline Percent Completion
W76-1 LEP Deliverables	100%
W76-2 Warhead Deliverables	88%
W76-2 CSA	100%
B61-12 CSA	104%
Base Surveillance – PX	95%
Base Surveillance Y-12	110%
W87 LLCE	98%
W80 ALT 369	99%
Warhead Dismantlement	97%
CSA Dismantlement	108%
B61 DisLEPS	100%
W88 DisALTs	157%

For the W76-1 Life Extension Program (LEP), CNS provided all mission deliverables to the Department of Defense and completed the Program of Record. For the W76-2 program, CNS delivered all Canned Subassemblies (CSAs) and 88% of the accelerated baseline warhead deliverables needed to achieve Final Operating Capacity.

For the B61-12 LEP, CNS delivered on-time First Production Units (FPUs) including CSAs, case parts, pits, High Explosive Pressing Facility (HEPF) startup, and main charge assembly in accordance with the B61-12 LEP Integrated Master Schedule. In addition, CNS received approval to begin 614 primary Qualification Evaluation activities and completed the first year of War Reserve CSA production.

For the W88 ALT 370, CNS completed disassembly for alteration units per requirements, executed SS-21 activities ahead of the baseline schedule prior to the re-spin re-planning, implemented a water jet facility supporting aft shell reprocessing and successfully passed the System Production Readiness Review with no conditions.

For the W80-4 LEP, CNS supported completion of the Weapons Design and Cost Report, entry into Phase 6.3, and completion of conceptual design reviews for System, Secondary, Pit, Booster, Main Charge and the Nuclear Explosive Package, and other key components.

CNS exceeded baseline requirements for Surveillance at Y-12, but did not complete baseline requirements for Surveillance or Limited Life Component Exchanges at Pantex. In relation to Weapon Dismantlement and Disposition, CNS exceeded baseline requirements. CNS revitalized programmatic equipment supporting B83 surveillance, resolving two years of backlog.

CNS effectively produced purified metal and feeder materials by exceeding the goals for UO<sub>3</sub>, UF<sub>4</sub>, and U metal. CNS produced the most U metal in a single year since 1992, and all of the material was within specification for button quality. CNS met all Level 2 Performance Milestones for Uranium Modernization and Process Technology Development. CNS removed 5.7 metric ton (MT) (goal was 4.15 MT) of material-at-risk from Area 5 and achieved Target Working Inventory in 9204-2E. As part of facility transition strategies, CNS isolated four systems in 9212, cleaned-out no-equity materials from E-1 Wing, initiated the 9423 Decontamination, Sort, and Segregate Project, deactivated 15 systems in Building 9206 (recovering scope from FY18), and dispositioned process solids ahead of schedule. Relocated Radiograph operations from Building 9212 to 9204-2E, the first operation to be relocated as part of 9212 Transition Strategy.

CNS provided useful and understandable modeling results for various production scenarios in support of the Enterprise Modeling Analysis Consortium. Extended Life Program activities for Building 9995 continued with the completion of Room 159 clean-out, vibration repair of supply fan SF-13, replacement of supply fan SF-60, and major instrumentation procurements. In ramping-up the management of the Depleted Uranium Program, CNS assigned a dedicated program manager, initiated development of a master schedule, and established a cost estimate.

CNS exceeded almost all milestones for Material, Recycle and Recovery. CNS met briquette processing and consolidation casting milestones ahead of schedule. CNS met all goals for salvage and disposition work on schedule. CNS met all milestones for storage at Y-12, including completing the second phase of the Bay 4 rack configuration in Highly Enriched Uranium Materials Facility and expanding the Storage Program Mission Health to incorporate HEU material supply mission health metrics. The Down Blend Offering for Tritium project has shipped oxide, metal, and fuel elements in excess of the FY19 goal of 3,479 KgU.

First use of the hydriding reactors since 2013 for the production of Li-H shims was completed. CNS received Design Agency approval for a chemical specification change and accomplished implementation of the change for the B61-12 and W76-1 programs providing an additional 50% of lithium material inventory availability.

