



National Nuclear Security
Administration

National Technology and
Engineering Solutions of
Sandia, LLC

Performance Evaluation
Report (PER)

NNSA Sandia Field Office

Evaluation Period:
October 1, 2019 – September 30,
2020

November 25, 2020

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Executive Summary

This Performance Evaluation Report (PER) provides the National Nuclear Security Administration (NNSA) assessment of the National Technology and Engineering Solutions of Sandia, LLC (NTESS) performance of the contract requirements for the period of October 1, 2019 – September 30, 2020, 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 NTESS and NNSA Program and Functional Offices both at Headquarters and in the field.

NTESS earned an overall rating of Very Good during this performance period. NTESS earned Excellent ratings for Goals 2, 3, and 4, and Very Good ratings for Goals 1, 5, and 6. Specific observations for each Goal are provided in the following pages.

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.

NTESS Amount of At-Risk Fee Allocation: \$3.24M

Under this goal, NTESS earned a rating of Very Good with a percentage of 87%. NTESS achieved many accomplishments that greatly outweigh performance issues. NTESS generally met performance expectations within expected cost. For Defense Programs high priority items listed in the Getting the Job Done List (GTJDL), NTESS met the majority of performance requirements, with no significant issues. Performance is trending positive relative to FY19 performance.

Accomplishments:

NTESS successfully completed all required weapon system maintenance, critical stockpile surveillance, and qualification tests to support the annual stockpile assessment (Cycle 24) on the GTJDL, including multiple tests at the Weapons Evaluation Test Laboratory and Tonopah Test Range. NTESS made substantial progress on closing multiple Significant Finding Investigations to ensure stockpile viability. NTESS completed and qualified six controls to mitigate process safety concerns to enable resumption of B83 Disassembly and Inspection operations at Pantex. NTESS completed all Neutron Generator production requirements for FY20 and took the lead in development of B83 lifetime extension options with cost and schedule estimates.

NTESS effectively overcame numerous production challenges across the nuclear weapons enterprise as the Nation was responding to the COVID-19 pandemic. NTESS successfully supported the W88 Alteration (ALT) 370 and B61-12 Life Extension Program (LEP) First Production Capability Unit (FPCU) builds at Pantex, enabling NNSA to achieve FPCU and

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reduce risk to the First Production Unit (FPU) and follow-on rate production. NTESS successfully managed B61-12 LEP joint testing and aircraft integration functions to maintain the critical path to design certification and support non-nuclear component production. NTESS' efforts greatly contributed to the successful Final Design Review and Acceptance Group review. NTESS successfully integrated the W87-1 program into the Ground Based Strategic Deterrent (GBSD) Flight Test matrix to achieve a significant cost avoidance. NTESS successfully collaborated with the United States Air Force (USAF) to complete the GBSD/Mk21A/W87-1 Interface Agreement Document for the USAF Customer Requirements Review, and responded to a Congressional request for a JASON letter report on the W87-1 program and qualification planning. NTESS met a GTJDL requirement by completing all the Conceptual Design Reviews and Conceptual Design Gates for the W80-4 warhead components. In support of the captive carriage Joint Flight Tests, NTESS completed testing, assembly, and delivery of three W80-4 Environmental Test Units to the USAF ahead of schedule.

NTESS maintained an aggressive schedule to qualify parts to recover from technical issues associated with the base metal electrode (BME) capacitor used in components for the B61-12 LEP, W88 ALT 370 Program, and Mk21 Replacement Fuze Program. NTESS successfully assisted the Kansas City National Security Campus (KCNSC) and Los Alamos National Laboratory (LANL) in improving prediction accuracy of the forging process for gas transfer system parts to eliminate future build-test cycles for validating the strength of forged parts.

NTESS proactively prioritized the Mobile Guardian Transporter (MGT) and successfully completed the series of planned normal environment tests and crash test on the first MGT prototype. In addition, NTESS received the second MGT prototype rolling chassis and completed a portion of the critical sites visit necessary to ensure inter-operability of the chassis.

