Fiscal Year 2008
Performance Evaluation Report

Lawrence Livermore National Laboratory

Prepared by:

Livermore Site Office
National Nuclear Security Administration
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FY 2008 Draft Performance Evaluation Report
for
Lawrence Livermore National Laboratory

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1.0 Introduction

This report was produced by the U. S. Department of Energy (DOE) National Nuclear Security Administration (NNSA), Livermore Site Office (LSO) to provide the NNSA Fee Determining Official with an evaluation the Contractor's performance for all Performance Incentive requirements under contract DE-AC52-07NA27344. In accordance with the Section H Clause entitled "Performance-Based Management," the Contractor's performance is evaluated and rated by NNSA based on clearly defined standards of performance consisting of performance objectives and performance incentives including multi-site performance incentives and award term incentives as set forth in the Performance Evaluation Plan (PEP) on a fiscal year basis. It is noted that the award term provision in the Contract is not operative until FY 2009 and is therefore beyond the scope of this evaluation.

1.1 Evaluation Process

The Contractor's performance evaluation reflects a combination of subjective and objective ratings. The Contractor's overall performance in Mission, Operations, and Institutional Management (IM) is subjectively rated in each area using four tier adjectival ratings. The Contractor's performance is also evaluated against individual Fixed-Fee Targets, Stretch Incentives, and Multi-Site Incentives, which are objectively rated on a pass/fail basis. Note that the fixed-fee rating is required by Clause H-14 of the Contract and is used solely to determine the Contractor's eligibility to earn the stretch portion of the incentive fee as stipulated in the PEP. Fee and ratings types are illustrated below:

Fee Type	**Mission**	**Operations**	**IM**
Fixed Fee (not at risk)	Pass/Fail	Pass/Fail	Pass/Fail
Base Incentive	Subjective Adjectival	Subjective Adjectival	Subjective Adjectival
Stretch Incentive	Pass/Fail	Pass/Fail	Pass/Fail
Multi-Site Incentive	Pass/Fail	Pass/Fail	Pass/Fail

Performance is assessed against the applicable evaluation criteria using a variety of different sources including, but not limited to, the Contractor's Supplemental Self-Assessment Report, interim performance evaluations and ratings, LSO operational awareness activities and assessments, external reviews, internal reviews, customer feedback, program reviews, and input from NNSA HQ program offices. LSO Subject Matter Experts and managers are responsible for developing an adequate, independent basis for evaluating the Contractor's performance. NNSA-HQ is responsible for evaluating the complex's performance against the multi-site targets.

1.2 Performance Period

The performance period is October 1, 2007 through September 30, 2008, which is the first year for the management and operation of the Lawrence Livermore National Laboratory (LLNL) by Lawrence Livermore National Security, LLC (LLNS).

2.0 Executive Summary

The Contractor achieved the following summary level ratings for the performance period:

Fee Type	Mission	Operations	IM
Fixed Fee	13/13 pass	7/9 pass	9/9 pass
Eligible for Stretch	yes	yes	yes
Base (Subjective)	Outstanding	Satisfactory	Good
Eligible for Stretch	yes	no	yes
Stretch	37/40 pass	15/22 pass Ineligible for fee	19/29 pass
Multi-Site	14/14 pass		

Available and earned incentive fee is set forth as follows:

Type	Mission	Operations	IM	Total	% Earned
Base	$6,375,904	$1,275,181	$956,386	$8,607,470	54%
Stretch	$4,423,283	$0	$1,044,373	$5,467,656	43%
Multi-Site	$3,187,952			$3,187,952	100%
Earned Incentive	$13,987,139	$1,275,181	$2,000,759	$17,263,078	54%
Total Available	$14,345,784	$14,345,784	$3,187,952	$31,879,519	
Net Unearned	$358,645	$13,070,603	$1,187,193	$14,616,441	

2.1 Mission

The Contractor earned an overall subjective rating of "Outstanding" for Mission in FY 2008. The Mission category includes objectives in warhead certification and assessments, long-term stockpile stewardship, near-term weapons program support, nonproliferation and threat reduction, Laboratory science and technology, and facilities and infrastructure support. The Contractor achieved a very high rate of success in its fixed fee, base, and stretch incentive fee targets in the Mission area. It also achieved both the minimum Fixed-Fee and Base Incentive Fee Ratings required to be eligible to earn the Stretch Incentive Fee. Notable accomplishments include:

- Delivered a 1st generation energy balance model and applied it to a weapon system using ASC;
- Improved methods for quantifying uncertainties and applied the ensemble-of-models approach to two weapons systems;
- Developed a more accurate low-pressure equation of state (EOS) for plutonium using JASPER data;
- Executed RRW & surety program hydrotests, two high-profile, time-urgent hydrotests for LANL at CFF and 6 hot shots at JASPER;
- Execution of the TriPod strategy has resulted in cost effective common hardware approach and common software stack for tri-lab capacity computing;
- Solicited and received proposals for the Sequoia Petaflop supercomputer;
- Provided critical support to the US Navy and Air Force weapons systems;
- Remained on schedule to achieving the goal of executing a credible ignition experimental campaign on NIF in 2010;
- The LLNL Autonomous Pathogen Detection System (APDS) selected for possible future BioWatch deployment;
- Counterproliferation Analysis and Planning System (CAPS) continued to deliver assessments of chemical, biological, radiological, or nuclear and missile programs and facilities to the DoD and intelligence community;
- Conducted numerous export control workshops and seminars, including the first of its kind "Commodity Identification Workshop" in one country which involved a second country participation and resulted in marked positive changes in that country's export control and licensing laws;
- Conducted first weapons laboratory Additional Protocol Complimentary Access and monitoring inspection exercise as well as all activities in support of the Declaration pending Entry into Force;
- LLNL scientists received three R&D 100 awards and six Nano 50 awards;
- Supported the NTS facility transition teams in a timely manner as specified in the Project Execution Plan;
- Executed a Facilities and Infrastructure Recapitalization Program (FIRP) funded Disposition project to reduce the B212 facility by 58K+ gross square feet (GSF);
- Executed the National Ignition Facility (NIF) project within scope, schedule, and budget baselines and;
- Removed more than the agreed on quantity of SNM from LLNL to appropriate disposition sites ahead of schedule.

2.2 Operations

The Contractor earned an overall subjective rating of "Satisfactory" for Operations in FY 2008. The Operations category includes Environmental, Safety, and Health (ES&H) and Security. While the Contractor achieved a high rate of success in its performance targets in the Operations area, it failed to achieve the minimum Base Incentive Fee Rating required to earn the Stretch Incentive Fee. Notable accomplishments include:

- Conducted "Safety Leadership Workshops" to develop strong consistent leadership for all supervisors;
- Submitted an Implementation Plan for DOE STD 1098-1999, DOE Standard for Radiological Control, Program Plan for Non-Nuclear Facility Safety Basis and Program Plan for Construction Safety;
- Submitted rule-compliant DSAs/TSRs for all nuclear facilities incorporating DOE-STD 1186, Specific Administration Controls through an accelerated annual update schedule;
- The safety basis program has shown improvements of the quality and timeliness of submitting and implementing nuclear facility safety basis documents;
- Reduced the Total Reportable Cases (TRC) by 16% and the Days Away Cases by 72%;
- Provided quality environmental products consistent with regulatory requirements, agreements, and permits and overall met all external regulatory requirements and commitments;
- Supported LSO in meeting its federal obligations under NEPA, CERCLA, Endangered Species Act, and the National Historic Preservation Act by providing timely and high quality analyses and supporting information;
- The Radioactive Waste Management program ensured safe and compliant operations, identified and implemented operational and facility cost savings and applied those cost savings to dispose of additional waste to approved disposal facilities; and
- Improved its security program without mission impact and met most of its security performance deliverables.

However, a number of weaknesses or deficiencies are noted in Operations. NNSA conducted an Independent Review to assess the adequacy of the implementation of the Chronic Beryllium Disease Prevention Program (CBDPP) at the LLNL and to determine whether workers are adequately protected from potential Be sensitization as intended by the rule (10 CFR 850). The preliminary results of the review disclosed ongoing weaknesses that require corrective action. In the area of environmental, the Contractor did not fully implement a forward-looking Environmental Management System (EMS) consistent with DOE requirements and did not make sufficient progress on EMS-related goals associated with pollution prevention, waste minimization, and resource management.

A comprehensive security inspection by the DOE Office of Health, Safety, and Security (HSS) disclosed significant issues in the Protective Force and Information Security topical areas and issued "Significant Weakness" ratings in these areas. Security Program Management, Physical Security, and Cyber Security Operations topics received "Needs Improvement" ratings. In

response to these findings, the Contractor implemented a Recovery Plan, which has improved protective force operations significantly. Corrective actions for physical security systems, information security, and cyber security are also underway.

2.3 Institutional Management

The Contractor earned an overall subjective rating (IM) of "Good" for Institutional Management in FY 2008. The IM category includes business operations and Laboratory management/performance improvement. The Contractor achieved a high rate of success in its performance targets in the IM area. It also achieved both the minimum Fixed-Fee and Base Incentive Fee Ratings required to be eligible to earn the Stretch Incentive Fee. Notable accomplishments include:

- Obtained and maintained approval of both its property and procurement systems;
- Simplified the Laboratory's cost model and upgraded its financial systems;
- Demonstrated an effective and efficient audit organization and implemented an integrated monitoring program;
- Established a centralized Strategic Human Capital Management department and executed a difficult workforce restructuring plan with a high degree of skill and professionalism;
- Maintained a media relations program and partnerships with the local community and geographic region.
- Parent Organizations conducted 28 functional management assessments in a wide variety of functional areas that cut across the Laboratory;
- Developed new CAS tools and implemented improvements to many of the pre-existing portfolio of CAS tools and activities;
- Instituted a Six Sigma Program within the Contractor Assurance Office which has begun individual projects to improve performance in discreet areas;
- Implemented numerous cost reduction initiatives that resulted in significant costs savings and avoidance, which helped offset the cost increases that resulted from the new contract; and
- Completed all the required revisions to the policies and procedures identified in its blue sheeting process and also completed all of the High and Medium priority items identified in the LSO approved plan to address the issues identified in the due diligence walk down report prepared by the LLNS Transition Team.

However, a number of concerns are noted in IM. The Contractor experienced unacceptable losses of Key Personnel and must address the issues of retention, recruitment, and succession planning for Key Personnel. The Contractor's unsatisfactory performance in Security during the HSS inspection is attributable to leadership's failure to be cognizant of these conditions and take the appropriate corrective actions prior to the inspection. Additionally, the Contractor postponed the design and execution of an acceptable compensation program consistent with the parameters established and agreed to in the PEP to address recruitment and retention concerns due to higher priority activities including Workforce Restructuring.