CNS lost two-person control that resulted in the Department of Defense returning a unit back to CNS. Due to delays in implementing a new security plan, CNS did not cast several particular parts for the microwave furnace risk reduction initiative on schedule. Fabrication, testing, and operational readiness of the Contaminated Chip Cleaning Cart were not completed due to fabrication delays and identification of criticality safety evaluation issues. While the proactive identification of potential material accumulation challenges resulted in a missed milestone for Lathe #1 installation at 9215, CNS identified an alternative with a safer configuration.

CNS submitted Safety Analysis Reports for Packaging (SARP) on schedule according to NNSA direction in tasking memoranda. CNS effectively worked with the Transportation Safety Review Panel to resolve technical comments.

CNS' inability to obtain/maintain sufficient human resources results in prioritization decisions that negatively impact projects. This issue was exacerbated by operational pauses and by the extended unavailability of a significant number of critical production technicians due to administrative and management failures. Problems with the calciner offgas system during testing and development resulted in significant redesign and required rebaselining due to schedule delays and cost increases. Cost increases and schedule delays also resulted in a requirement to rebase Y-12's direct chip melt.

**Goal-2: Mission Execution: Global Nuclear Security**

Successfully execute 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% of the award fee allocated to this goal. CNS exceeded almost all of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate. Accomplishments significantly outweigh very minor issues. No significant issues in performance exist.

CNS exceeded the annual metric for HEU dispositioned by more than 1 MT, delivered the final HEU shipment in support of the Repurposed Excess Uranium down-blend contract ahead of schedule and exceeded the schedule for surplus HEU delivered for the Down Blend Offering for Tritium. CNS exceeded the goal of high assay low enriched uranium (LEU) production by ~ 1 MT and shifted HEU discard project scope to optimize resources and exceeded the annual discards milestone, despite new packaging rules that disrupted operations. CNS provided substantial input for disposition plans for foreign HEU returns. CNS corrective actions planned in response to an issue identified by NNSA related to processing and transferring foreign obligated uranium were slower than expected and formal work processes are still incomplete. Surplus plutonium disposition surveillance and monitoring activities are progressing. CNS completed testing and resumed fabrication of the MD-2 container.

CNS executed the removal of more than 350 kg of HEU, most notably completing one of the largest shipments in Remove Program history from a key partner in Europe; the first HEU shipment from Kyoto University; and a HEU shipment from Canada. CNS also removed Teflon coating from 3 cans of HEU plates, demonstrating the effectiveness of the technique. CNS provided excellent support for the operational aspects of the Mobile Uranium Facility (MUF), providing operational insight during the development of an innovative mobile UF<sub>6</sub> capability and leading a first-ever uranium precipitation training event for MUF personnel.

CNS produced 4 of 27 uranium-molybdenum castings for the U.S. High Performance Research Reactor Project before casting was suspended due to molybdenum (Mo) rod feedstock received from a supplier containing higher levels of Cadmium than certified. CNS addressed Mo vendor quality issues, and NNSA agreed to move the remaining castings into FY20. CNS expanded work and shared technical expertise with DOE partners in the development of domestic Mo-99 production capabilities using LEU.

CNS delivered 34 on-site training classes, including Alarm Response and Personal Radiation Detection. CNS provided expert support to NNSA's Silent Thunder exercise series. CNS supported a large portfolio of nuclear nonproliferation research and development efforts, including advanced enrichment technology and plutonium production detection. CNS provided significant subject matter expertise to implement nuclear security in several functional areas, to include insider threat, transportation security, and sabotage.

CNS provided outstanding leadership and execution support for the multi-site Portal Monitor for Authentication and Certification (PMAC) project and PMAC demonstration at the Pantex Plant in November, and ongoing support to the International Partnership for Nuclear Disarmament Verification. CNS successfully enabled the Office of Nuclear Incident Response to perform its operational mission to support numerous drills and exercises. CNS supported Radiological Assistance Program Training for Emergency Response training, the NNSA response to the University of Washington Harborview contamination incident, and the NNSA response to the Piketon, Ohio radiological survey.



**Goal-3: DOE and Strategic Partnership Projects Mission Objectives**

Successfully execute high-impact work for DOE and Strategic Partnership Project 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 99%. There is no award fee associated with this goal. CNS exceeded almost all of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate. Accomplishments significantly outweigh very minor issues. No significant issues in performance exist.