NTESS strongly supported the NNSA effort to implement Integrated Surety Architecture by accepting additional production scope and aggressively coordinating with Nuclear Security Enterprise (NSE) partners to complete design and qualification activities.

NTESS effectively supported nuclear weapons programs by leveraging its foundational weapons science and technology capabilities, providing the science and engineering basis for qualification of the stockpile. NTESS applied comprehensive science and engineering capabilities to increase confidence in performance and survivability of nuclear deterrence systems. NTESS made notable progress in strengthening capabilities in the areas of experimental sciences, material diagnostics, radiation effects, electrical sciences, advanced simulation and computing, and validation of performance predictions.

NTESS obtained important experimental nuclear sciences data by advancing pulsed power experimental capabilities. These pulsed power capabilities enabled the first Plutonium (Pu) experiment using the new Stripline geometry on the Z facility. With this capability, NTESS reached a major NNSA goal for the Dynamic Material Program by achieving higher peak pressure experiments with higher accuracy dynamic compression measurements to

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increase confidence in stockpile qualification. NTESS demonstrated improved yields and reproducibility of warm x-ray sources on the Z machine, which decreases the uncertainty of high-consequence experimental data related to hostile survivability studies. NTESS moved the Vanguard advanced technology prototype system (Astra) to the classified network, achieving the Advanced Science and Computing and Advanced Technology Development and Mitigation (ATDM) Tri-Lab level-1 milestone to enable testing of weapon codes from all three NNSA labs.

NTESS matured its Weapon Science and Technology (WS&T) Strategy to address pressing nuclear deterrence challenges through capability integration. NTESS developed a new NNSA FY20 strategic framework to help inform NNSA leadership of novel approaches for structuring a new ND 3.0 strategy focused on intellectual leadership, survivable weapons systems, and flexible/responsive stockpile capabilities for our Nation's nuclear deterrence.

Issues:

NTESS did not adequately manage specific production streams for the UCNI (b)(3), (b)(7)(F) resulting in extensive cost overruns. NTESS experienced repeated instances of poor communication of issues and a lack of management escalation, cost management, and adherence to program management requirements.

NTESS experienced multiple UCNI (b)(3), (b)(7)(F) component baseline production delays, increasing risk to meeting full-rate production. Specifically, NTESS contributed to the delays by not proactively working with another site to resolve design/production issues at the Product Realization Team level.

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.

NTESS Amount of Fee Allocation: \$0.81M Available Award Fee

Under this goal, NTESS earned a rating of Excellent with a percentage of 95%. NTESS achieved many accomplishments that significantly outweigh performance issues. NTESS generally met performance expectations within expected cost and with no significant issues. Performance is trending consistent relative to FY19 performance.

Accomplishments:

NTESS effectively supported nuclear, radiological, and physical security projects for domestic and international programs during the COVID-19 pandemic. NTESS developed innovative virtual visit processes and provided tailored support for domestic police departments developing radiological security training programs. NTESS provided critical

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expertise in designing, planning, sustaining, and installing radiation detection system upgrades in Malaysia. NTESS led planning for the annual International Atomic Energy Agency International Training Course on physical protection and the first-ever International Nuclear Security EXPO for foreign partners.

NTESS led the integration of operational payloads onto Department of Defense satellites for the space-based nuclear detonation detection program, and effectively supported two GPS launches of the Global Burst Detector payloads despite COVID-19 travel restrictions. In addition, NTESS achieved significant progress in designing and fabricating the next-generation payload by collaborating with the USAF on technical requirements and implementing critical mitigation measures to overcome supply chain challenges. NTESS conducted high quality research in nuclear detonation detection, such as the fabrication of a seismic calibration system laser isolation platform at Sandia's Facility for Acceptance, Calibration, and Testing (FACT). NTESS successfully led a quad-lab project to gain an understanding of unique material properties supporting equation-of-state model development for emergency response. NTESS significantly enhanced its understanding of nuclear equivalence during Phase I of the Weaponization Advanced Sensing Payload project by identifying unique signatures of interest from threat relevant technologies. In addition, NTESS successfully reconstituted an off-site testbed, and collaborated with the Pacific Northwest National Laboratory (PNNL) to restart a joint experimental campaign to collect near field signatures from a chemical explosion. NTESS co-led the development and implementation of an enterprise-wide strategy to engage nuclear explosion monitoring researchers to improve geophysical monitoring systems by leveraging DNN R&D advancements.

