Fiscal Year 2017
DOE/NNSA Strategic Performance Evaluation and Measurement Plan (PEMP)

Lawrence Livermore National Security, LLC

MANAGEMENT AND OPERATION OF THE

Lawrence Livermore National Laboratory

Contract Number: DE-AC52-07NA27344

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FY 2017 Performance Evaluation and Measurement Plan

Document Revision History

Revision	Date	Change Description

INTRODUCTION

Lawrence Livermore National Laboratory is a Federally Funded Research and Development Center (FFRDC) owned by the United States Department of Energy (DOE), herein referenced as the Laboratory, and is managed by Lawrence Livermore National Security, LLC (LLNS). Pursuant to the terms and conditions of the Contract, this NNSA Performance Evaluation and Measurement Plan (PEMP) sets forth the criteria in which LLNS will be evaluated and upon which the determination of the amount of award fee earned shall be based. The available award fee amounts for FY 2017 are specified in Section B, Supplies or Services and Prices/Costs, of the contract. This PEMP promotes a strategic governance and oversight framework based on prudent management of risk, accountability, transparency, and renewed trust. It has been written to implement the collective governance and oversight reform principles as expressed by the DOE/National Nuclear Security Administration (NNSA).

PERFORMANCE BASED APPROACH

DOE/NNSA will use a performance-based approach to evaluate LLNS' performance. The performance-based approach is comprised of Goals, Objectives, and Key Outcomes (KOs) that will be measured against authorized work in terms of cost, schedule, and technical performance, as well as respective outcomes, demonstrated performance, and impact to the DOE/NNSA mission.

MISSION

LLNS shall manage, operate, protect, sustain and enhance the Laboratory's ability to function as a NNSA Multi-Program Laboratory, while assuring accomplishment of the Laboratory's primary mission - strengthening the United States' security through development and application of world-class science and technology to enhance the nation's defense and to reduce the global threat from terrorism and weapons of mass destruction. LLNS shall, with the highest degree of vision, quality, integrity and technical excellence, maintain a strong, multi-disciplinary scientific and engineering base responsive to scientific issues of national importance in addition to national security responsibilities, including broadly based programs in such areas as the environment, national infrastructure, health, energy, economic and industrial competitiveness, and science education.

MISSION PERFORMANCE

LLNS is accountable for and will be evaluated on successfully executing mission work in accordance with applicable DOE/NNSA safety, quality, and security requirements consistent with the terms and conditions of the Contract. Protection of worker and public safety, the environment, and security are essential and implicit elements of successful mission performance. Accordingly, safety and security improvements and accomplishments are integral to mission performance and will be evaluated in meeting all Goals. The model for this PEMP is to rely on LLNS' leadership to use appropriate DOE contractual requirements and recognized industrial standards based on consideration of assurance systems, and the related measures, metrics, and evidence. **LLNS is expected to manage in a safe, secure, efficient, effective, results-driven manner, with appropriate risk management and transparency to the government, while taking appropriate measures to minimize costs that do not compromise core objectives and mission performance.** Quality products and services are expected to be delivered on-schedule and within budget.

CONSIDERATION OF CONTEXT IN PERFORMANCE EVALUATION

The evaluation of performance will consider "context" such as unanticipated barriers (e.g., budget restrictions, rule changes, circumstances outside LLNS' control), degree of difficulty, significant accomplishments, and other events that may occur during the performance period. A significant safety or security event may result in an overall limitation to adjectival ratings. Such impacts may be mitigated by the response to the incident, and by other initiatives to improve overall safety or security performance.

LLNS is encouraged to note significant safety and security continuous improvements.

PERFORMANCE RATING PROCESS

DOE/NNSA will review performance throughout the performance evaluation period, and provide tri-annual feedback to LLNS highlighting successes and/or needed improvement. At the end of the performance evaluation period, an evaluation of LLNS' performance will be completed and documented in a Performance Evaluation Report (PER). The PER will include the performance ratings for the subject performance evaluation period. Objectives and Key Outcomes will be assessed in the aggregate to determine an adjectival performance rating for each Goal. DOE/NNSA will consider LLNS' end of performance evaluation period self-assessment status report in the performance evaluation. The performance ratings will be determined in accordance with FAR 16.401(e)(3) yielding ratings of Excellent, Very Good, Good, Satisfactory or Unsatisfactory. The Goals will then be considered in the aggregate to provide an overall rating and percentage of award fee earned for the contract. Notwithstanding the overall strategic framework, any significant failure may impact the overall rating and award fee earned.