CNS made excellent progress pursuing and performing high-impact work in support of DOE and Strategic Partnership Program mission objectives.

Feedstock deliveries for Naval Reactors were packaged and delivered ahead of schedule, and all castings for FY19 were completed. CNS exceeded both the goal and stretch goal for production of oxide for the Oak Ridge National Laboratory (ORNL) High Flux Isotope Reactor, producing 141 kgs, the most since 2005.

The CNS NBL Center (NBLC) received 25 drums of certified reference materials (CRMs) from Argonne National Laboratory, and the second lot of Department of Homeland Security CRM samples were moved from ORNL to the NBLC. An additional 14 drums were delivered to another storage facility at Y-12. More than 42 CRM samples (~8,000 nuclear items) are now available to support nuclear security, national security, and nonproliferation programs. NNSA formally lauded CNS for its "high standards in work ethic, creativity, and focus on continued improvement" in its execution of this worldwide mission.

CNS produced, packaged and shipped enriched uranium to France (for Belgium), to a commercial vendor in the United Kingdom, and to Indonesia. CNS also shipped eight drums of lithium hydroxide solution to a commercial vendor in support of the Tritium Sustainment Program.

CNS is executing 75 deliverables in support of other government agencies on schedule. CNS completed multiple major critical path milestones for the White Sands Missile Range/Fast Burst Reactor Upgrade project, including production casting, testing and machining of a depleted uranium molybdenum safety block, a determination that the Physical Vapor Deposition facility will be pursued, and ensuring equipment procurement and site preparation remain on schedule.

CNS built two PT3854 testers for the Air Force. CNS conducted a Radiological and Nuclear Detection Course for the 61st Civil Support Team at the Y-12 Central Training Facility. CNS provided weapon of mass destruction training to the Navy's 21st Explosive Ordnance Disposal Team and provided radiological source support to the Navy Expeditionary Combat and Command Unit in San Diego, California.

The Nuclear Production Field Intelligence Element conducted six courses for the Intelligence Community.

**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%. There is no award fee associated with this goal. CNS exceeded almost all of the significant award-fee criteria and has met overall cost, schedule, and technical performance requirements of the contract in the aggregate. Accomplishments significantly outweigh very minor issues. No significant issues in performance exist. CNS maintained excellence as demonstrated by the follow examples.

CNS made excellent progress pursuing and performing execution of Site Directed Research and Development activities which advanced several significant initiatives for uranium, lithium, and high-explosives operations; deployed new technologies to Production; expanded collaborations and partnerships with external organizations and universities; and published and patented innovative ST&E. CNS enhanced integration across the DOE/NNSA enterprise and external partners as evidenced by 34 of the 87 CNS Plant Directed Research and Development and Demonstration (PDRD) projects leveraging strategic partnerships with universities, industry, and the DOE/Nuclear Security Enterprise (NSE). CNS also hosted two PDRD Mid-year Program Reviews, with personnel from the Atomic Weapons Establishment; Office of Engineering and Technology Maturation; three NNSA sites, and Texas A&M University.

Eight PDRD projects are available for deployment or transfer to another funding source such as Enhanced Surveillance Campaign and Component Maturation Development. Established small-scale wet chemistry in Development, purifying 1,696 kg of lithium chloride against a milestone of 1,500 kg and scaled thermal decomposition and distillation (TDD) to the kilogram level.

Advances in Additive Manufacturing (AM) included enhancements within the requirements of AM for mock materials resulting in a faster and more economical approach for fabrication and improvements to the depleted uranium wire-making capability that resulted in an increased level of wire production for Y-12 and LANL experiments. Other major accomplishments included Vacuum Arc Remelting and Electron Beam AM capabilities and enhancements to digital transformation capabilities to include developing an improved approach towards the utilization of streak and framing cameras as the primary methods of data collection for High Explosive surveillance shots.

CNS designed and procured GEN II Cell in support of the direct electrolytic reduction project, and designed and installed GEN IV Cell in support of the electrorefining project.

CNS deployed a pilot of the Strategic Technology Transition Plan process on a complex alternate material technology project to help ensure successful development and transition to Production.