NTESS effectively led the U.S. High Performance Research Reactor Project Quality Assurance Program. NTESS completed three quality assurance assessment visits, with one being performed virtually due to the COVID-19 pandemic.

NTESS adapted to the restricted travel environment due to the COVID-19 pandemic by revising foreign partner engagement strategies and identifying ways to engage remotely on export control outreach. NTESS provided superb support for the review of dual use export license applications and technical reviews of interdiction cases in the nuclear and missile areas. NTESS provided valuable contributions to the Warhead Verification Program in preparation for future Arms Control treaties by leading and sponsoring virtual cross-complex exercises to establish baseline capabilities for future arms control verification regimes.

NTESS effectively managed the Nuclear Counterterrorism Emergency Response Program and Radiological Assistance Program in accordance with national policy by: supporting special requests for information and assistance; responding effectively to radiological and nuclear incident and accident exercises; and providing significant value in planning, participating in, hosting, and executing major interagency exercises. NTESS successfully demonstrated continuity of operations throughout the COVID-19 pandemic. Prior to and during the pandemic, NTESS supported major Nuclear Threat Reduction collaborations with foreign partners that included specialized tools, subject matter expert assessments of

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nuclear threat science, and blind challenge after-action exchanges. NTESS' engagement furthered our Nation's understanding of nuclear threat and nuclear device defeat capabilities. NTESS provided on-call, responsive, and value-added information analysis to inform DOE/NNSA leadership as they developed counterterrorism and counterproliferation policy and recommendations, resulting in the integration of new elements and tools for the NNSA emergency response mission.

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

NTESS Amount of Fee Allocation: DOE - \$1.4M Fixed Fee and Award Fee, SPP - \$11.2M Fixed Fee

Under this goal, NTESS earned a rating of Excellent with a percentage of 99%. NTESS achieved many accomplishments that significantly outweigh performance issues. NTESS generally met performance expectations within expected cost and with no significant issues. Both the DOE and SPP work sustained and strengthened unique capabilities, facilities, and essential skills that support the DOE/NNSA mission. Performance is trending consistent relative to FY19 performance.

Accomplishments:

NTESS delivered innovative and transformative scientific and technological solutions that directly support DOE missions for energy, science, nuclear, economic, and environmental stewardship programs. NTESS helped strengthen grid resiliency and security, and advanced physical and cyber protection of the Nation's energy infrastructure. NTESS completed an assessment of critical utility-scale electrical components in response to Executive Order 13920, which called for securing the U.S. bulk-power system. NTESS provided rapid solutions to the DOE National Virtual Biotechnology Laboratory in support of the global health pandemic. For example, NTESS developed an integrated monitoring, modeling, and analysis capability to track COVID-19 pandemic surges to help inform decisions for detection, diagnostics, sterilizations, testing, and development of reagents and detection platforms. NTESS provided rapid geotechnical assessments to the DOE Office of Fossil Energy in response to the Presidential Directive to fill the U.S. Strategic Petroleum Reserve, mitigating national economic impacts during the pandemic. In addition, NTESS accomplished a major DOE goal to improve vehicle engine efficiencies through discoveries in fluid motion and reaction chemistry dynamics that control ignition in modern diesel engines by using petascale direct numerical simulations.

NTESS performed high-impact SPP for a broad-range of sponsors, enhancing NNSA's core competencies and capabilities, while addressing strategic national security needs for the U.S. and its allies. At the height of the COVID-19 pandemic, NTESS effectively managed SPP resources across the laboratories to continue work on many of the Nation's most

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challenging national security projects. NTESS received recognition from many SPP sponsors for its dedication, resourcefulness, and professionalism exhibited during the pandemic.

