Fiscal Year 2016
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

Performance Evaluation Period: October 01, 2015 through September 30, 2016

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FY 2016 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 2016 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

The performance-based approach evaluates LLNS' performance through a set of Goals. Each Goal, and its associated Objectives and Key Outcomes (KOs), will be measured against authorized work in terms of cost, schedule, and technical performance, and the 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 program work in accordance with applicable DOE/NNSA safety 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, LLNS shall plan safety and security improvements and accomplishments as an integral component of mission performance contributing to meeting the affected programmatic 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.** 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 balanced 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. This evaluation will be documented in a Performance Evaluation Report (PER), and will include the performance ratings and award fee earned for the subject performance evaluation period. Objectives and KOs will be assessed in the aggregate to determine an adjectival performance rating for each Goal. DOE/NNSA will consider LLNS' end of year self-assessment 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. The Fee Determining Official's (FDO) award fee determination is a unilateral decision made solely at the discretion of NNSA.

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.

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 problems that face the nation and the globe. 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 a focused set of strategic national security priorities.

Objectives:

Objective-1.1 Accomplish work as negotiated with program sponsors and partners integrating quality requirements into an effective quality 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 and product realization processes and activities in support of nuclear weapon life extension programs, modification and alterations in accordance with NNSA requirements and Nuclear Weapons Council guidance.

Key Outcomes:

KO 1.1 Execute shots on NIF in support of the Stockpile Stewardship Program in accordance with the NIF Governance Plan, while continuing to improve the efficiency of NIF operations with a constrained operating budget.

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 Effectively execute W80-4 LEP Phase 6.X programs in accordance with program-specific and NNSA Project Controls System directives, including Earned Value Management System development, in order to (1) meet schedule, (2) comply with Phase 6.x Process and Product Realization Processes, (3) lower risks, (4) control change, and (5) control costs.

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 Serve as a lead site and provide key support on high-profile Department non-proliferation initiatives with international partners, including Ministerial Exercises and hosting foreign dignitaries and VIPs in support of the Nuclear Security Summit.
- KO 2.2 Execute nuclear threat device "task list" and materials work and standoff disablement experimental and modeling efforts, support other new technologies and capabilities, and provide leadership in the assessment of open source information.
- KO 2.3 Manage and maintain readiness for deployable response and home teams, train and develop new and existing staff to become qualified responders, support operations, exercises, and drills, and maintain measurement capabilities. Execute International Exchange Program (IXP) modeling products.

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.

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.

Ojbective-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.
- Science programs in climate investigations, simulations and field observations to advance understanding of climate changes and impacts working with external organizations, other laboratories and academic institutions.
- Advanced manufacturing development for new materials and processes using additive manufacturing to improve equipment, processes and material properties or characteristics for NNSA, other DOE organizations DOD and laboratories and industry.
- Advanced Scientific Computing Research (ASCR) program including the Fast Forward Initiative to accelerate R&D of critical technologies for extreme-scale computing.

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 support 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 Maintain, operate and modernize DOE/NNSA facilities, infrastructure, and equipment in an effective, energy efficient manner; including disposition of unneeded infrastructure and excess hazardous materials. 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.

Objective-5.5 Deliver efficient, effective, and responsible business operations, systems and 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 systems and cyber security.

Key Outcomes:

KO 5.1 Finalize the new institutional work planning and control process and infrastructure needed to provide a uniform method of task-based hazards identification and analysis, control development and implementation, and work release processes that ensure the safe execution of mission, site-wide service, and maintenance work. Implement the process for all new work, develop a plan for transitioning existing work control documents into the new process, and begin transition. 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:

- For the Building 332 Motor Control Center E410A3 Replacement Project - complete the seismic and electrical designs, seismically secure the MCC into the basement, and finalizing the cutover plan.
- For the TRU Waste Program - Safely package (A) metal oxidation residues and (B) attractiveness level D material requiring splitting, as identified in LLNL-AR-668902, into available Pipe Overpacks and meeting DOE N 435.1 requirements

KO 5.3 Upgrade LLNL's antiquated Unclassified Visitor Tracking System to a contemporary, robust system that complies with DOE requirements, is integrated with other LLNL systems, easy to maintain, and will supply the required approved, changed, or terminated visits and assignment information into the DOE Foreign Access Central

Tracking System.

KO 5.4 Implement public key infrastructure (PKI) authentication for Secret Restricted Data systems in accordance with NNSA PKI expectations.

KO 5.5 Initiate and implement best management practices that strive to:

- Optimize predictive and proactive maintenance across the site including using NNSA enterprise-wide infrastructure management optimization initiatives (e.g. the National Laboratory Operations Board, Building Sustainment Modeling System "BUILDER", Mission Dependent Index (MDI), HVAC Asset Management Program, and G2).
- Achieve the federal sustainability goals (EO 13693), especially the reduction of potable water use during California's severe drought and increasing efficiencies in facility management systems.
- Employ innovative site planning for reducing space to support mission and reduce the NNSA mortgage.

KO 5.6 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.

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 Work selflessly within the DOE/NNSA complex to develop, integrate, and implement enterprise solutions that maximize program outputs at best value to the government; identify innovative business and management solutions that greatly improve enterprise-wide efficiencies.
- Objective-6.4 Exhibit professional excellence in performing roles/responsibilities while pursuing opportunities for continuous learning.