3.0 Base (Subjective) Incentive Fee Ratings

3.1 Mission

Mission Overall LLNL Rating		Outstanding
1.	Conduct warhead certification and assessment actions using the Quantification of Margins and Uncertainties (QMU) methodology.	Outstanding
2.	Develop with and implement long-term, balanced, integrated stewardship consistent with NNSA Complex 2030 goals and transformation plans.	Outstanding
3.	Develop and implement near-term balanced weapons programs to meet the needs of the US nuclear deterrent.	Good
4.	Nonproliferation and Threat Reduction.	Outstanding
5.	Science, Technology, and Engineering Excellence.	Good
6.	Optimize current and evolving mission performance by providing effective and efficient facilities and infrastructure.	Outstanding

Performance Objective 1: Certification

Overall, the Contractor has performed outstanding in warhead assessment and certifications by utilizing QMU methodology and technical objectives related to developing predictive capabilities for stockpile assessment. Accomplishments include:

- Delivered a 1st generation energy balance model and applied it to a weapon system using ASC;
- Completed Cycle 13 of annual assessment with improved depth and rigor;
- Improved methods for quantifying uncertainties and applied the ensemble-of-models approach to one weapon system;
- Developed first fully integrated Weapon Assessment Plan; first applied to the W80;
- Updated the priorities in the Primary Assessment Plan based on the results of other integrated activities; and
- Developed a more accurate low-pressure equation of state (EOS) for plutonium using JASPER data.

The Contractor developed a comprehensive certification strategy for the reliable replacement warhead (RRW) which has become the model for future certification activities. The Contractor's QMU results were incorporated into the Annual Stockpile Assessment Process and presented at various internal and external peer-review forums, including Annual Assessment Reviews and JOWOGs, the joint working group meetings with the United Kingdom's Atomic Weapons Establishment.

Performance Objective 2: Stewardship

The Contractor performed outstanding in developing and implementing long-term, balanced, integrated stewardship consistent with NNSA Complex 2030 goals and transformation plans.

The Contractor maintained an active experimental program. It executed RRW & surety program hydrotests, two high-profile, time-urgent hydrotests for LANL at CFF and 6 hot shots at JASPER. The Phoenix FFT-2 experiment at BEEF broke pulse power records.
The Contractor continued to excel at High Performance Computing. The TriPod strategy has resulted in cost effective common hardware approach and common software stack for tri-lab capacity computing. It solicited and received bids for Sequoia Petaflop system and is in the process of awarding the subcontracts. Work continues on developing a strategy for consolidating ASC codes and "sunsetting" legacy weapons codes.

Significant accomplishments were achieved in the National Strategy for Boost. The Contractor led development of strategy that maximizes the strengths at each of the national laboratories that was well received. It developed modeling tools to prioritize the research areas that provide the greatest leverage in reducing uncertainty in boost.

Progress has been made in Integrated Planning with LANL and the complex. The Contractor addressed options and scenarios for transformation planning; closed facilities at Site 300; completed Joint Dynamic Pu Experiments plan: initiated discussions with Pantex and NNSA on transitioning LLNL's capabilities; and completed a Transition Plan for transferring SNM programmatic work to LANL.

The Contractor effectively led an integrated national program (NIC campaign), making progress towards the goal of executing a credible ignition experimental campaign on NIF in 2010.

Performance Objective 3: Near-Term Weapons Program
The Contractor performed well in developing and implementing near-term balanced weapons programs to meet the needs of the US nuclear deterrent. It effectively completed programmatic deliverables described in the Defense Program Milestone Reporting Tool, completed 97% of DP Level-1 and Level 2 milestones. It has successfully issued a plan with options to reduce hydrotest facility footprint. Throughout the fiscal year, the Contractor worked on assessing the risks to the hydrotest program and stockpile mission in support of complex transformation and developing the PEIS Preferred Alternative. It supported the Navy W76 LEP through the LEP Peer Review and Materials Production at Y-12 and fielding two urgent hydrodynamic tests at CFF for LANL. It also supported Air Force extended-range flight test, employing a new system to assess the W87 in broad open ocean test that provided unprecedented and exceptional imagery results.

The Contractor completed first fully integrated Weapon Assessment Plan for the W80. It supported production and safety issues, enabling PX to exceed the FY 2008 dismantlement goals. The Contractor maintained operational status of all LLNL systems, eliminated complete B83 JTA backlog at PX, and completed almost 500 engineering releases. A streamlined authorization basis and SS21 process at Pantex was developed. The Contractor initiated and led Trilab/PX initiative called the CASTLE Project. It applied earned-value management system (EVMS) approach to a key R&D project (Radiation Transport IET).

The Contractor has made "Good" progress on Quality Control Program to meet QC-1, Rev 10 requirements. It is expected to fully meet this PEP in support of the weapon QA. It has completed and issued an approved Quality Implementing Procedure for Weapon Response. The Contractor has made progress on resolving deficiencies in Detonator Surveillance Program as well as meeting Pit manufacturing technologies.

Performance Objective 4: Non-Proliferation

The Contractor did an outstanding job supporting Nonproliferation and Threat Reduction activities. It successfully developed and provided technical capabilities to advance nonproliferation and threat reduction efforts. They conducted numerous export control workshops and seminars, including the first of its kind "Commodity Identification Workshop" in one country which involved a second country participation and resulted in marked positive changes in that country's export control and licensing laws.

The Contractor successfully conducted the first weapons laboratory Additional Protocol Complimentary Access and monitoring inspection exercise, as well as all activities in support of the Declaration pending Entry into Force.

The Contractor successfully developed and provided technical capabilities to advance nonproliferation and threat reduction efforts specifically in the areas of electro-optic remote sensing, remote and persistent surveillance, collection and analysis of U and Pu samples, seismic monitoring, remote sensing and detection of SNM, forensics and attribution of WMD. The Contractor successfully completed an integrated S&T Roadmap in conjunction with LANL, PNNL and ORNL, improving the capability for the tracking, signature identification and exploitation of source data.

The Contractor successfully exceeded the metrics set in conjunction with HQs by successfully developing and demonstrating the next generation tools for intelligence analysis of nations and terrorist threats.

Performance Objective 5: Science, and Technology Base

The overall assessment for Objective 5 is rated at the good level. The Contractor continued to perform world-leading research despite a number of challenges including downsizing the workforce. Geopolitics over the past several years has changed the research emphasis dramatically from the Cold War days resulting in new challenges for national security as well as national priorities. During FY 2008, ten external peer review committee review sessions (seven aligned with the program directorates and three cross-cutting strategic portfolio reviews) were held at LLNL to assess the quality of science, technology, and engineering and support to national security needs. The reviews focused on energy and environmental security along with support to the DOE/NNSA missions. This included reviews on the use of alternative energy sources, carbon cycle, nuclear fuel cycle, global climate changes, optimizing fossil energy such as underground coal gasification, carbon capture sequestration, and simulations. The nonproliferation discussions also centered on material protection and international efforts to detection technologies such as imaging, signature development, surveillance to forensics and from environmental signatures of nuclear materials to nuclear explosion monitoring.

Discussions during the committee reviews included computational science and technology relevant to support the NIF programs both in simulations and in system control and data analysis.

The external peer review committees evaluated the quality of science, technology and engineering in support of agency missions and national needs to programmatic planning to be at an outstanding level based on the meetings, discussions, and technical poster sessions that occurred at LLNL.

Institutional investments at Livermore have continued to produce prize-winning scientific accomplishments, resulting in high-profile publications. National recognition and technological accomplishments and awards are also key in determining the quality of science and a few examples are summarized below:

- Leaders in Prestigious Professional Societies. Numerous LLNL scientists and engineers were elected fellows of prestigious professional societies such as the American Physical Society (APS), American Association for the Advancement of Science (AAAS), and the National Academy of Science (NAS).
- FY 2008 Notable awards included three R&D 100 Awards, two FLC Awards for excellence in technology, six Nano 50 Awards, a Will Allis Prize from the APS for a study of ionized gas, Best Soldier System Innovation and Technology Award, 2008 Larry Foreman Award for work on target fabrication, and a Helmholtz-Rayleigh Interdisciplinary Silver Medal from the Acoustical Society of America.

Good progress was made in growing the non-NNSA work for others and LLNL received $9.4 million during FY 2008 in royalty revenues.

The quality of science and technology remains at an outstanding level; however, the contractor needs to concentrate on continuous "business process improvements" in the quality of the work for others proposals and to continue to reduce processing time. A centralized WFO web-based database management system is needed for the processing of WFOs which includes tracking review comments from LSO.

The contractor was unable to meet the goal of $10 million to grow science programs during FY 2008 as a result of decreased federal funding to LLNL predominantly from NIH and DARPA. Although LLNL had its biggest commercialization-year ever by doubling the amount from FY07, reductions in staff in the industrial partnership office hampered the contractor in achieving the commercializing technology goal.

Performance Objective 6: Facilities and Infrastructure

The Contractor supported the NTS facility transition teams in a timely manner as specified in the Project Execution Plan. Nuclear facilities in the Superblock and mission-critical facilities were available for operations more than 99% operational during the year. Necessary DSA updates and modifications were completed in a timely manner. LLNL weapons computing systems maintained a very high utilization (>80%).

The Contractor did a good job in reducing the overall footprint. The Contractor executed a Facilities and Infrastructure Recapitalization Program (FIRP) funded Disposition project to reduce the B212 facility by 58K+ gross square feet (GSF).

The Contractor did an outstanding job in safely executing the National Ignition Facility (NIF) project within scope, schedule, and budget baselines. The NIF project is now over 98% complete and on schedule for completion in FY 2009. The Contractor did a good job managing smaller projects at the Site; however, LSO is concerned that the Tritium Facility Modernization Project was as much as five months behind schedule very late in the year and that the schedule delays were not reported in a timely manner.

The Contractor executed the Facilities and Infrastructure Recapitalization Program (FIRP) at the good level, exceeding expectations in some areas. The FIRP Program was executed in accordance with the FIRP Project Execution Plan (issued by NA-52) and the LSO/LLNL FIRP Program Management Plan. The Contractor achieved a rating of good in managing its facilities consistent with NNSA's deferred maintenance goals and other objectives as stated in the TYSP. The deferred maintenance backlog was slightly reduced by $104K. The Facility Condition Index (FCI) goal of <5% by FY09 for Mission Critical (MC) facilities was exceeded by achieving 2.8%. The FY08 goal of 7.8% FCI for Mission Dependent, Not Critical (MD/NC) was met. Overall, the Contractor's maintenance management program in the nuclear facilities was outstanding. LSO assessments of activities and documents related to nuclear facilities were from good to outstanding. The Contractor's maintenance reinvestment program was outstanding as it successfully recovered from an early FY08 shortfall of more than $2MIL below the Maintenance Funding Index (MFI) of 2% and eventually exceeded it by approximately $3MIL for a total increase in $5MIL, which equates to a 2.13% MFI. This is based on the Replacement Plant Value (RPV) of $4,319,175,048 and the projected sustainment costs of $91,926,840.