CNS completed 61 invention disclosures and IdeaEZ submissions, 26 technology/nondisclosure agreements, 5 new patents, 7 new patent applications, 2 copyright assertions, and 11 papers accepted for publication by peer reviewed journals or conferences.

The CNS PDRD program completed the FY20 portfolio selection process, comprising 41 new and 54 continuing projects, for a total of 95 projects (35 for Pantex and 60 for Y-12).

**Goal 5: Mission Enablement**

Effectively and efficiently manage the safe and secure operations while maintaining an NNSA enterprise-wide focus; demonstrating accountability for mission performance and management controls; successfully executing cyber 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.

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

Under this goal, CNS earned a rating of Satisfactory and 50% of the award fee allocated to this goal. CNS has met overall cost, schedule, and technical performance requirements in the aggregate but significant issues in performance exist. Issues outweigh accomplishments.

Significant performance issues across multiple critical, high risk, mission enabling functions such as cybersecurity, conduct of operations, nuclear safety, and quality assurance, reveal a negative performance trend along with a pattern of inadequate oversight and management controls creating vulnerabilities that jeopardize consistent safe and secure operations.

NNSA has lost confidence in CNS' ability to implement an effective IT/Cybersecurity program due to a continued decline in performance. CNS began the performance period already in the midst of a negative trend in this area yet could not develop and implement an effective corrective action plan. Serious program deficiencies remain unabated. The recent NNSA assessment identified numerous findings and opportunities for improvement and documented CNS' failure to permanently correct critical cybersecurity performance issues. CNS has not made any substantial progress in fixing the program itself. NNSA was forced to revoke CNS authority to approve IT and cybersecurity activities in 2016 and, based on continued performance problems as documented in the recent assessment, NNSA continues to require review and approval of all actions by a federal authorizing official. CNS' inability to effectively manage daily IT/Cybersecurity operations, combined with the sheer volume of outstanding weaknesses, resulted in a cascade of problems straining available resources and negatively impacting mission support.

The FY19 NNSA Assessment report stated that "Risks related to previously identified issues have become further realized in FY19." Specifically, NNSA identified a wide range of new and repetitive problems through its program assessments this year. Repetitive problems included: continued attrition of key personnel, inaccurate representation and reporting of information systems, inability to demonstrate effective management of the cybersecurity program budget, and deployment of technologies without sufficient cyber protections. Issues newly identified in this year's assessment included: ineffective application and testing of security controls for offsite information systems, loss of equipment, mismanagement of privileged authenticators and accounts, ineffective media controls, inadequate separation in architecture designs, inadequate protection of switches, ineffective cybersecurity monitoring, and ineffective incident response and reporting. The persistent and unresolved problems, along with additional, newly identified significant issues, make it clear that CNS' IT/Cybersecurity performance is unsatisfactory and introduced unnecessary and unacceptable risk to the Nuclear Security Enterprise.

A negative conduct of operations (CONOPS) trend resulted in violations of Technical Safety Requirements (TSR), Nuclear Explosive Safety (NES) requirements, and criticality safety requirements. Key weapon components were ruined due to inadequate CONOPS. CNS formed a review team to evaluate causes and develop corrective actions. Formality of operations issues have resulted in recurring problems due to a failure to resolve root cause issues. Lack of follow up on corrective measures has led to repeat incidents.

Consolidated Nuclear Security, LLC (CNS)  
FY19 PER

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At a minimum, mismanagement of overtime and fundamental timekeeping processes resulted in significant overcharges, additional cost, and reduced productivity. In addition to the significant performance issue this failure represents, it raises serious questions about the rigor and effectiveness of CNS' process control, self-assessment, and management oversight.

Nuclear Safety at Pantex and Nuclear Criticality Safety (NCS) at Y-12 have performance issues necessitating further improvement. CNS effectively executed the majority of the corrective actions following uranium accumulation discoveries; however, two significant areas of improvement have not been adequately addressed (process drift and operator training/knowledge of basis for criticality safety controls) resulting in continued risk of recurrence. CNS updated Criticality Safety Evaluations as part of an effort to improve NCS. CNS supported the NNSA Pantex Safety Basis Redesign effort and implemented processes to address quality issues helping to reduce the re-work of nuclear safety basis documents. CNS completed corrective actions to address Pantex safety basis issues on time. CNS improved staffing and qualification for nuclear and criticality safety engineers.