NTESS applied a number of its core capabilities to effectively develop new solutions and advance DOE/NNSA technologies. Specifically, NTESS successfully conducted a high visibility hypersonic flight test that demonstrated the technology, highlighting its tremendous potential as a future U.S. mission capability. NTESS concurrently leveraged onsite hypersonic flight system hardware builds to train and transfer the technology to the sponsors' industry partners for production. NTESS improved the functionality and user interface of software that enabled explosive ordnance disposal technicians to interpret x-rays of threat devices with lower risk and higher confidence and speed. NTESS significantly enhanced its modeling and simulation capabilities for DOE/NNSA missions by leveraging its development work on a simulation tool for another government sponsor. NTESS successfully delivered the Mk21 Arming Fuzing final design without conditions, and a replacement flight test unit that demonstrated key flight objectives essential for the NNSA Nuclear Deterrent mission. NTESS successfully fulfilled a DoD Urgent Operational Need to enhance the surety of the stockpile by developing and producing NNSA diamond-stamped hardware.

Issue:

(SPP) NTESS encountered production issues during the Application Specific Integrated Circuit (ASIC) packaging process for the Mk21 Fuze.

Goal 4: Mission Execution: Science, Technology, and Engineering (ST&E) --
Successfully advance national security missions and advance the frontiers of ST&E. Effectively manage Laboratory Directed Research and Development (LDRD) and Technology Transfer, etc. in a safe and secure manner in accordance with DOE/NNSA priorities, Work Authorizations, and Execution/Implementation Plans.

NTESS Amount of Fee Allocation: \$20.28M Fixed Fee

Under this goal, NTESS earned a rating of Excellent with a percentage of 100%. NTESS achieved many accomplishments that significantly outweigh performance issues. NTESS met performance expectations within expected cost and with no significant issues. Performance is trending consistent relative to FY19 performance.

Accomplishments:

NTESS effectively focused its research strategy and investments on current national security needs and applications, while anticipating future technology needs for DOE/NNSA missions. Through its scientific discoveries, NTESS facilitated technology development to address critical mission needs in nuclear deterrence, global security, national defense, homeland security, and energy security. Specifically, NTESS leveraged its ST&E capabilities to support NNSA mission priorities in Research, Development, Testing, and Evaluation (RDT&E) of

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science-based stockpile stewardship, as well as DOE and other federal agency missions. NTESS leveraged technical competencies of the laboratories in response to the global health pandemic by providing numerous and impactful solutions to help counter and respond to the COVID-19 pandemic. NTESS completed a cycle of LDRD mission campaign investment area selections, choosing two new campaigns to develop key capabilities to address high-risk technical challenges associated with future mission needs. NTESS received positive independent reviews from various External Review Boards (ERBs) regarding the research strategy and implementation of core Laboratory Research Foundation capabilities.

NTESS achieved many other ST&E accomplishments that directly advanced stockpile modernization and improved capabilities for weapon applications, qualification, and validation. For example, NTESS demonstrated improved yields and reproducibility of warm x-ray sources in the Z facility, increasing confidence in the experimental data related to hostile survivability studies. In addition, NTESS achieved exceptional scientific breakthroughs that benefit DOE/NNSA missions. Several examples include: development of the vertical gallium nitride diode for nuclear weapons and defense nuclear nonproliferation applications; demonstration of the world's first high-performance nanoantenna-enabled focal plane array detector for global security; discovery of the microstructure of a composite solid lubricant for W80-4 applications; and the invention of a gallium nitride-based electromagnetic pulse (EMP) surge arrestor for electric grid resiliency.

NTESS successfully maintained a vibrant research environment that enhanced technical workforce competencies and research capabilities. NTESS increased university and industrial partnerships to enhance technical capabilities through collaborative research and development.