The Contractor has done outstanding work to remove CAT 1/II SNM from LLNL by the end of 2013. It successfully removed more than the agreed upon quantity of SNM from LLNL in FY 2008 to appropriate disposition sites ahead of schedule. The Contractor also drafted the FY 2012 De-inventory Plan and presented it to the NNSA Principal Deputy Administrator.

The Contractor did a good job at achieving the energy, water and USGBC LEED submission goals. In addition, it provided full support to the ESPC project. The energy goal of 9% by the end of FY 2008 was exceeded with an overall 9.56% achieved. Energy conservation projects were also implemented in some excluded facilities such as Terascale which has resulted in close to $1 million in energy cost savings. The water goal of 2% by the end of FY 2008 was also exceeded with an overall 3.9% achieved. The actual water reduction was the result of several actions that were taken in order to save water use in the cooling towers and with existing irrigation systems and landscaping.

The Contractor submitted a package for B264 to the US Green Building Council on August 29, 2008 under the LEED Existing Building Rating System. The package was reviewed and is attempting to achieve a silver rating.

LSO is concerned with the status of the Tritium Facility Modernization (TFM) project. It was reported that the project was as much as five months behind schedule very late in the year. There was little, if any, warning beforehand that the project may be behind schedule and the project report the month before the schedule slippage was communicated indicated that the project was on time.

3.2 Operations

Operations Overall LLNL Rating		**Satisfactory**
7.	Maintain safe and environmentally sound operations in an efficient and effective manner in support of mission objectives.	Satisfactory
8.	Maintain secure operations in an efficient and effective manner in support of mission objectives.	Satisfactory

Performance Objective 7: ES&H

Overall, the Contractor did a satisfactory job in maintaining safe and environmentally sound operations in an efficient and effective manner in support of mission. Although the Contractor failed to successfully complete several stretch targets, it made progress in identifying, improving, and correcting deficiencies in its institutional ESH&Q programs.

Since 2006, eleven (11) new beryllium (Be) sensitization cases and four (4) reportable Be-related events have been identified at LLNL, creating concern over whether the Contractor has (1) identified the underlying causes of these events, (2) identified previous Be program weaknesses, and (3) identified effective interim controls and actions and longer-term corrective actions to adequately protect workers from exposure to Be. In FY 2008, the Contractor completed an overarching causal analysis of the Be-related events and conducted an effectiveness review of the Be program. Additionally, NNSA conducted an Independent Review (IR) to assess the adequacy of the implementation of the Chronic Beryllium Disease Prevention Program (CBDPP) at LLNL and to determine whether workers are adequately protected from potential Be sensitization as intended by10 CFR 850 (the Rule). The IR team concluded that there were several areas of the LLNL CBDPP that did not adequately address the requirements and intent of the Rule, which "may be contributing to the overall program weaknesses, such as minimizing the number of beryllium workers and subsequent cases of beryllium sensitizations and/or disease". The team also "was concerned that LLNS had not completed a formal evaluation to identify and implement specific interim controls in order to provide a high level of confidence that workers were adequately protected from potential exposure to beryllium operations, and in particular the potential hazard from legacy beryllium in unknown areas, while the longer term actions were being implemented to address the underlying institutional weaknesses identified."

Consequently, LSO directed LLNL to take the following actions.

- Submit a separate Non-Compliance Tracking System report addressing the new program deficiencies identified in the IR report;

- Conduct a formal causal analysis for the nine (9) Findings and thirty-two (32) Observations from the report;
- Develop a formal, comprehensive Corrective Action Plan for the LLNL CBDPP; and
- Ensure all employees, including formal employees, are aware of dust-producing activities that may have exposed them to beryllium.

Finally, the Contractor initiated a safety pause from any work involving potential Be exposure. This pause will be in effect until a review of all Be-related work is completed. This review will include the systematic review of Be work planning and control practices.

Phase I and Phase II certification of the LLNL Integrated Safety Management System (ISMS) were not accomplished in FY 2008 due to substantial improvements that still need to be made to the Contractor's work planning and control processes. The Contractor has submitted a plan to strengthen ISM, address work control weaknesses, implement revamped work planning control processes, and complete the ISMS certifications in FY 2009. The Contractor's progress against its plan will continue to be monitored by LSO and factored into our performance evaluation of the Contractor for FY 2009.

The Contractor submitted rule-compliant DSAs/TSRs for all nuclear facilities incorporating DOE-STD 1186 Specific Administration Controls through an accelerated annual update schedule. The LLNL safety basis program has shown improvements of the quality and timeliness of submitting and implementing nuclear facility safety basis documents. Few issues have been identified in the overall implementation of the required controls and programs which are covered by the facilties' DSA's. There are however continuing issues with the completion of actions committed by the Contractor or directed by LSO and issues with the interface between nuclear operations and W&CI which have led to a non compliance with the DOE approved USQ program and 10CFR830 and mission impacts in B334.

The Contractor did not meet its commitments in implementing a forward-looking Environmental Management System consistent with DOE requirements. It also did not make sufficient progress on EMS-related goals associated with pollution prevention, waste minimization, and resource management. Without an implemented EMS, the Contractor does not have a program to ensure meeting DOE's commitments to environmental stewardship.

Performance Objective 8: Security

The Contractor satisfactorily maintained secure operations in support of mission objectives. The security performance objective includes site security planning, protective forces, security systems, information security, personnel security, material control and accountability, and program management. During FY 2008, the Contractor protected LLNL security interests without mission impact and met most of its security performance deliverables.

During the March –April 2008 period, the DOE Office of Health, Safety and Security (HSS) conducted a comprehensive security inspection of LLNL. This inspection included intensive performance tests of LLNL physical, protective force, cyber security strategies, as well as an assessment of the effectiveness of LSO oversight. While several LLNL security program areas

were performing effectively, HSS found significant problems with LLNL protective force operations and certain aspects of the information security program.

The Contractor failed to effectively manage protective force operations. Certain physical and administrative controls in the information security area were not in place to assure protection of all classified material. HSS also found deficiencies in LLNL security planning, the performance assurance activity, physical security, and cyber security. HSS issued a total of 54 findings.

To respond the issues disclosed by HSS, the Contractor implemented immediate protective force configuration changes as well as a recovery plan to identify actions to rapidly resolve the most serious issues and restore confidence in LLNL physical and protective force program effectiveness. Completed and on-going corrective actions being implemented by LLNL will address all of the HSS findings.

Throughout FY 2008, LSO assessed the LLNL security program as part of the annual survey requirement and issued a total of 15 deficiencies and 9 weaknesses. Deficiencies and weaknesses were issued in most topical areas including, program management, protective force, physical security, material control and accountability, and cyber security. The LSO survey report for FY 2008 will incorporate HSS issues, LSO deficiencies and weaknesses, and status of LLNS actions to resolve these issues. The LSO survey report is scheduled for completion in mid-November 2008.

Altogether, 69 security findings were issued to LLNS in FY 2008. Considerable management attention from LLNS, as well as NNSA and DOE leadership, was necessary to assure that LLNS could meet protection requirements for special nuclear materials. By the conclusion of FY 2008, protective force operations improved significantly and corrective action plans for physical security systems, information security, and cyber security were being implemented. LLNS has conducted numerous security exercises, including force on force exercises, which have demonstrated significant improvements in protective force and physical security system performance. The Contractor's progress against its plans will continue to be monitored by LSO and factored into our performance evaluation of the Contractor for FY 2009.

On a positive note, significant cost increases and budget cuts resulted in major Workforce Restructuring and a large number of both voluntary and involuntary separations. The Contractor was able to effectively perform significant security activities associated with the employee separations. Additionally, the Contractor achieved most of the stretch performance targets for security and received approval for its "Blue Network." This network uses virtual local network technology to restrict foreign national (FN) access to information and resources approved for their use. This will strengthen LLNL FN cyber access controls.

3.3 Institutional Management

Institutional Management Overall LLNL Rating		Good
9.	Manage business operations in an effective and efficient manner while safeguarding public assets and supporting mission objectives.	Outstanding
10.	Improve the management and performance of the Laboratory through execution of the Contractor Assurance System, Strategic Initiatives, and Parent Organizations' contributions.	Satisfactory

Performance Objective 9: Business Operations

The Contractor did an outstanding job of managing business operations in an effective and efficient manner while safeguarding public assets and supporting mission objectives. The Contractor obtained an outstanding rating for demonstrating effective internal business controls and continuous improvement to maintain acceptable Financial Management and approved Procurement, Personal Property Management, and Legal Management systems. For example, the Contractor has established and maintained an exemplary purchasing system that is highly efficient, effective, and more than adequately protects the Government's interests. This assessment was supported by the results of the recent Procurement Evaluation & Re-engineering Team (PERT) evaluation. The Contractor obtained an outstanding rating for demonstrating an effective and efficient audit organization; including an integrated monitoring program. It passed all of its stretch ratings in this area and executed all of its audit activities in accordance with the Internal Audit Plan and approved modifications to that plan. Additionally, IAOD took advantage of "information sharing" provided in its participation on the Audit and Ethics Committee of the LLNS Board of Governors, and the IAOD Director has been recognized for leadership contributions to the internal audit community across the DOE/NNSA complex. The Contractor obtained a good rating for establishing a centralized Strategic Human Capital Management department that provides leadership and infrastructure to ensure availability, development, and maintenance of workforce excellence. The Contractor executed a difficult workforce restructuring plan this year that was executed with a high degree of skill and professionalism. Finally, the Contractor obtained an outstanding rating for maintaining a media relations program and partnerships with the local community and geographic region.

The Contractor needs to design and execute an acceptable compensation program consistent with the parameters established and agreed to in both the fiscal year FY 2008 and 2009 Performance Evaluation Plans. The Contractor has consistently stated its concerns about recruitment and retention; execution of this type of plan is the first step in addressing those recruitment and retention concerns.

Performance Objective 10: Performance Improvement

The Contractor did a satisfactory job of performance improvement in terms of implementing the CAS, strategic initiatives to increase effectiveness and efficiency, and obtaining support from parent organizations. The Contractor developed new CAS tools and implemented improvements

to many of the pre-existing portfolio of CAS tools and activities and has instituted a Six Sigma Program within the Contractor Assurance Office which has begun individual projects to improve performance in discreet areas. The Contractor also implemented numerous cost reduction initiatives that resulted in significant costs savings and avoidance, which helped offset the cost increases that resulted from the new contract. The LLNS Board of Governors and its parent organizations provided 28 functional management assessments in a wide variety of functional areas that cut across the Laboratory. Additionally, the Contractor completed all the required revisions to the policies and procedures identified in its blue sheeting process and also completed all of the High and Medium priority items identified in the LSO approved plan to address the issues identified in the due diligence walk down report prepared by the LLNS Transition Team.

Staffing challenges throughout FY 2008 as well as a lag in institutional acceptance of CAS activities slowed progress of the CAS development and implementation. While the Contractor achieved significant cost reductions, it did not meet all of its stretch targets in this area. The Contractor experienced unacceptable losses of Key Personnel and must address the issues of retention, recruitment, and succession planning for Key Personnel. The Contractor's unsatisfactory performance in Security during the HSS inspection is attributable to leadership's failure to be cognizant of these conditions and take the appropriate corrective actions prior to the inspection.