PEMP CHANGE CONTROL

It is essential that a baseline of performance expectations be established at the beginning of the performance period to equitably measure performance, and that changes to that baseline are carefully managed. Any change to the PEMP requires concurrence by the appropriate program office and the NNSA Senior Procurement Executive prior to the Field Office Manager and Contracting Officer signatures. While recognizing the unilateral rights of DOE/NNSA as expressed in the contract terms and conditions, bilateral changes are the preferred method of change whenever possible.

FINAL DECISION

LLNS may request a face-to-face meeting with the FDO to highlight their site's strategic performance at the end of the performance evaluation period. This meeting should occur within the first two weeks after the end of the period. The Fee Determining Official (FDO) makes the final decision regarding the performance ratings and percentage of award fee earned. This is a unilateral decision made solely at the discretion of the FDO.

TOTAL AVAILABLE AWARD FEE ALLOCATION

Performance Category	Goal	% At-Risk Fee Allocation
Programs	**Goal-1:** Manage the Nuclear Weapons Mission	35%
Programs	**Goal-2:** Reduce Nuclear Security Threats	15%
Programs	**Goal-3:** DOE and Strategic Partnership Project Mission Objectives	5%
Programs	**Goal-4:** Science, Technology, and Engineering (ST&E)	10%
Operations & Mission Execution	**Goal-5:** Operations and Infrastructure	25%
Leadership	**Goal-6: Leadership**	10%

UNEARNED FEE

DOE/NNSA reserves the right to withdraw and redistribute DOE/NNSA unearned fees.

AWARD TERM INCENTIVE

To be eligible to earn available award term LLNS must earn an adjectival score of Very Good or better in four of the six Goals and receive no adjectival score of Satisfactory or lower in any Goal, and further, meet any additional requirements as specified in the LLNS contract.

INNOVATIVE SOLUTIONS

LLNS will recommend innovative, science-based, systems-engineering solutions to the most challenging national and global problems. LLNS will also provide evidence to support programmatic needs and operational goals tempered by risk. DOE/NNSA will take into consideration all major functions including safety and security contributing to mission success. In addition, LLNS is expected to recommend and implement innovative business and management improvement solutions that enhance efficiencies.

Goal-1: Manage the Nuclear Weapons Mission

Successfully execute Nuclear Weapons mission work in a safe and secure manner in accordance with DOE/NNSA Priorities, Program Control Document and Deliverables, Program Implementation Plans, and Weapon Quality Assurance Requirements. Integrate across the Laboratory, while maintaining a DOE/NNSA enterprise-wide focus, to achieve greater impact on strategic national security priorities.

Objectives:

Objective-1.1 Accomplish work as negotiated with program sponsors and partners integrating quality requirements into an effective Quality and Nuclear Enterprise Assurance program at their sites and through their suppliers that results in the design, production, and delivery of safe, secure, and reliable weapon products meeting performance, transportation, and cost effective operations.

Objective-1.2 Maintain knowledge of the state of the stockpile, resulting from successful execution of the stockpile surveillance program and a robust scientific and engineering understanding for the delivery of the annual stockpile assessment.

Objective-1.3 Execute stockpile work to deliver stockpile system maintenance, production, limited-life component exchanges, weapon containers and dismantlements.

Objective-1.4 Demonstrate the application of new strategies, technologies, and scientific understanding to support stewardship of the existing stockpile and future stockpile needs.

Objective-1.5 Sustain unique science and engineering capabilities, facilities and essential skills to ensure current and future Nuclear Weapons mission requirements will be met.

Objective-1.6 Execute Phase 6.X, product realization processes and activities in support of nuclear weapon life extension programs, modifications, and alterations in accordance with NNSA requirements, Nuclear Weapons Council guidance, and NNSA project control processes to 1) integrate schedules; 2) lower risks; 3) control costs; and 4) control change.

Key Outcomes:

KO-1.1 Operate NIF safely, efficiently, and in accordance with the annual Facility Use Plan in support of the Stockpile Stewardship Program.

KO-1.2 Execute stockpile-relevant special nuclear material experiments and integrated experiments including, for example, material property experiments on JASPER and HED facilities and hydrotests on CFF and DARHT, and strengthen the technical foundation for LEP options with a focus on the W80-4.

KO-1.3 Investigate the implementation of multiple diverse hydrodynamic schemes within the context of a single full system code, define and pursue a viable computer science framework as the foundation of a next generation integrated design code, and manage the Sierra contracts effectively, execute the acquisition strategy, and meet all schedule milestones under program control while coordinating closely and regularly with Argonne National Laboratory and Oak Ridge National Laboratory.