NTESS successfully managed a Technology Partnerships and Technology Transfer Program that transferred numerous impactful technologies to the public and private sectors. NTESS expedited the transfer of many vital technologies in response to the COVID-19 pandemic, as well as other applications such as microsystems, medical isotope production, hydrogen fuel cells, and detection system technologies. NTESS was recognized for its noteworthy efforts by receiving two Federal Laboratory Consortium (FLC) Excellence in Tech Transfer Awards, an FLC Impact Award, an FLC Outstanding Tech Transfer Professional Award, and the DOE Technology Transfer Working Group (TTWG) Best in Class Award. In addition, NTESS effectively partnered with Triad (LANL) and the State of New Mexico to create the Technology Readiness Gross Receipts (TRGR) tax credit program to promote economic development through DOE/NNSA Tech Transfer by enabling Sandia and Los Alamos laboratory researchers to work with New Mexico companies to mature lab-developed technologies. NTESS' exceptional commitment to technology transfer resulted in: 299 technical advances; 221 patent applications; 167 copyright assertions; 9 commercial licenses; 34 new CRADAs; 133 patents; and 192 government use notices.

Goal 5: Mission Enablement-- Effectively and efficiently manage the safe and secure operations of the Sandia National Laboratories (SNL) 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.

NTESS Amount of Fee Allocation: \$2.43M Available Award Fee

Under this goal, NTESS earned a rating of Very Good with a percentage of 89%. NTESS achieved many accomplishments that greatly outweigh performance issues. NTESS generally met performance expectations within expected cost and with no significant issues. Performance is trending consistent relative to FY19 performance.

Accomplishments:

NTESS achieved substantial completion of the 20th/G Road Intersection Project ahead of schedule while minimizing impacts to the workforce by successfully resolving complex problems and coordinating the planning, traffic safety, and outages with multiple stakeholders.

NTESS partnered with NNSA to meet multiple objectives of the Enhanced Minor Construction Commercial Standards pilot program to streamline the acquisition approach for projects between \$20M and \$50M. In addition to completing typical project deliverables, such as achieving the 30% design milestone for the Emergency Operations Center, NTESS provided key recommendations for cost savings and project efficiencies.

NTESS implemented a redesigned Environmental, Safety, and Health leadership training course that is more personalized, interactive, and job-/organization-specific. By tailoring the training to specific management positions, NTESS provided a forum for over 200 new managers to gain a comprehensive understanding of their roles, responsibilities, accountabilities, and authorities.

NTESS continued to achieve substantial reductions of 50% in radioactive Materials-at-Risk at the Sandia Pulsed Reactor Facility (SPRF), reducing risk and allowing emergency response teams to assemble closer to facilities in response to an accident.

NTESS shipped 11 shielded container assemblies of transuranic (TRU) waste from the Auxiliary Hot Cell Facility to the Waste Isolation Pilot Plant (WIPP) to comply with the New Mexico Environment Department (NMED) Site Treatment Plan, reducing TRU waste containers in the facility by 44%.

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NTESS demonstrated exceptional leadership in developing a comprehensive Site Curtailment/Load Shedding Plan within an accelerated timeline in response to an emergency power shortage event at Kirtland Air Force Base (KAFB). The 377th Air Base Wing adopted the plan as a model for responding to future power shortages.

In response to the COVID-19 pandemic, NTESS Health Services stood-up a pandemic team and drive-thru testing capability, processing over 2700 COVID-19 tests for DOE/NNSA/NTESS employees and contractors. NTESS also launched a new health check app for all employees to self-monitor and report. NTESS provided resources to help foster productive and extended telecommuting, resulting in less than 1% of employees charging non-productive time. NTESS minimized the impact to employees through cost-neutral strategies, such as a temporary emergency employee vacation donation program that allowed employees to donate time to others in need.

NTESS assisted LANL in making major improvements to its security program by developing a system for implementing un-cleared Personnel Identification Verification reporting requirements, enabling LANL to reduce risk by ensuring only individuals with the proper clearances have access to NNSA facilities and systems.

NTESS partnered with the DOE National Training Center to allow students in a nuclear materials training course to observe an actual physical inventory of special nuclear material, creating a more fulfilling and meaningful learning experience for the students. This represents the first physical inventory of nuclear materials training hosted in an actual working environment for DOE/NNSA.