Improvements are needed to reduce injuries, hazardous material exposures, and vehicle incidents. CNS improved radiological stewardship; however, efforts to reduce personnel contamination rates in operations have not been effective. CNS took required actions to address self-identified legacy issues with waste shipments which violated Nevada National Security Site Waste Acceptance Criteria. CNS applied the cross-functional Quality Management System to improve Quality Assurance effectiveness. NQA-1 corrective actions are underway; however, continued focus is needed on Software Quality Assurance improvements and management of non-conforming items. While there has been improvement in fire protection compensatory measures, CNS still needs to improve unresolved signals, repair disabled fire alarms and restore systems out of service.

CNS accepted nonconforming material on the Calcliner project without following proper inspection protocols including those required for Nuclear Quality Level "Q" items. Several CNS material requirements in the Commercial Grade Dedication Plan were not met. CNS did not conduct required weld inspections at the fabrication facility and did not conduct proper inspection and evaluation upon receipt at the project prior to installation. This is a serious violation of nuclear quality material inspection requirements placing the project at risk and resulting in costly rework and necessitating an Extent of Condition review.

CNS managed 322 projects while achieving beneficial occupancy on 77 projects and effectively developed area plans to support the 2020 Master Asset Plan. However, CNS' project planning and management practices at Pantex resulted in some projects that failed to meet their baselined cost, scope, and schedule. Examples include a significant cost increase for the Bay and Cell Safety System Modernization project portfolio and the Zone 4 Restroom Project. CNS only completed 56% of planned direct funded disposition projects. Additionally, lack of available Security escorts to support projects at Pantex caused some project completion and execution delays. CNS real estate documentation lacks quality, creating unacceptable delays. CNS is deploying new Predictive Maintenance technologies and responded well to key equipment failures.

CNS played a key role in helping NNSA achieve DOE HQ's sustainability goals to help lead the way in clean energy and energy efficiency. CNS supported significant Energy Savings Performance Contracts work and received the Sustainability Champion Award. CNS enabled the Roof Asset Management Program to finish work two months ahead of schedule and provided support through coordination of activities and reviews. CNS struggled to implement some asset reliability improvements but began to make discernable progress. Computerized Maintenance Management System integration with BUILDER was completed. CNS is executing Special Tooling maintenance process action plans.

While CNS met expectations on five of six capital asset projects, the Calcliner project was below

Consolidated Nuclear Security, LLC (CNS)  
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expectations on authorized work, which was over budget, behind schedule, and experienced serious quality deficiencies. CNS also supported the development and execution of High Explosive Science and Engineering, High Explosive Synthesis Formulation and Production, the Material Staging Facility, the Lithium Processing Facility, Electrorefiner, and West End Protected Area Reduction projects. Additionally, CNS initiated the Fire Station and Emergency Operations Center pilot projects.

CNS successfully completed an Office of Enterprise Assessment multi-topic assessment (demonstrating significant improvements from the previous review) and challenging first-of-a-kind limited notice performance tests, effectively executed a multi-agency Nuclear Weapons Accident/Incident Exercise, and continued to properly respond to real-world events involving unauthorized access. CNS effectively protected special nuclear material and classified matter. Projects in the construction phase addressing aging security infrastructure continued on schedule and under budget. CNS significantly improved the quality of Annual Operating Plan submittals and led NNSA efforts in implementing the Zero Based Budget approach for all Safeguards and Security topics. Management attention and improvement is needed in the areas of Technical Security, accuracy in security plan execution, effectiveness of Human Reliability Program reduction efforts, and reducing the trend of Incidents of Security Concerns involving properly securing facilities.