KO-1.4 Complete the development of an effective and robust container/Packaging and Transportation program initiated in FY 2015 and ensure that mission needs are met. The DPP-1 Design will support future shipments of WR pits as outlined in the FY 2016 Stockpile Stewardship and Management Plan.

Goal 2: Reduce Nuclear Security Threats

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. Integrate across the NNSA enterprise to achieve greater impact on a focused set of strategic national security priorities.

Objectives:

- Objective-2.1 Support efforts to secure, account for, and interdict the illicit movement of nuclear weapons, weapons-useable nuclear materials and radiological materials.
- Objective-2.2 Support U.S. national and nuclear security objectives in reducing global nuclear security threats through the innovation of unilateral and multi-lateral technical capabilities to detect, identify, and characterize: 1) foreign nuclear weapons programs, 2) illicit diversion of special nuclear materials, and 3) global nuclear detonations.
- Objective-2.3 Support efforts to achieve permanent threat reduction by managing and minimizing excess weapons-useable nuclear materials and providing nuclear materials for peaceful uses.
- Objective-2.4 Support efforts to prevent proliferation, ensure peaceful nuclear uses, and enable verifiable nuclear reductions in order to strengthen the nonproliferation and arms control regimes.
- Objective-2.5 Sustain and improve nuclear counterterrorism and counterproliferation science, technology, and expertise; execute unique emergency response missions, implement policy in support of incident response and nuclear forensics missions, and assist international partners/ organizations.

Key Outcomes:

- KO-2.1 Execute nuclear threat device task list; prioritize implementation of materials work, ensure continued enhancements to standoff disablement experimental and modeling capabilities, and assess open source information.

Goal-3: DOE and Strategic Partnership Project 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.

Objectives:

Objective-3.1 Pursue and perform high-impact work for DOE that strategically integrates with the DOE/NNSA mission, and leverages, sustains and strengthens unique science and engineering capabilities, facilities and essential skills.

Objective-3.2 Pursue and perform high-impact Strategic Partnership Projects that strategically integrates with the DOE/NNSA mission, and leverages, sustains and strengthens unique science and engineering capabilities, facilities and essential skills in support of national security mission requirements.

Key Outcomes:

KO-3.1 Fully leverage LLNL capabilities and demonstrate effective execution of the following: energy, climate, high performance computing, and basic science research work in support of DOE cross-cutting initiatives as follows:

- Grid Modernization programs including energy infrastructure modeling and analysis, critical energy infrastructure recommendations for protection and cyber and physical grid security working with external organizations and laboratories.
- Subsbsurface Technology and Engineering programs including research, development, and field demonstrations emphasizing wellbore integrity, subsurface stress and induced seismicity, permeability manipulation, and new subsurface signals.
- Exascale Computing programs including applications development for critical DOE mission applications, software technology from low-level operational software to high-level applications software development environments, hardware technology including vendor-based efforts, and exascale systems research and development.

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

Successfully advance national security missions and advance the frontiers of ST&E in accordance with budget profile, scope, cost, schedule and risk while achieving the expected level of quality, safety and security. Effectively manage Laboratory Directed Research and Development (LDRD) and Technology Transfer programs to advance the frontiers of ST&E.

Objectives:

Objective-4.1 Execute a research strategy that is clear and aligns discretionary investments (e.g., LDRD) with Laboratory strategy and supports DOE/NNSA priorities.

Objective-4.2 Ensure that research is relevant, enables the national security missions, and benefits DOE/NNSA and the nation.

Objective-4.3 Ensure that research is transformative, innovative, leading edge, high quality, and advances the frontiers of science and engineering.

Objective-4.4 Maintain a healthy and vibrant research environment that enhances technical workforce competencies and research capabilities.

Objective-4.5 Research and develop high-impact technologies through effective partnerships and technology transfer mechanisms that support the Laboratory's strategy, DOE/NNSA priorities and impact the public good ; ensure that reporting and publishing (via DOE's Public Access Plan) requirements for broad availability of federally funded scientific research are implemented.

Key Outcomes:

KO-4.1 Demonstrate that institutional investments, including LDRD, have produced high-impact, innovative R&D results and capabilities that are well aligned with Laboratory missions.

Goal-5: Operations and Infrastructure

Effectively and efficiently manage the safe and secure operations of the Laboratory while maintaining an NNSA enterprise-wide focus; demonstrate accountability for mission performance and management controls; assure mission commitments are met with high-quality products and services; and maintain excellence as a 21st century government-owned, contractor-operated facility.

Objectives:

Objective-5.1 Deliver effective, efficient, and responsive environment, safety, health and quality (ESH&Q) management and processes.

Objective-5.2 Accomplish capital projects in accordance with scope, cost, and schedule baselines.