NTESS led an NNSA-wide mission growth analysis effort that clearly articulated security program resources needed to support mission growth across the complex, enabling NNSA leadership to make more informed funding decisions for security programs.

NTESS provided novel approaches to address cybersecurity technical issues and limitations during the pandemic, enabling its workforce to continue operations across the laboratories. In collaboration with NNSA, NTESS resolved a multitude of issues with providing remote access and communications solutions for the workforce during this unprecedented time.

As the NNSA Center of Excellence for Cybersecurity, NTESS quickly analyzed and completed detailed reports to share with the NSE regarding the risks of the Ripple/Treck vulnerabilities. NTESS provided in-depth incident response support to a DOE institution, conducting a rigorous analysis of forensic evidence to establish the extent of condition and path forward.

NTESS exceeded its overall Small Business goal as well as goals in all five categories (Small Disadvantaged Business, Woman Owned Small Business, Historically Underutilized Business

Zone, Veteran-Owned Small Business, and Service-Disabled Veteran-Owned Small Business).¹

NTESS achieved 176.5% of its strategic cost savings goal, representing 41.4% of the NNSA total cost savings, which significantly contributed to NNSA exceeding its goal.

DOE recognized NTESS with an Honorable Mention Award for Sustainability and a Sustainability Award for the Data Center project, which achieved LEED Gold certification through the utilization of a ThermoSyphon Cooling System, saving over 195,000 KWh and 550K gallons of water in its first six months of operation.

Issues:

NTESS organizations did not integrate multiple disciplines to consistently ensure mission support requirements were being met early in the facility planning process. Several examples include: inadequate planning and transportation of pyrophoric chemicals from the WIPP to Socorro, New Mexico; insufficient coordination to complete the SPRF Fire Protection Project; and unauthorized removal of vegetation at TA-IV.

NTESS did not properly comply with environmental requirements prior to beginning outdoor construction. Several examples of this negative trend include: disturbing and subsequently destroying an active nest at the SP08 sprung structure; removing five trees at TA-I without authorization; and lacking NEPA coverage, a historic building review, and a biological survey for the building 840 sidewalk replacement and canopy construction.

NTESS experienced delays in addressing long-standing corrective actions related to a 2012 Non-Compliance Tracking incident associated with 10 CFR 851 at Building 905, completing only six of eleven corrective actions.

NTESS continued to experience inconsistent formality of operations as evidenced by inadequate electrical hazard recognition and work planning. Several examples include: an employee inappropriately removing the cover of an energized 480V panel; an employee who had not been trained in recognizing capacitors experiencing an electrical shock; and a subcontractor working on energized electrical equipment without conducting an electrical risk assessment. NTESS is executing its Electrical Safety Improvement Plan to address these issues by: increasing the number of Electrical Safety Advisors from 30 to approximately 200; enhancing rigor of the Qualified Electrical Worker Annual Assessment process; revising policy to include additional guidance for capacitor safety controls; and improving training to meet requirements in the National Fire Protection Association (NFPA) 70E, Standard for Electrical Safety in the Workplace.

NTESS experienced work planning and control issues with subcontractor construction safety. Examples include: renovating a facility without identifying the asbestos hazard, and

¹ This information was not considered for the Award Fee for this goal because the Contract has a separate Small Business Incentive Fee.

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torch cutting on an elevated platform without NTESS work package approval. To address these issues, NTESS realigned construction safety oversight functions to ensure subcontractors are properly trained to conduct the appropriate hazard analyses to implement work planning controls.

NTESS is making progress in developing a comprehensive vision and system for emergency management to address recommendations identified during the FY19 post-exercise program review. Although there is notable progress, improvements in emergency management have not yet been fully realized.

NTESS developed the TEAM Review process to improve legal sufficiency of contract document submissions, though improvements cannot be verified by NNSA as no documents have been submitted under this new process.

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 NTESS 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 Sandia National Laboratories and the Enterprise.

