FY2020 Performance Evaluation Summary

Contractor: Lawrence Livermore National Security, LLC
Contract: DE-AC52-07NA27344
Evaluation Period: October 1, 2019 – September 30, 2020
Basis of Evaluation: Fiscal Year (FY) 2020 Performance Evaluation and Measurement Plan (PEMP)
The FY 2020 PEMP for this contract is available at:
https://www.energy.gov/sites/prod/files/2020/11/f80/FY20%20LLNL%20PEMP_Redacted.pdf
The Contract is available at: https://www.energy.gov/nnsa/lawrence-livermore-national-laboratory-contract

Award Fee Scorecard

The LLNS contract has an award term component under which LLNS can earn an additional year on its contract if performance meets or exceeds certain criteria. To be eligible to earn available award term, LLNS must earn an adjectival score of Very Good or better in four of six Goals and receive no adjectival score of Satisfactory or lower in any Goal, and further, meet any additional requirements as specified in LLNS contract. The Fee Determining Official concluded the LLNS performance for the FY 2020 performance year satisfied the criteria and earned LLNS an additional year of Award Term, as follows:

Goal	Rating		At Risk Available	Final	Award Term
	Adjectival	Percent			
Goal-1: Mission Execution: Nuclear Weapons	Very Good	90%	$13,143,563	$11,829,207	Met
Goal-2: Mission Execution: Global Nuclear Security	Excellent	95%	$1,877,652	$1,783,769	Met
Goal-3: DOE & Strategic Partnership Projects Mission Objectives	Excellent	95%	$ -0-	$ -0-	Met
Goal-4: Science, Technology & Engineering (ST&E)	Excellent	95%	$3,755,304	$3,567,539	Met
Goal-5: Mission Enablement	Very Good	90%	$11,265,911	$10,139,320	Met
Goal-6: Mission Leadership	Excellent	91%	$7,510,607	$6,834,652	Met
Total Award Fee	**Excellent**	**91%**	**$37,553,037**	**$34,154,487**	**Met**

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

	Available	Final
Fixed Fee	$16,094,158	$16,094,158
SPP (Fixed Fee)	$7,770,000	$7,770,000
Total Fixed Fee	$23,864,158	$23,864,158
Total Fee (Award Fee and Fixed Fee)	**$61,417,195**	**$58,018,645**

LLNS overcame significant challenges and earned an Excellent rating on Goals 2-4, exceeding expectations on nearly all Objectives and Key Outcomes. Despite the impacts of COVID-19, LLNS successfully executed NNSA program priorities. It continued to successfully deliver on our nation's challenging stockpile requirements and lead the Weapons Laboratories in strengthening the underpinning and future of stockpile stewardship. LLNS also continued to successfully deliver at a very high level

across the balance of the NNSA mission portfolio including Non-Proliferation, Emergency Management, Incident Response, and Nuclear Counterterrorism while effectively supporting DOE and Strategic Partnership Project (SPP) programs. The National Security missions were successfully executed by leveraging and advancing the frontiers of Science, Technology, and Engineering (ST&E). LLNS earned a Very Good rating on Goals 1 and 5; and an excellent rating on Goal 6 through its strong partnership with NNSA and effective leadership in overcoming historic challenges.

Overall, LLNS earned an Excellent rating for FY2020, exceeding nearly all of the objectives and key outcomes under the PEMP goals, meeting overall cost, schedule, and technical performance requirements with accomplishments that significantly outweigh issues.

Accomplishments:
Goal 1
- Exemplary management of Surety Technologies portfolio during pandemic, maintained excellent working relationship with Atomic Weapons Establishment
- Provided excellent support for W87-0 GBSD integration activities and met B83, W78, W80 and W87 surveillance and maintenance requirements
- Responsively elevated stockpile modernization programs to Tier 1 on the directed ramped implementation schedule
- Met overall W80-4 Phase 6.3 cost and technical performance requirements and met deliverables or addressed schedule recovery
- Engaged with the Future Tritium Production Working Group, external SRNS modeling efforts, and NNSA HQ to enhance the Integrated Materials Model (iMMo); continued to validate first two commodity efforts for EMAC; and hosted the model on Enterprise Secure Network (ESN)