4.0 Mission Measure Ratings

Measure	Description	Rating
1	Conduct warhead certification and assessment actions using the Quantification of Margins and Uncertainties (QMU) methodology.	Outstanding
1.1	Coordinate with LANL and SNL to complete development of QMU methodology to apply quantitative measure of confidence in performance, safety, and reliability of the nuclear weapons stockpile.	Outstanding
1.2	Complete annual assessments of safety, reliability, and performance, adequacy of tools as required by law and support NNSA during coordination of the assessment process.	Outstanding
2	Develop and implement long-term, balanced, integrated stewardship consistent with NNSA Complex 2030 goals and transformation plans.	Outstanding
2.1	Support the needs of warhead assessment, certification, and simulation validation by executing coordinated program of targeted small- and large-scale experiments and mining of archival UGT data.	Outstanding
2.2	Develop and demonstrate Science Campaign models, experiments, and capabilities that support the ongoing needs of stockpile assessment and certification.	Outstanding
2.3	Develop and demonstrate Advanced Simulation Computing capabilities that support the ongoing needs of stockpile assessment and certification.	Outstanding
2.4	Continue to improve and apply tools and models for prediction of systems, subsystems, and/or component lifetimes.	Outstanding
2.5	Develop and implement a collaborative and complementary program of experiments at HED facilities that support assessment and certification needs.	Outstanding
2.6	Develop, implement, and lead an integrated national program (NIC campaign) with the goal of executing a credible ignition experimental campaign on NIF in 2010.	Outstanding
2.7	In cooperation with LANL and NNSA, continue development and implementation of an integrated program and governance model for plutonium capabilities of LANL and LLNL to support overall NNSA strategic requirements.	Good
3	Develop with NNSA and implement near-term balanced weapons programs to meet the needs of the US nuclear deterrent.	Good

Measure	Description	Rating
3.1	Conduct stockpile surveillance, investigate significant findings and issues identified in technical assessment reports, establish closure plans for Significant Finding Investigations (SFIs).	Outstanding
3.2	Complete programmatic deliverables as specifically described in the Defense Program Milestone Reporting Tool.	Outstanding
3.3	Meet directive schedule requirements.	Good
3.4	Provide technical support to production complex operations, including IWAP or its successor, weapons point of contact programs, and weapons response analyses.	Good
3.5	Continue to implement and execute a weapons design and manufacturing QA program consistent with NNSA-approved plans and requirements (QC-1, Rev 10).	Good
4	Nonproliferation and Threat Reduction	Outstanding
4.1	Provide technical capabilities to limit or prevent the spread of materials, technology, and expertise related to weapons of mass destruction and secure inventories of surplus materials and infrastructure usable for nuclear weapons.	Outstanding
4.2	Develop and support technologies and analytical capabilities to detect, identify, dismantle and monitor proliferation and terrorist-related WMD activities.	Outstanding
4.3	Support the needs of the intelligence community by providing intelligence analysis capabilities and science and technology that improve the ability to detect and thwart proliferation and terrorism to include nuclear, biological, and chemical threats.	Outstanding
5	Science, Technology, and Engineering Excellence	Good
5.1	Maintain laboratory science and engineering excellence needed to support national security missions and emerging needs.	Outstanding
5.2	Develop and implement an integrated and balanced strategy for investing LDRD, programmatic and institutional resources to ensure the long-term vitality of the laboratory in support of national security missions and emerging needs.	Outstanding
5.3	Execute non-NNSA sponsored projects and programs that utilize the laboratory's unique expertise, capabilities, and facilities in a manner that enhances its ability to accomplish current and future national security missions, including those related to homeland defense and security.	Good
5.4	Foster active participation in the broad scientific and technical community, leveraging unique laboratory expertise and capabilities; develop strategic collaborations with other national laboratories, industry, and academia.	Outstanding
5.5	Develop and support technologies and analytical capabilities to protect against and respond to terrorist threats against the US.	Outstanding
6	Optimize current and evolving mission performance by providing effective and efficient facilities and infrastructure.	Outstanding
6.1	Operate mission essential and user facilities as national capabilities, including National Ignition Facility, Device Assembly Facility, Superblock, Site 300, and High Performance ASC Computers.	Outstanding
6.2	Reduce the site footprint (non-process contaminated facilities) consistent with NNSA approved Complex 2030 infrastructure plans, which may include the transition of DP programmatic work from Site 300.	Good
6.3	Execute construction projects as identified and agreed between NNSA and the Laboratories within scope, schedule, and budget.	Outstanding
6.4	Improve and sustain the physical infrastructure needed to support Laboratory operations.	Outstanding
6.5	Remove CAT 1/II SNM and transfer programmatic work from LLNL by the end of 2013.	Outstanding
6.6	Demonstrate progress towards achieving the energy efficiency and water conservation goals and objectives contained in Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management, the requirements of the Energy Policy Act of 2005 (EPACT 2005), and the goals of DOE's Transformational Energy Action Management (TEAM) initiative.	Good

Explanation for Mission Measure Ratings:

1.1 Overall, during the FY 2008 period, LLNS has made an outstanding accomplishment in warhead assessment and certifications by utilizing QMU methodology and technical objectives related to developing predictive capabilities for stockpile assessment. Based on LSO's reviews, LLNS has made significant progress in completion of initial energy balance models and the development of working models in Secondary Design Codes.

1.2 LLNS has done outstanding work to complete annual assessments of safety, reliability, and performance, adequacy of tools as required by law and support NNSA during coordination of the assessment process.

LLNS developed a comprehensive certification strategy for the reliable replacement warhead (RRW) which has become the model for future certification activities. LLNL's QMU results were incorporated into the Annual Stockpile Assessment Process and presented at various internal and external peer-review forums, including Annual Assessment Reviews and JOWOGs, the joint working group meetings with the United Kingdom's Atomic Weapons Establishment.

LLNS did extensive work to implement the Laboratory's ensemble-of-models approach for quantifying uncertainties to two additional weapon systems. It was first applied in FY 2008 to the W80 and reported in Cycle 13 of the Annual Stockpile Assessment Review. The approach was also extended to the W87 secondary assessment.

LLNS developed and implemented a physics-based model to enable more predictive assessments of stockpile system performance, a key element of the Stockpile Stewardship Program. It delivered a first-generation energy balance model, installed it in Advanced Simulation and Computing (ASC) codes, and applied it to a weapon system. Results were compared with those from a legacy model. These models enable stockpile performance assessments and allow changes to be made to the stockpile that extrapolate beyond the test base without underground nuclear testing. This was outstanding work to support an NNSA Getting-the-Job-Done deliverable.

Through application of their most advanced tools and modern weapons baseline models, LLNS revealed previously unknown performance characteristics of a system. This assessment was a direct result of LLNS' focus on improving the Laboratory's assessment tools.

In their June 2008 report, WCI's Director's Review Committee (DRC) said, *"WCI-supported science and technology (S&T) is generally first-rate and much of it is world-class; the technical staff behind this S&T is equally outstanding. Even in the face of declining budgets, the S&T support of stockpile stewardship, and the technical staff doing the work, are currently fist-rate."*

2.1 LLNS has done outstanding work to support warhead assessment, certification, and simulation validation by executing coordinated program of targeted small and large scale experiments and mining of archival UGT data.

LLNS reduced uncertainty in weapon performance calculations by developing physics-based models for energy balance and boost in weapon physics simulations. LLNS led the completion of deliverables on energy balance, demonstrated improved 3-D modeling, and prepared for FY 2009 experiments at NIF. For boost, LLNS helped develop a national strategy that maximizes the strengths at each of the national laboratories, gave well-received presentations at the JASON Summer Study on Boost, developed modeling tools to prioritize the research areas that provide the greatest leverage in reducing uncertainty in boost, and completed a series of shots at the JASPER Facility that resulted in a more accurate low-pressure equation-of-state (EOS) for plutonium.

LLNS conducted one major hydrotest at LANL's Dual-Axis Radiographic Hydrodynamics Test (DARHT) Facility and one at LLNL's Site 300 CFF. LLNS also executed two W76 hydrotest experiments for LANL at CFF. In addition, LLNS made significant contributions to the LANL DARHT Second Axis project, which completed a Level 1 milestone in FY 2008.

Plutonium Equation-of-State Experiments: JASPER and DAC
Working in collaboration with National Security Technologies (NSTec) and the Joint Nevada Program Office, the Contractor's JASPER team successfully executed six SNM and several supporting surrogate experiments after the Justification for Continued Operation was approved in April 2008. These experiments included three different types of experiments and the completion of a series of tests for the low pressure EOS for plutonium. The completed test series provided data that has been applied to verification and validation efforts such as the Primary Metrics Project. The number of SNM shot experiments exceeded those in FY 2007 despite the temporary halt in activities at JASPER.

Four diamond anvil cell runs were successfully completed at the High-Pressure Collaborative Access Team Facility at Argonne National Laboratory's Advanced Photon Source. FY 2008 work included: isothermal high-pressure experimental runs to produce pressure–volume–temperature (PVT) tables, measurements of high-temperature isotherms at higher pressures to determine phase boundaries, PVT values for validating theoretical models, and EOS experiments. All of this work, including dynamic data from JASPER experiments, supports the validation of theoretical models.

Both the WCI's DRC June 2008 report and the JASON Summer Study report on Boost emphasize the importance of current EOS data on plutonium. The WCI's DRC report states: *The present and planned modeling and experimental program of producing a modern EOS for plutonium is a brilliant synthesis of theory and experiment. It is enabled by laboratory-unique facilities such as the ASC platforms, the two-stage gas gun JASPER, and (in the future) NIF experiments. This is world-class research that will be essential in science-based stewardship, certainly including the NBI boost program.*

2.2 LLNS has done outstanding work to develop and demonstrate Science Campaign models, experiments, and capabilities that support the ongoing needs of stockpile assessment and certification.

LLNS reduced uncertainty in weapon performance calculations by developing physics-based models for energy balance and boost in weapon physics simulations. LLNS led the completion of deliverables on energy balance, demonstrated improved 3-D modeling, and prepared for FY 2009 experiments at NIF. For boost, LLNS helped develop a national strategy that maximizes the strengths at each of the national laboratories, gave well-received presentations at the JASON Summer Study on Boost, developed modeling tools to prioritize the research areas that provide the greatest leverage in reducing uncertainty in boost, and completed a series of shots at the JASPER Facility that resulted in a more accurate low-pressure equation-of-state (EOS) for plutonium.

National Boost Initiative
LLNL's nuclear performance system is integral to the simulation portion of the NBI. Ultrahigh-resolution simulations have provided unprecedented insight into the behavior of the boost process, and studies have been performed to evaluate the impact of new multiphase EOSs on the predictions of nuclear performance. This nuclear performance system is emerging from the consolidation of LLNL's two existing ASC integrated weapons performance codes in order to reduce dependence on legacy codes for weapons certification capability.