Objective-5.3 Deliver effective, efficient, and responsive safeguards and security. Deliver effective site emergency management programs in support of the DOE/NNSA Emergency Management Enterprise.

Objective-5.4 Manage NNSA infrastructure to maintain, operate and modernize DOE/NNSA facilities, infrastructure, and equipment in an effective, energy efficient manner that minimizes operational, security, and safety risks. Improve site conditions via: 1) disposition of unneeded infrastructure and excess hazardous materials, 2) increasing the viable use of facilities and equipment, and 3) delivering cost efficient improvements. Demonstrate progress to advance the Department of Energy's crosscut initiative to halt the growth of deferred maintenance and support arresting the declining state of infrastructure while working collaboratively with NNSA to implement management improvements (e.g., G2, MDI, BUILDER, and AMPs). Support NNSA's corporate sustainability and energy conservation goals including use of ESPCs and UESCs.

Objective-5.5 Deliver efficient and effective business operations and systems, financial management, including financial transparency, budget formulation and execution, and internal controls.

Objective-5.6 Deliver efficient and effective management of legal risk and incorporation of best legal practices.

Objective-5.7 Deliver effective, efficient, and responsive information technology and cyber security.

Key Outcomes:

KO-5.1 Implement the institutional work planning and control process with the exception of Nuclear Materials Technology Program (NMTP) operations and procured services. Develop a plan to ensure the long term sustainability of the new process. Establish meaningful metrics and integrate with LFO on the joint master assessment plan for FY18. Demonstrate performance improvements by the end of the fiscal year.

KO-5.2 Improve Nuclear Operations by completing the following activities by the end of the fiscal year:

- Refurbish and redesign the nitrogen gas supply system tank and associated equipment to improve the reliability and cost effectiveness for providing nitrogen to Building 332. Continue to improve the reliability of the Building 332

electrical power by completing the FY 2017 milestones for E410A3 Motor Control Center Replacement Project.

- Safely package 150 TRU waste drums compliant with DOE N 435.1 requirements. As part of the total 150 TRU waste drum count, place priority on repackaging a minimum of 50% (by mass) of attractiveness level D material in B332 into available Pipe Overpacks compliant with the WIPP Waste Acceptance Criteria.

KO-5.3 Support the modernization of Physical Security Infrastructure by upgrading and improving the ArgusNet to be more adaptable and responsive to rapidly changing cyber security threats and stricter cyber security standards.

KO-5.4 Initiate and implement best management practices that strive to:

- Achieve the federal sustainability goals (EO 13693), especially the reduction of potable water use during California's severe drought and the increase of energy and water use efficiency of facilities and the overall site.
- Employ innovative site planning for reducing space to support mission and reduce the NNSA mortgage.

KO-5.5 Support milestones for the improvement of emergency preparedness and response core capabilities and demonstrate site-specific actions to increase overall readiness and performance. Integrate the Headquarters Emergency Management Team and Emergency Operations Center into site exercises and operations.

KO-5.6 Execute the Expand Electrical Distribution System (EEDS) line item capital asset project in accordance with CD-2/3 baseline scope, cost, and schedule. All fees for this multi-year project will be determined provisionally on an annual basis allowing for retroactive fee adjustment pending the final fee determination upon delivery and acceptance. The maximum award fee for this project is established at $750,000, which represents 3% of the estimated total project cost. The interim fee amount allocated to this performance period is $90,000. The annual fee amounts for this project shall be subtracted from the total award fee allocated for Goal 5.

Goal-6: Leadership

Successfully demonstrate leadership in supporting the direction of the overall DOE/NNSA mission, improving safety culture, the responsiveness of LLNS' 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 Laboratory and the Enterprise.

Objectives:

Objective-6.1 Define and implement a realistic strategic vision for the Laboratory, in alignment with the NNSA Strategic Vision, which demonstrates enterprise leadership and effective collaborations across the NNSA enterprise to ensure DOE/NNSA success.

Objective-6.2 Demonstrate performance results through the institutional utilization of a Contractor Assurance System and promoting a culture of critical self-assessment, transparency, and accountability through the entire organization, while also leveraging parent company resources and expertise.

Objective-6.3 Demonstrate leadership engagement in integrating National Security Enterprise (NSE) activities; enhancing cooperation and problem solving among NSE elements; and incorporating best practices and lessons learned from other NSE elements.

Objective-6.4 Exhibit professional excellence in performing roles/responsibilities while pursuing opportunities for continuous learning.

Key Outcomes:

KO-6.1 Reduce the potential for security incidents across the institution by implementing an integrated approach to enhance the laboratory's security culture through personal accountability, critical thinking and continuous improvement activities.