CNS completed all Government Performance and Results Act milestones early or on time. CNS made key contributions to financial integration and implemented new metrics to monitor cost transfers, supporting cost savings program audits via in-depth data and briefings demonstrating programmatic rigor and maturity. NNSA identified inconsistent application of charging practices related to guard escorts and execution of appropriate project charging guidance, resulting in delays. CNS entered into two mentor-protégé agreements. CNS negotiated six new labor agreements without mission disruption. Several benefit deliverables are overdue raising NNSA concern due to the tardiness potentially impacting plan costs and qualification. Vendor Managed Inventory and Amazon for Business applied a more strategic approach to expediting commercial procurements. CNS failed to meet their overall small business target and failed to meet three of five socioeconomic goals. CNS managed legal risk efficiently and effectively as evidenced by winning an appeal involving a pension calculation and managing an appellate case on its Paid Time Off policy.

**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 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 Pantex and Y12 and the Enterprise.

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

Under this goal, CNS earned a rating of Satisfactory and 50% of the award fee allocated to this goal. CNS has met overall cost, schedule, and technical performance requirements of the contract in the aggregate but significant issues in performance exist. Issues outweigh accomplishments.

Overall, CNS leadership failed to correct significant longstanding performance issues in multiple high risk areas including cybersecurity and conduct of operations resulting in security and criticality safety violations. At a minimum, CNS leadership and oversight processes failed to timely identify and address a serious abuse and mismanagement of overtime and time keeping irregularities resulting in overcharges, significant unnecessary costs, reduced productivity, and the extended unavailability of a substantial number of critical production technicians. This issue, years in the making, represents a serious breach of leadership and management accountability, the full extent of which is not yet known. Substantial and immediate leadership focus is needed in the area of cybersecurity to ensure the NNSA mission is not adversely impacted. NNSA is concerned with the lack of consistent leadership and the ability to coalesce the varied actions and plans to progress cybersecurity to the proper state of performance. Despite NNSA focus on the consistently unsatisfactory performance of CNS' cybersecurity program, CNS's leadership has not corrected discrepancies while performance in this critical area continued to degrade resulting in an unacceptable level of risk. The measures and protections implemented are not in accordance with programmatic documentation and do not achieve the required level of security, nor the intended standardization and consistency between the Y-12 and Pantex programs. Leadership attention is necessary to improve technical security program implementation, COMSEC, and continue improvements in information security; effect appreciable reduction in Human Reliability Program participants; and reduce the trend in Incidents of Security Concern. A negative trend in CONOPS manifested in violations of TSRs and NES requirements, pauses and interruptions in production, and threatened mission delivery.

CNS leadership was proactive in aiding the complex to respond to a B61-12/W88 Alt 370 issue. CNS worked through procedures to enable a "First Production Capability Unit," identified additional storage capacity to receive components produced on baseline schedules to minimize "day for day" impact to Last Production Unit, and identified other work that can be expedited to benefit the complex while waiting on other key components. CNS leadership offered solutions when CNS recognized they might not meet deliverables or identified concerns.

CNS demonstrated transparency with prompt reporting upon discovery of a waste characterization issue. Response to the waste characterization issues were effective with a self-initiated pause in shipments, extensive stakeholder coordination and support for visits, and conduct of a rigorous investigation and extent of condition evaluations.

CNS supported many NSE initiatives. These included NNSA Safety Roadmap initiatives, the Operations and Efficiencies Board, the Operating System Working Group, Safety Culture Improvement Panel, and significant support with SPO contingency forces to two labs and one site. CNS actively participated in the NSE Workforce Recruitment Strategy Team to improve recruiting pipelines and employer branding. CNS implemented electronic weapon container data exchange with the Savannah River Site, which completed a NSE Weapons Activity integration milestone and enabled next-phase purchase order automation.

Consolidated Nuclear Security, LLC (CNS)  
FY19 PER

June 12, 2020

CNS continued Performance Excellence (PE) training modules and integration of PE and Human Performance Initiative into Security Culture initiatives. CNS Analytics Hub was matured; however, improvements to review and analyze data to identify negative performance trends is needed, in multiple areas such as CONOPS. CNS completed Tools for Opportunities – Performance Improvement through Communication releases for Internal Correspondence, Assessments, Events; however, CNS did not deploy Issues Management as planned.

CNS increased Parent Company involvement to support multiple areas from Mission Engineering, the Pantex Safety Basis CAP, and the Parent Oversight Functional Management Review that identified many opportunities for leveraging parent resources. Continued attention is needed to improve the Issues Management process as noted in the open NPO Management Concern.