LLNS defined and implemented methods for identifying the key physics issues in boost. In coordination with LANL, SNL and NNSA, LLNS led efforts to produce an integrated national plan for NNSA that outlined the required technical approach and contributions from each site. LLNS subsequently issued an implementation plan for LLNL efforts within the NBI.

The June 2008 WCI's DRC report states:
The NBI is not only a state-of-the-art program in understanding boost physics through closely-coordinated experimental and simulation efforts, it is also perhaps the premium example of unselfish collaboration between the design laboratories. . . . NBI workers are very careful to prioritize their work so as to answer the standard QMU question 'How much is enough?'. . . The NBI is scientifically at the head of the class, even though there is a great deal yet to do.

Both the WCI's DRC June 2008 report and the JASON Summer Study report on Boost emphasize the importance of current EOS data on plutonium. The WCI's DRC report states:
The present and planned modeling and experimental program of producing a modern EOS for plutonium is a brilliant synthesis of theory and experiment. It is enabled by laboratory-unique facilities such as the ASC platforms, the two-stage gas gun JASPER, and (in the future) NIF experiments. This is world-class research that will be essential in science-based stewardship, certainly including the NBI boost program.
The JASON report on Boost states that LLNL's plans are thorough.

Dynamic Plutonium Experiments Roadmap -In FY 2008, LLNS, LANL, and SNL developed a 10-year roadmap for dynamic plutonium experiments, outlining the strategy for the three laboratories.
Phoenix -The Phoenix effort remains on schedule for delivering a platform to obtain constitutive property data at extreme pressures for materials of interest to the weapons program. The platform completed in FY 2008 was very successful, breaking all pulse-power world records. A number of

Phoenix experiments are scheduled in FY 2009. Platforms needed for the FY 2009 experiments are being assembled to support this shot schedule.

DARHT Second Axis Project - LLNS developed and implemented all the downstream hardware and four-pulse targets for LANL's DARHT Second Axis project, which completed a Level 1 Milestone. Ray Scarpetti, the DARHT Project Manager, wrote, "I can't say enough about the huge contribution [that the LLNL team] made to this success."

Aging -LLNS made numerous improvements in aging models for plutonium, canned subassemblies, high explosives, non-nuclear components, polymers, and adhesives during FY 2008. LLNL's aging work contributed to the Federal Technical Basis for Stockpile Transformation Planning document that replaced the Life Extension Option document for scheduling future refurbishments in the stockpile. LLNS also published an extensive white paper on QMU in Engineering Systems.

2.3 LLNS has done outstanding work to develop and demonstrate ASC capabilities that support the ongoing needs of stockpile assessment and certification.

LLNS led in developing and exploiting tools for high performance computing. LLNS' execution of the TriPod strategy was an outstanding complex-wide success. TriPod provides a common approach to operating and installing capacity computers. In FY 2008, TriPod activities focused on a common software stack for capacity computing at LLNL, LANL, and SNL. LLNL also sustained a very high level of tri-laboratory utilization on its ASC computer systems, which supported major jobs such as calculations for LANL's W76 life-extension program (LEP). BlueGene/L achieved a new peak performance level of 596 teraflops and 478 teraflops on the Linpack scale, retaining its number 1 rating through much of the fiscal year.

Also in FY 2008, LLNS was proactive in working with the tri-laboratory community and HQ to develop a weapon code consolidation strategy. The LLNL approach—a single LLNL code system—is featured in an HQ document (currently in process at HQ) that describes the code strategy. In addition, the ASC Program's emerging National Code Strategy identified LLNL's advanced code systems as key components of the national simulation portfolio. LLNL is the lead laboratory for two of the four national integrated capabilities for specific applications: (1) NEP safety and surety and (2) high-energy-density physics and inertial confinement fusion.

High-Performance Computing

The Livermore Computing (LC) Facility continued its international leadership role as a NNSA user facility. The WCI's DRC June 2008 report states, "Livermore is head and shoulders above the rest of the world in advanced computing facilities, and Sequoia promises to maintain this lead." The April 2008 report from the Predictive Science Panel also contained positive comments in support of ASC. The report recognized how important ASC is to complex transformation and praised the Contractor's acquisition and architecture strategy for Sequoia and the simulations of Kelvin-Helmholtz instability run on BlueGene/L.

Purple. The Purple User Facility provided unprecedented levels of node-utilization—over 90 percent averaged over the past year compared to a more traditional service level between 75 and 85 percent. The increase in efficiency is a significant bonus for the program. This increase was achieved by using sophisticated computer algorithms to effectively prioritize work, and LC

support personnel ensured that big jobs (the target customer of Purple) were scheduled without delay. Through these processes, Purple remained heavily utilized and met the mission goal of running larger jobs at the 2,000 to 8,000-processor level.

BlueGene/L. In fall 2007, a Livermore team won a Gordon Bell prize for research they conducted on BlueGene/L using Kelvin–Helmholtz calculations. This simulation produced the first representation of hydrodynamic processes at the atomic level. LLNS continues to carry out Kelvin–Helmholtz calculations on the machine because of their implications for multi-scale modeling science. LC personnel regularly contact the user community at all three laboratories to schedule major jobs and high-priority work on BlueGene/L.

The Physics and Engineering Modeling component of ASC at LLNL used BlueGene/L to address Level 2 milestone deliverables. In addition, NIF will soon request a major allocation on BlueGene/L for 3D Laser Plasma Interaction calculations important for tuning ignition experiment. These high-profile requests exemplify BlueGene/L's credibility in the user community, which results from the LC support staff working closely with customers to address bugs and performance issues. BlueGene/L, which is now co-owned by ASC and the institution, was taken down late in the summer and 40 racks were moved to the open environment. This complex installation was completed on schedule, and the two resources have returned to operation. As a result, a resource is available for unclassified work, supporting both the science and technology base and the program.

Sequoia Procurement. LLNS issued a Request for Proposals (RFP) and received bids for Sequoia. LLNS successfully executed the bidding process, receiving bids for 20-petaflops systems within the specified budget. Although Sequoia is not yet fully designed and will not be complete for another four years, this bidding process represents a highly successful LLNS technical and procurement strategy. In addition, the Sequoia procurement was configured so that potential research contracts were possible for high-quality bidders that did not receive the Sequoia award. This forward-looking strategy of LLNS and ASC HQ maintains a long-term healthy relationship with multiple bidders and assures that quality bids will be received for future procurements, both at LLNL and at ACES (LANL, SNL consortium).

2.4 LLNS has been outstanding in its efforts to continue to improve and apply tools and models for prediction of systems, subsystems, and/or component lifetimes. It has continued to develop improved predictive capabilities for CSAs, cases, HE, detonators, and non-nuclear components and materials to support lifetime assessments and certification.

LLNS refined the most important gas source term in the W80 and were able to correlate it with storage temperature, age, accumulated radiation dose (from intrinsic and extrinsic sources). It refined the B83 aging model and brought it into closer agreement with surveillance data. It contributed to the understanding of HE aging through the development of a predictive IHE model that resulted in unprecedented agreement with actual test performance and through the implementation of a new diagnostic at Pantex Plant. LLNS encountered and rationalized an unanticipated aging mechanism in a non-nuclear system that had been under surveillance for many years. It determined one of the failure thresholds for the detonator/booster interface and continued modeling the aging of MSADs. It successfully demonstrated the application of a

simplified gas sampling system on a live warhead at the Pantex Plant. LLNS developed improved models and contributed to the understanding of several non nuclear materials and processes.

LLNS conducted numerous successful reviews and presentations on aspects of the W80, W83, and W87 in support of this measure.

2.5 LLNS was outstanding in its efforts to develop a collaborative and complementary program of experiments at HED facilities that support assessment and certification needs. LLNS worked with LANL in support of the National Hydro Test Plan for FY 2008. This plan contains schedules and overall budget for each Integrated Weapons Experiment (IWE) and Focused Experiment (FE). Throughout FY 2008, LLNS worked on assessing the risks to the hydrotest program and stockpile mission in support of complex transformation and developing the PEIS Preferred Alternative. These issues have been consolidated into a year-by-year plan through 2015 and submitted to NNSA in September 2008. In addition, a plan was prepared for the consolidation of open-air testing at S-300 in FY 2008 and FY 2009.

2.6 The Contractor did an outstanding job in safely executing the National Ignition Campaign (NIC) enhanced management effort within scope, schedule, and budget baselines. The NIC is approximately 27% complete and on schedule for beginning first integrated ignition experiments by the end of FY 2010. The physics requirements continue to be refined for the initial ignition target design and were validated through extensive reviews of recent OMEGA and Z experimental data and high-performance computer simulations. A detailed experimental plan was developed that defines all system shot requirements, both primary and contingency, for fielding the FY 2010 credible ignition campaign on the NIF. Prototype ignition target components have been successfully fabricated, assembled, and tested at General Atomics and the LLNL. Additional accomplishments include assembling the first ignition target inserter and cryostat (I-TIC) and demonstrating the required cryogenic temperature control NIC milestone completion was very good, with five of the seven FY 2008 MRT Level 2 milestones completed on or ahead of schedule, including one (14%) completed more than 30 days ahead of schedule, and two milestones completed less than 30 days late. [Note: one FY 2008 MRT Level 2 milestone "Complete Personnel and Environmental Protection System (PEPS) Title II design" was moved into FY 2009 due to directed change BCP 08-003 for the FY 2008 funding reduction] NIC earned value performance (based on the latest data available from the August 2008 NIC monthly report) was excellent, with SPI =0.9910 and CPI =1.0247. The NIC safety record for FY 2008 was "world class", with a Total Recordable Case Rate of 0.6. Also, all NIC monthly reports due in FY 2008 were received on time.

2.7 In FY 2008, LLNS worked to develop an integrated program for plutonium capabilities of LANL and LLNL to support overall NNSA strategic requirements. A plan for the consolidation of SNM work at LANL was submitted for review, but work remains on developing an effective governance model for managing this work. LLNS has continued to support efforts with JNPO/NSTec to provide for a three year plan for operations at the NTS.

3.1 The Contractor was outstanding in FY 2008 conducting stockpile surveillance, investigating significant findings and issues in technical assessment reports, and establishing closure plans for SFIs. Throughout FY 2008, LLNS has not had any open high priority SFIs. LLNS has released approximately 500 Engineering Authorizations covering a full range of activities this year. Releases were accomplished on schedule with no issues identified in the Pantex Weekly Critical Items Memo. Issues were quickly resolved and LLNS was able to achieve all D&I requirements on currently deployed systems, support Pantex in exceeding Dismantlement goals for FY08, and resolved a number of issues with respect to packaging, storage and shipping of detonators and pits. Costing was within FY 2008 allocation for this activity.

LLNS has applied the latest improvements in scale simulation code and inputs to accelerate baseline schedule for closure of high priority SFIs. LLNS continued the development of enhanced materials models in support of this Performance. LLNS continues to use ASC codes, as required, to thoroughly assess the impacts to non-High Priority SFIs and to address SFI recommendations (e.g., cracked HE, weld voids, etc.).