NTESS Amount of Fee Allocation: \$1.62M Available Award Fee

Under this goal, NTESS earned a rating of Very Good with a percentage of 85%. NTESS achieved many accomplishments that greatly outweigh performance issues. NTESS generally met performance expectations within expected cost and with no significant issues. Performance is trending positive relative to FY19 performance.

Accomplishments:

Since the start of the COVID-19 pandemic, NTESS displayed outstanding leadership in support of the nuclear enterprise and the overall national response to the pandemic. NTESS immediately took actions at the beginning of the pandemic to scale down operations to protect the workforce, while closely collaborating with the Sandia Field Office, NA-10, NA-20, NA-80 and other critical national security customers to ensure mission critical and time-sensitive work continued. NTESS quickly instituted the right balance of accomplishing mission critical work and maximizing telework for its 13,000+ workforce. NTESS proactively worked with all program sponsors to prioritize mission essential deliverables, saving valuable time and resources by avoiding reductions or restarts in important mission operations. When positive COVID-19 cases were identified, NTESS acted quickly and effectively to minimize the issue within the workforce and quickly returned facilities to a safe status in order to continue critical work. NTESS was extremely proactive in using numerous mechanisms to establish and fund projects that supported the local, state, and

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national response to the pandemic. Many of NTESS' initiatives were important to the Nation's success in minimizing the effects of the COVID-19 pandemic.

As the co-lead for the NSE Workforce Recruitment Strategy Group, NTESS facilitated transforming the NSE recruiting events to virtual events in response to the COVID-19 pandemic restrictions, to include the first NNSA/NSE job fair. NTESS also shared best practices across the NSE associated with transitioning student interns to virtual workers.

NTESS garnered NNSA's first-ever approval of an Alternative Methodology (AM) for completing a Documented Safety Analysis (DSA). NNSA HQ recognized the achievement as a "Landmark approval granted to SNL reactor facilities." Serving as the model for other sites to follow, the AM enables a more tailored approach to unique hazards and needs of reactor facilities, while complying with the requirements of 10 CFR Part 830.

NTESS demonstrated enterprise leadership by serving as the working group lead to develop an enterprise-wide approach to manage fraud risks. With stakeholders from DOE, NNSA Headquarters, and five laboratories/sites, NTESS completed the environmental scan phase of current fraud risks and mitigation strategies by assessing 11 functional areas identified by the working group as being high risk for financial and non-financial fraud. The results will enable the working group to identify areas requiring enhanced fraud risk management practices.

Issues:

NTESS continued to experience a lack of formality in operations at TA-V, though improvements have been realized. Operational availability of the ACRR was significantly decreased this year due to uncertainties related to safety systems and issues with Safety Management Programs (e.g., Nuclear Facility Maintenance Program, Hoisting and Rigging Program, and Conduct of Operations Program). Several examples of positive progress include: continued execution of the TA-V Continuous Improvement Plan; NNSA conditional approval of the Nuclear Maintenance Management Program; and completion of a corrective action plan for the Fire Protection Program.

NTESS did not provide executable project plans for the Microsystems Engineering, Science and Applications (MESA) Complex facilities to support the NNSA FY22 Future Years Nuclear Security Programs budget cycle, contributing to the delay in recapitalizing the MESA Complex and increasing risk to the NNSA microelectronics capability. In addition, NTESS did not effectively manage direct maintenance funding for sustaining the MESA capability as evidenced by a 40% funding carryover at the end of the fiscal year.

NTESS experienced a high volume of unauthorized network based transmission (UNBT) incidents where a Derivative Classifier (DC) review did not occur prior to creation, transmittal, or dissemination of documents, thereby increasing the risk of information loss.

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NTESS did not effectively collaborate with another site to assist the NNSA Independent Review Team and the DOE Office of the Inspector General in the investigation and causal analysis of the flat flex cable.

NTESS is over budget and behind schedule on its portion of the Enhanced Capabilities for Sub-Critical Experiments Advanced Sources and Detectors project (ECSE/ASD). This contributed to the overall project being over budget by \$5.8M and behind schedule for the CD-2/3 milestone by three months.

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