Goal 2
- Provided effective scientific and program management leadership in establishment of Advanced Instrumentation Testbed
- Exceeded expectations in alternative manufacturing and other emerging technologies resulting in new multi-lab venture studying weaponization pathways from manufacturing through high explosive testing
- Made valuable contributions to maintenance of Chemical Weapons Convention (CWC) analytical laboratory and also toward U.S. support of Comprehensive Nuclear-Test-Ban Treaty Organization's International Monitoring System and International Data Centre
- Provided excellent support to Export Control Review & Compliance/Interdiction team by preparing high quality end user analyses in support of dual use license reviews within required timelines and by delivering high quality technical reviews for missile and nuclear-related interdiction cases

Goal 3
- Directed considerable research infrastructure, capabilities and dedicated teams of scientists and engineers to fight COVID-19
- Participated in White House initiative to provide COVID-19 researchers worldwide access to the world's most powerful high-performance computing resources
- Developed an FDA-approved emergency ventilator dubbed "Novel Emergency Response Ventilator" (NERVe) derived from proven concepts and assembled using off-the-shelf parts
- Created COVID-19 data portal to expedite access to Laboratory modeling results and numerous other COVID-19 projects
- Awarded "Best Paper" award by International Conference for High Performance Computing, Networking, Storage and Analysis conference

Goal 4
- Designed new generation of compressor gratings that could provide 20 percent performance boost for ultrafast high-power laser systems, potentially reducing grating distortion and damage as well as system cooling requirements
- Discovered a process to eliminate defects in laser-based metal 3D-printing processes

- Developed an artificial intelligence (AI) method for designing future materials and predicting long-term age-induced change in the performance of stockpile-relevant materials
- LLNS researchers earned four Research & Development 100 awards, and three "best in class" awards from the Department of Energy's Technology Transfer Working Group for the category of economic development on the Advanced Manufacturing Laboratory

Goal 5
- Played integral role in gaining approval of variance to 10 CFR 851 requirements for EOC Line Item Project in support of key NA-50 initiative to improve efficiency
- Expeditiously stood-up Pandemic Influenza Response Team and activated Emergency Operations Center overseeing case management, assembling a rapid response team, conducting contact tracing when needed, developing training for all site employees, facilitating regular communications to management and staff, and providing outreach support
- Expand Electrical Distribution System Line Item project achieved CD-4 Project completion four months ahead of schedule and approximately $1.1M below cost estimate.
- DOE EA assessment identified current Work Planning and Control program as a best practice and model for other DOE laboratories
- Earned Federal Green Challenge award from Environmental Protection Agency for sustainable charging infrastructure

Goal 6
- Prompt and decisive response to COVID-19 pandemic coordinated with senior NNSA leadership, first NNSA site to reduce operations safely and securely in response to local conditions, transitioned to telework posture in advance of DOE/NNSA guidance, quickly responded to a myriad of urgent data calls, planned and executed living re-start plan, worked across enterprise to support other M&O partners in order to meet NNSA needs and protect workforce
- Continued to meet NNSA program priorities despite COVID-19 impacts
- Sustained professional excellence illustrated by multiple national-level awards including 3 team Secretary of Energy Achievement Awards, 4 R&D100 awards, EPA Federal Green Challenge Award
- Received Glassdoor Employees' Choice Award for the second year in a row, recognizing LLNL as one of the top 10 best places to work nationwide in 2020, as the top laboratory employer in the US, and as second highest large employer in San Francisco Bay Area ahead of well-known companies such as Facebook, Google, and Apple

Issues:
Goal 1
- Advanced Sources and Detectors project is over budget by $8.5M and continues to fall further behind schedule
- Equipment installation delays continued in Superblock impacting plutonium target fabrication. Certifying glovebox equipment and COVID-19 impacts have been limiting factors

Goal 5
- LLNS lacks a plan for major updates of the fire protection systems with many fire sprinklers, alarms, and fire department vehicles nearing the end of their service life
- Implementing a plan to address institutional electrical safety events previously identified but unsuccessful at curtailing the trend