3.2 LLNS has completed programmatic deliverables as specifically described in the Defense Program MRT in an outstanding manner. LLNS has achieved 97% of Level 1 and 2 milestones completed as of September 30, 2008 per the 4th Quarter's final submittal into the NA-10 Milestone Reporting Tool (MRT).

LLNS has continued to support LANL on the LEPs for the W76 and B61-7/11. LLNL participated in a number of activities in support of the W76 LEP. Activities included:

- Peer review of the W76 LEP NEP design package,
- Leading the Y-12 Baseline Material Production Code Blue,
- Conducted Peer Review to assess the viability of an alternate material for use in the secondary, and
- Supported the W76 electro-static discharge safety basis assessment.

Throughout FY 2008, LLNS worked on assessing the risks to the hydrotest program and stockpile mission in support of complex transformation and developing the PEIS Preferred Alternative. Identified issues have been consolidated into a year-by-year plan through 2015 and submitted to NNSA in September 2008. In addition, a plan was prepared for the consolidation of open-air testing at S-300 in FY 2008 and FY 2009.

3.3 LLNS continued to provide good support on all enduring and retired weapon systems and weapon production plants. LLNL systems at Pantex were maintained at essentially full operational status and support was provided for the surveillance requirements for the LLNL systems. LLNS supported the W87 extended range flight test, including the use of improved data and imagery capture capabilities.

LLNS provided a plan with the option to consolidate hydro testing to two facilities at LLNS/CFF and LANS/DARHT. In FY 2008 input from both LLNS and LANS were consolidated into National Hydro Test Program (NHTP) and all FY 2008 and quarterly updates were submitted on

time to NA/HQ. The Plan provided the basis for efforts to provide a consolidated strategy for hydrotesting at DARHT and CFF/FXR facilities.

3.4 LLNS provided a good level of technical support to production complex operations, including weapons point of contact programs. LLNS provided a timely weapon response and review and processed changes that ultimately minimized delays. LLNS provided important assessments and peer review for the W76 LEP focused on the potential use of alternate materials if production issues could not be resolved at Y-12. LLNS continued to provide good support for LLNL weapons system activities at Pantex (W88/SS, W84/SS21, W87, B83 JTAs, W80, and W62.) and the CASTLE production tool which being used to streamline the B53 dismantlement authorization process as well as support of NESS Study group. Pantex has recognized LLNS as providing excellent technical support on a number of programs which contributed to Pantex having a very successful year.

3.5 LLNS has made good progress on Quality Control Program to meet QC-1, Rev 10 requirements. It is expected to fully meet this PEP in support of the weapon QA. It has completed and issued approved Quality Implementing Procedure for Weapon Response. LLNS has made progress on resolving deficiencies in Detonator Surveillance Program as well as meeting Pit manufacturing technologies.

Good progress was made on further demonstrating the LLNL advanced foundry process and the casting, machining, and inspection of the cast parts. Two additional equatorial welds were required to demonstrate manufacturing feasibility. Both were successfully demonstrated. LLNS complete all major milestones as described in the approved pit manufacturing Enhanced Collaboration work streams, including laser welding, sealed fabrication, increased Uranium, reusable ER crucible, and directed RD&T (Pit development).

LLNS had no high priority SFIs, but LLNS continued to develop an appropriate level of assessment planning for all SFIs. LLNS has made progress to identify process changes and software development needed to deliver surveillance information more quickly to engineer for evaluation by the end of this Fiscal year. A joint LLNS and LANS study has determined that surveillance information can be delivered in near real-time by leveraging NWC wide efforts to establish a common PDM link solution for information sharing.

Advances were made in the development of portable diagnostic capabilities to support facility-free hydrotesting, including the development of facility free radiography diagnostics and portable accelerator beamlines.

4.1 The Contractor did an overall outstanding job against this measure. It successfully developed and provided technical capabilities to advance nonproliferation and threat reduction efforts. It conducted numerous export control workshops and seminars, including the first of its kind “Commodity Identification Workshop” in one country which involved a second country participation and resulted in marked positive changes in that country’s export control and licensing laws;

In the area of seismic monitoring, the Contractor successfully collaborated on two projects with Israel and several middle-eastern states to broaden regional cooperation in the reduction of earthquake loss.

The Contractor successfully conducted first weapons laboratory Additional Protocol Complimentary Access and monitoring inspection exercise, as well as all activities in support of the Declaration pending Entry into Force.

In support of confidence building measures, evaluations of Russian and other former Soviet republic TID (tamper indicating devices) was completed.

The Contractor successfully completed a joint US/UK radiation measurement campaign in support of NA 241 objectives. Post exercise analysis of gamma ray and neutron measurement were singled out for praise.

Presentations on the Organization for the Prohibition of Chemical Weapons (OPCW) project (successfully completed in 2nd quarter) were made to DHS S&T, FBI and foreign delegation and were well received.

4.2 The Contractor did an overall outstanding job against this measure. It successfully developed and provided technical capabilities to advance nonproliferation and threat reduction efforts specifically in the areas of electro-optic remote sensing, remote and persistent surveillance, collection and analysis of U and Pu samples, seismic monitoring, remote sensing and detection of SNM, forensics and attribution of WMD. Evidence files supporting this work and other accomplishments addressed by this measure were reviewed in detail but are not attached due to the sensitivity of the work. All supporting documentation is available in the HQs NA 22 PMIS tracking system.

All MPC&A metrics achieved, including development of regulatory documents in concert with PNNL.

The Contractor successfully completed an integrated S&T Roadmap in conjunction with LANL, PNNL and ORNL, improving the capability for the tracking, signature identification and exploitation of source data.

4.3 The Contractor performed in an overall outstanding manner against this measure. It successfully exceeded the metrics set in conjunction with HQs by successfully developing and demonstrating the next generation tools for intelligence analysis of nations and terrorist threats. The evidence file with the detailed particulars attesting to this outstanding work was reviewed during a series of sessions on a classified network. Customer and sponsor declarations of satisfaction were also available on that medium.

Specific achievements called out in open sources include:

- Success of the computerized visualization framework project;
- The end to end exploitation (E3) tool- used to combine data feeds from various sensors;

- The predictive knowledge system (PKS), which builds multisource info representations to enable relational analysis;
- Document Exploitation (DOCEX) LDRD project which demonstrated a triage approach to foreign language documents; and
- Network analysis tool used to facilitate analysis of WMD procurement networks

The HQs element responsible for the technical review of these achievements (IN-10) has indicated they are well pleased with both the content of the reviews and the successful application of the tools developed by the Contractor during this rating period.

5.1 The quality of science and technology and support of DOE missions at LLNL is at an outstanding level.

Numerous LLNS Scientists and engineers have been elected fellows of prestigious professional societies including AAAS, APS, and ASME, HPS, NAS, and SPIE. LLNS employees have also been elected to leadership positions in professional societies including AAAS, APS, and ASME, NAS.

Laboratory researchers have been selected for noteworthy prizes and awards such as the 2008 Will Allis Prize from APS, shared a Nobel Peace Prize, Thomas D. Moore Award by the U. S. Air Force Academy, won 2 Federal Laboratory Consortium awards for excellence in Technology Transfer, won 3 R&D 100 awards, Awarded Helmholtz-Rayleigh Interdisciplinary Silver Medal, LLNL's Engineering Division received 2 national safety Awards of Excellence from the National Safety Council, LLNL technology received "Best Soldier System Innovation and Technology Award, 2008 Larry Foreman Award, and five laboratory technologies and one researcher were named winners in the 4th annual Nanotech Briefs Nano 50 Awards Competition, and one computer scientist was awarded a Fulbright Student Grant.

Approved Non-DOE (WFO) sponsored projects continue to support LLNL's core competencies relevance and DOE and Homeland Security Missions along with other federal agency (OFA) missions for AF, Army, National Guard, Marine Corp, DARPA, MDA, DTRA, and NASA. Academia and non-federal entities are also supported by LLNL on WFO.

External Review Committees met throughout the year at LLNL to review the quality of science and technology and relevance to the mission. The majority of external reviewers indicated that LLNS staff were able to focus on maintaining the high quality of science and technology efforts and support of DOE missions at an outstanding level.

LSO has highlighted DRC Review comments on the quality of science and technology and mission relevance below:

- **Global Security Program Review**. Based on the presentation and the Committees knowledge of its program directorate and LLNL, the GS DRC evaluated the science, engineering, and relevance to national needs and agency missions and programmatic performance to be ***"Outstanding".*** This programmatic review focused on nonproliferation, energy and environmental security and a separate portfolio review

focused on DoD work at LLNL. The Committee was briefed on the notable work of ***Ben Santer*** in Climate Change Research. "The Committee notes that the world-class effort demonstrates that the laboratory is better than perhaps anyone in the Nation in its understanding of the physics and phenomenology…" The Global Security peer review committee was also pleased with the work being conducted at LLNL on Underground Coal Gasification combined with the work on carbon sequestration. The technology at LLNL is attracting interest from industry.

- **Engineering Review Committee Comments**. This review was limited to multi-scale multi-physics modeling and simulations – this, "…is an outstanding example of how pushing frontiers of knowledge to improve the quality of practice has impacted the delivery of outstanding programs at the laboratory."
- **Chemistry, Material Science, Energy, and Life Science DRC**. LLNL's Program addressed the issues surrounding damage mechanisms by NIF optics and mitigation strategies and the Committee indicated that it is at an impressive stage. The committee also indicated LLNL is "internationally recognized for its pioneering materials research for target fabrication.

5.2 The overall quality of science and technology in the LDRD Program and support of DOE missions at LLNL is at an outstanding level.

The Laboratory Directed Research and Development (LDRD) Program at LLNL continues to support DOE's Strategic Plan/mission relevance in science, engineering, and new technology investments during FY 2008. Some projects originally-funded by LDRD have received follow-on funding by other federal agencies.

Projects sponsored by LDRD consistently account for a large percentage of the patents issued for LLNL research. During 2008, 21 patents were based on LDRD-funded research out of 55 LLNL issued patents. Collaborations are absolutely essential to conduct research and development. By collaborating formally and informally with other national laboratories, academia, and industry, LDRD researchers are able to access world-leading facilities and serve as active and prominent members of the scientific community.

In FY 2008, LLNS researchers won 3 R&D 100 awards; two of the three were based on LDRD-sponsored research. Several LDRD funded projects published papers in high-profile journals.

Other noteworthy Accomplishments from 2008 funded projects are:

- Wind Energy. LLNS, with LDRD support has incorporated a very high resolution turbulence parameterization into the community numerical weather prediction model. LLNS is looking to develop a CRADA with a major turbine manufacturer/wind park developer so that LLNL's forecasting tools can be used with their management software.
- LLNS has patented and trademarked GyroSolé^{TM} technology to provide a distributed solar thermal power as a solution to the emerging global energy crisis. Initial development of this innovative technology was supported at LLNL through LDRD funding. LLNS will be looking to find several companies for commercial partnership.

- Underground Coal Gasification (UCG). There continues to be a need for low-cost power for energy security. LLNL is one of three institutions in North America and one of eight worldwide that has practical experience and technical knowledge in UCG. LLNS has invested funding under the FY 2009 LDRD Program for technology development.
- Monte Carlo Markov Chain for Multidisciplinary research. LLNS is working on a Bayesian technique based on a Monte Carlo Markov Chain approach to map oil recovery zone, subsurface plumes in CO2 sequestration applications. LDRD funding was used to develop the set of original set of tools on which current tools are based. LLNS is partnering with a major oil company with the goal of optimizing oil recovery from reservoirs for our nation.

5.3 The Contractor's efforts at executing non-NNSA sponsored projects and programs have been good in FY 2008. The Contractor took steps to improve business development and processes in WFO:

- Established a Global Security Business Development Office and developed a "statement of work" template for internal use by their staff;
- Six Sigma team defined improvements need for the WFO proposal approval process. Reduced average processing time in 2007 from 26 to 20 days in 2008;
- Increased non-NNSA work/funding in FY 2008. This included meeting a goal of $3 million in energy programs; and
- Received customer inputs on their satisfaction of their work.

2008 Contractor Success Stories:

- Long WaveInfraRed Hyperspectral Imaging systems have the potential to detect, identify, and characterize production activities (counterproliferation activities). LLNL is well known for developing unique LWIR instruments because of their compact size and low weight. LLNS has been working on developing a cryogenically cooled spectrometer. LLNS is currently partnering with Industry under a WFO project with a non federal entity on spectrometer technology;
- LLNS received Federal Laboratory Consortium (FLC) awards for the Fission Meter and TomoTherapy, as well as, acknowledgements for Outstanding Partnership for the Cargo Container Intrusion Detection and Outstanding Technology Development for the Autonomous Pathogen Detection System (APDS) and Outstanding Technology Development for the Noninvasive Pneumothorax Detecto;
- Continued to receive Department of Homeland Security Funding for technical support in Biowatch/Biodetection, Explosives and radiological/nuclear detectors, and infrastructure protection countermeasures;
- Successfully completed its 22nd Proficient test to retain its certification in support of the Organization for the Prohibition of Chemical weapons. LLNL is one of two U. S. facilities accredited to accept samples and analyze them for possible presence of chemical weapons under CWC; and
- The Contractor provided valuable assistance to many government entities in support of TOPOFF4.

LLNS has demonstrated a continued weakness in the quality of WFO proposal/SOW development and need for a centralized web-based database system. LLNS was unable to grow science agency programs during FY 2008 by $10 million.

5.4 The Contractor continues to foster active participation and leverage its unique capabilities to collaborate with industry. The Contractor has been rated at the outstanding level.

- Awards. LLNS won two 2008 awards from the Federal Laboratory Consortium for the Fission Meter and Dielectric Wall Accelerator technology. UltraCell Corporation announced that its micro-fuel cell platform garnered the prestigious Best Soldier System Innovation and Technology Award at a 2008 Conference.
- Successes. Listed are some of the FY 2008 successes in the commercialization of the contractor's technologies:
    - Microfluidic Systems, Inc. (MFSI) on Microfluidic-Bioagent Autonomous Networked Detector (BAND) was awarded a Phase III continuation contract by DHS;
    - The Contractor executed a licensing agreement with a small startup company for the Nucleic Acid Detection and Analysis technology for the real time polymerase chain reaction instrument market;
    - Power Air Corporation, LLNL's licensee of fuel cell technology, announced they had entered into an agreement with the National Research Council of Canada Institute for Fuel Cell Innovation;
    - Curtiss-Wright Corporation announced that its metal treatment segment has been awarded a contract from Boeing to establish a laser peen forming production cell inside of Boeing's Washington facility. The technology will be used for shaping the complex curvatures on the wing sections of the new Boeing airplane 747-8; and
    - LLNS has collected $9.4 million in royalty revenue during FY 2008 and have 21 active licensing agreements.

Although LLNL had its biggest commercialization year ever by doubling the amount from FY07, the LLNS RIF reduced FTEs needed for commercialization activities and LLNL was not able to achieve the commercializing technology goal.

LLNS management attention is needed to ensure reductions in force will not affect their capability to commercialize technology to aid the United States in promoting economic growth for the future.

5.5 The Contractor's quality of the science, engineering, and technology was evaluated by external peer review committees during FY 2008. The committees overall rated LLNS at an outstanding level on science and technology based on its reports. The Contractor's progress also included:

- LLNS prepared a gap analysis of DHS requirements to ensure long term sustainability of programs. LLNS developed and proposed an equity investment model for DHS work in collaboration with Sandia California, LANL, ORNL, and PNNL;

- LLNS has demonstrated analytical capabilities on several WFO projects known as CAPS, JCATS and HOPS. LLNS is supporting DHS in the BioDefense Knowledge Center. LLNS also worked on an infrared hyperspectral imaging sensor. The system is used for detecting gas plumes of interest to the nonproliferation community. LLNS also developed detailed computational models for seismic wave propagation to advance monitoring and detection;
- Other Areas of Recognition of LLNS employees include a letter of commendation from STRATCOM. LLNS researchers received the National Intelligence Meritorious Unit Citation, as well as a letter of commendation from the Joint Chiefs of Staff (JCS);
- EPA designated LLNL as EPA's lead Environmental Response Laboratory Network (eRLN) for chemical warfare agents and toxic industrial chemicals.
- The National Capital Region (NCR) Bio-Watch laboratory received an Award of Excellence at the DHS-sponsored Bio-Watch Workshop in August 2008;
- LLNL won an FLC Award for the Fission Meter. The FLC awards for 2008 also recognized LLNL for Outstanding Partnership for the Cargo Container Intrusion Detection, and for Outstanding Technology Development for the Autonomous Pathogen Detection System (APDS); and
- LLNL research on aerosol mass spectrometry was highlighted in the Editor's Choice Section of Science. A joint LLNL and UC Davis journal Article "On-Chip, Real-Time, Single-Copy Polymerase Chain Reaction in Picoliter Droplets" was published in *Analytical Chemistry* being featured on the American Chemical Society Publication and was noted as one of the 20 most accessed articles during the Fourth quarter of 2007. LLNL research on Microcantilever-Based Chemical sensor was selected as *The Analyst* cover article for May 2008.

6.1 LLNS supported the NTS facility transition teams in a timely manner as specified in the Project Execution Plan and modified existing Real Estate/Operating Permits (REOP) for DAF, JASPER and HE Facilities as required. While the transition was underway, LLNS operated assigned NTS facilities in a safe, efficient, and compliant manner.

Nuclear facilities in the Superblock were available for operations, and mission-critical facilities more than 99% operational during the year. Necessary DSA updates and modifications were completed in a timely manner. LLNL weapons computing systems maintained a very high utilization (>80%). At Site 300, all planned experiments at CFF were completed and bunkers 812 and 850 were closed. The contractor has been working with the Site Office and HQ to support complex transformation activities by looking at alternate management strategies for Site 300 to maintain capabilities while reducing costs.

6.2 The Contractor did a good job in reducing the overall footprint. The Contractor executed a Facilities and Infrastructure Recapitalization Program (FIRP) funded Disposition project to reduce the B212 facility by 58K+ gross square feet (GSF). No other demolition projects were executed this past fiscal year as funds from other sources were not made available. The Contractor has commenced on an aggressive plan (Strategic Space Consolidation Initiative) to consolidate up to 2 Million GSF of space. This will lead to more facilities available for disposition should funding become available. In the Supplemental Self-Assessment Report, the Contractor has reported that 1.3 M GSF can be shut down and an additional 650K GSF is under

consideration. Up to 500K GSF has also been reported in shut-down mode. It is noted that LLNS had converted 58K+ GSF of personal property to real property in late FY 2008. This will not affect the net footprint (personal + real properties) in that the facilities already existed.

6.3 The Contractor did an outstanding job in safely executing the National Ignition Facility (NIF) project within scope, schedule, and budget baselines. The NIF project is now over 98% complete and on schedule for completion in FY 2009. NIF project accomplishments in FY 2008 include: commissioning the last 11 bundles of 8 main laser beams in the Laser Bays and one bundle of 8 laser beams to the target chamber center; installing 1,012 Line Replaceable Units (LRUs) for a total of 5,600 (over 90%) of the 6,206 total LRUs installed, including all LRUs in the Laser Bays; starting installation of the production Integrated Optics Modules (IOMs), with 122 (63.5%) of the 192 IOMs installed on the Target Chamber; completing the Cluster to Target Chamber Center Management Pre-Start Review; and completing the Contractor's Readiness Assessment. All optics produced by the Contractor in support of the Omega EP construction project were delivered to LLE in accordance with agreements in effect. NIF project milestone completion was excellent, with all seven FY 2008 MRT Level 2 milestones completed on or ahead of schedule, and with five (71%) of those milestones completed more than 30 days ahead of schedule. NIF project earned value performance (based on the latest data available from the August 2008 NIF project monthly report) was excellent, with Total Project Cost (TPC) SPI =1.0002, TPC CPI = 1.0003, Assembly & Installation Program (AIP) SPI = 0.9997, and AIP CPI =1.0006. The NIF project safety record for FY 2008 was excellent, with a Total Recordable Case Rate of 1.5. Also, all NIF project monthly reports due in FY 2008 were received on time.

The Contractor did a good job managing smaller projects at the Site which fall below the $5 mil threshold. For these projects, a standard WBS has been established and is in place for estimating and cost reporting. Project estimating has been improved and initial estimates are much more accurate. A standard method for risk based contingency management was completed. Project reporting was timely and of good quality.

The Contractor supported development and implementation of complex wide software tools, databases, and reporting requirements by working with the EFCOG Project Management Working Group (PMWG) and participating in development and review of DOE O 413.3A Guides and other PMWG activities. New project reporting EVMS software was evaluated and installed. A portion of the FY 2008 Indirect Budget baseline will be tracked using this software.

LSO is concerned with the status of the Tritium Facility Modernization (TFM) project. It was reported that the project was as much as 5 months behind schedule very late in the year. There was little if any warning beforehand that the project may be behind schedule and the project report the month before the schedules slippage was communicated indicated that the project was on time. This is a serious concern to the Site Office, but was not sufficient to change the rating from Outstanding because of the strong performance of the NIF project and most of the smaller projects, which collectively represent a larger effort.

6.4 The Contractor executed the Facilities and Infrastructure Recapitalization Program (FIRP) at a high level of performance and exceeded expectations in some areas, or a good rating. The FIRP Program was executed in accordance with the FIRP Project Execution Plan (issued by

NA-52) and the LSO/LLNL FIRP Program Management Plan. LSO and LLNL FIRP Management conducted a review of random FIRP projects; the results indicated a healthy program. The LSO/LLNL FIRP PMP was also updated in September 2008. The Contractor was just short (within 2%) of their costing goal of 60%. All monthly reporting requirements were submitted on a timely basis.

The Contractor achieved a rating of good in managing its facilities consistent with NNSA's deferred maintenance goals and other objectives as stated in the TYSP. The deferred maintenance backlog was slightly reduced by $104K. The Facility Condition Index (FCI) goal of <5% by FY 2009 for Mission Critical (MC) facilities was exceeded by achieving 2.8%. The FY 2008 goal of 7.8% FCI for Mission Dependent, Not Critical (MD/NC) was met.

The availability of MC facilities was Outstanding. MC facilities were available greater than 99% (the target was 95% availability) for each quarter and the FCI remained less than the target of 5% (3.2%) for those facilities.

Overall, the Contractor's maintenance management program in the nuclear facilities was outstanding. LSO assessments of activities and documents related to nuclear facilities were from good to outstanding. The HS64 deficiency (E.5) of early 2007 was corrected where a gap analysis was completed between DOE O 433.1 and DOE O 433.1A and all the MIP documents were improved in detail – not just for B332. The Contractor included LSO in the gap analysis and review update process and successfully submitted an update of the MIP to LSO on August 29, 2008 as required.

The Contractor's maintenance reinvestment program was outstanding as it successfully recovered from an early FY 2008 shortfall of more than $2MIL below the Maintenance Funding Index (MFI) of 2% and eventually exceeded it by approximately $3MIL for a total increase in $5MIL, which equates to a 2.13% MFI. This is based on the Replacement Plant Value (RPV) of $4,319,175,048 and the projected sustainment costs of $91,926,840.

6.5 LLNS has done outstanding work to remove CAT 1/II SNM and transfer programmatic work from LLNL by the end of 2013.

LLNS successfully removed more than the agreed on quantity of SNM from LLNL to appropriate disposition sites, and accomplished this milestone ahead of schedule. The exact quantity of material shipped off site has been confirmed by LSO. LLNS completed the FY 2012 De-inventory Plan and presented it to the NNSA Principal Deputy Administrator, William C. Ostendorf.

LLNS submitted to NNSA a plan for the transfer of programmatic work involving Category (CAT) I and II SNM. The plan includes key milestones, potential barriers, critical decision points, costs of transferring the work, and preliminary estimates of the incremental costs associated with performing work at other sites. Considerable work remains to be done with LANL and NNSA on a governance model for an integrated program of plutonium capabilities to support overall NNSA strategic requirements.

6.6 The Contractor did a good job at achieving the energy, water and USGBC LEED submission goals. In addition, the Contractor fully supported the ESPC project.
The energy goal of 9% by the end of FY 2008 was exceeded with an overall 9.56% achieved. This assumes the Contractor will receive approval for the same building exclusions as in FY 2007 (including NIF). LLNS implemented a Lab-wide energy contest that encouraged friendly competition between the PADs and encouraged individual LLNL employees to pay attention to their energy use. Several energy awareness articles were included in Newsline. LLNS developed an Energy Savings Plan and some of the ideas were implemented in part or in whole, such as, increasing the chilled water set point to building chillers. In addition, several facilities occupants have been condensed, leaving many facilities cold and dark. Energy conservation projects were also implemented in some excluded facilities such as Terascale which has resulted in close to $1 million in energy cost savings.

The water goal of 2% by the end of FY 2008 was also exceeded with an overall 3.9% achieved. The actual water reduction was the result of several actions that were taken in order to save water use in the cooling towers and with existing irrigation systems and landscaping. Examples include recycling the cooling tower blow downs, saving approximately 4.9 M gallons of water per year and higher cycling of the towers to reduce blow downs. A large low conductivity water system leak was also located and repaired in September saving over 200k gallons this year.

LLNS did submit a package for B264 to the US Green Building Council on 8/29/08 under the LEED Existing Building Rating System. The package was reviewed and is attempting to achieve a silver rating. There were some areas where LLNS could have implemented policies on a site-wide basis versus just for the building and this was communicated. It is expected to take 4 more weeks for USGBC to review and reply regarding the application for a silver rating.

Grounds maintenance staff has been reduced and there a concerns related to LLNS' ability to continue to achieve water reduction particularly with the growth in irrigated turf landscaping (+5 acres) and the plans for FY 2009 related to the Lab "Beautification" project. LLNS could have achieved a greater water savings and contributed more to the voluntary 10% water reduction goal requested by the San Francisco Water District early in FY 2008. It is estimated that it takes 3.5 M gallons of water or more to irrigate just 5 acres of turf landscaping and this equates to 1-2% of LLNL's total water use. The Lab "Beautification" project involves many additional acres of irrigated turf without consideration of the California drought or use of native landscaping. LLNS has also not identified any future water reduction efforts for FY 2009. The Lab's projected water use is expected to increase in FY 2009 without a stop to the increase in irrigated turf landscaping.

5.0 Operations Measures

Measure	Description	Rating
7	Maintain safe and environmentally sound operations in an efficient and effective manner in support of mission objectives.	Satisfactory
7.1	Maintain effective Environment, Safety, Health, and Quality institutional programs and achieve operational excellence in site operations (including nuclear operations, vital safety system engineering, conduct of operations, emergency management, and RAP).	Satisfactory
7.2	Provide program management, technical support, and compliance for environmental restoration and waste management activities.	Satisfactory
8	Maintain secure operations in an efficient and effective manner in support of mission objectives.	Satisfactory
8.1	Site Security planning activities effectively integrates requirements, resources, and capabilities across all topical areas.	Satisfactory
8.2	Site Security planning activities fully support DOE and NNSA planning, and oversight requirements.	Satisfactory
8.3	Meet LLNL FY08 Annual Operating Plan (AOP) performance target milestones in the following security functional areas: Protective Forces, Security Systems, Information Security, Personnel Security, Material Control and Accountability, and Program Management and 2005 Design Basis Threat implementation.	Satisfactory
8.4	Meet effectiveness and efficiency expectations for the following security functional areas during security contractor Self Assessment, LSO Surveys, and NNSA Defense Nuclear Security (DNS) inspections: Protective Forces, Security Systems, Information Security, Personnel Security, Material Control and Accountability, Program Management, and 2005 Design Basis Threat implementation.	Unsatisfactory
8.5	Detect, deter, and mitigate foreign intelligence collection and espionage and international terrorist threats.	Outstanding

Explanation for Operations Measure Ratings:

7.1 Overall, the Contractor did a satisfactory job in maintaining an effective environment, safety, health, and quality (ESH&Q) institutional programs and in achieving operational excellence in site operations (including nuclear operations, vital safety system engineering, emergency management, and radiological assistance program). The Contractor did a satisfactory job in the five base ESH&Q targets, passed all 4 fixed ESH&Q targets, and passed 9 ESH&Q stretch targets. However, the Contractor failed 3 stretch ESH&Q targets. Despite these failures, the Contractor accomplished the following in these failed targets.

- Conducted "Safety Leadership Workshops" to develop strong consistent leadership for all supervisors. All supervisors were trained by the end of FY 2008;
- Submitted an Implementation Plan for DOE STD 1098-1999, DOE Standard for Radiological Control; Program Plan for Non-Nuclear Facility Safety Basis; and Program Plan for Construction Safety. LSO approved each of these plans;
- The Total Reportable Cases (TRC) was reduced by 16% and the Days Away Cases was reduced by 72%; and
- Near Miss Reporting Improvement Plan was developed and submitted, as required.

The Contractor submitted rule-compliant DSAs/TSRs for all nuclear facilities incorporating DOE-STD 1186, Specific Administration Controls through an accelerated annual update schedule. The LLNL safety basis program has shown improvements of the quality and timeliness of submitting and implementing nuclear facility safety basis documents. Few issues have been identified in the overall implementation of the required controls and programs which are covered by the facilties' DSA's. There are however continuing issues with the completion of actions committed by the Contractor or directed by LSO and issues with the interface between nuclear operations and W&CI which have led to a non compliance with the DOE approved USQ program and 10CFR830 and mission impacts in B334.

Since 2006, eleven (11) new beryllium (Be) sensitization cases and four (4) reportable Be-related events have been identified at LLNL, creating concern over whether the Contractor has (1) identified the underlying causes of these events, (2) identified previous Be program weaknesses, and (3) identified effective interim controls and actions and longer-term corrective actions to adequately protect workers from exposure to Be. In FY 2008, the Contractor completed an overarching causal analysis of the Be-related events and conducted an effectiveness review of the Be program. Additionally, NNSA conducted an Independent Review (IR) to assess the adequacy of the implementation of the Chronic Beryllium Disease Prevention Program (CBDPP) at LLNL and to determine whether workers are adequately protected from potential Be sensitization as intended by10 CFR 850 (the Rule). The IR team concluded that there were several areas of the LLNL CBDPP that did not adequately address the requirements and intent of the Rule, which "may be contributing to the overall program weaknesses, such as minimizing the number of beryllium workers and subsequent cases of beryllium sensitizations and/or disease". The team also "was concerned that LLNS had not completed a formal evaluation to identify and implement specific interim controls in order to provide a high level of confidence that workers were adequately protected from potential exposure to beryllium operations, and in particular the potential hazard from legacy beryllium in unknown areas, while the longer term actions were being implemented to address the underlying institutional weaknesses identified."

Consequently, LSO directed LLNL to take the following actions.

- Submit a separate Non-Compliance Tracking System report addressing the new program deficiencies identified in the IR report;
- Conduct a formal causal analysis for the nine (9) Findings and thirty-two (32) Observations from the report;
- Develop a formal, comprehensive Corrective Action Plan for the LLNL CBDPP; and
- Ensure all employees, including formal employees, are aware of dust-producing activities that may have exposed them to beryllium.

Finally, the Contractor initiated a safety pause from any work involving potential Be exposure. This pause will be in effect until a review of all Be-related work is completed. This review will include the systematic review of Be work planning and control practices.

Phase I and Phase II certification of the LLNL Integrated Safety Management System (ISMS) were not accomplished in FY 2008 due to substantial improvements that still need to be made to the Contractor's work planning and control processes. The Contractor has submitted a plan to

strengthen ISM, address work control weaknesses, implement revamped work planning control processes, and complete the ISMS certifications in FY 2009. The Contractor's progress against its plan will continue to be monitored by LSO throughout FY 2009 and factored into our evaluation.

7.2 Overall, Satisfactory – LLNS provided LSO with quality environmental products consistent with regulatory requirements, agreements, and permits and overall met all external regulatory requirements and commitments. It also supported LSO in meeting its federal obligations under NEPA, CERCLA, Endangered Species Act, and the National Historic Preservation Act by providing timely and high quality analyses and supporting information. The Radioactive Waste Management program ensured safe and compliant operations, identified and implemented operational and facility cost savings and applied those cost savings to dispose of additional waste to approved disposal facilities.

However, LLNS did not meet its commitments in implementing a forward-looking Environmental Management System consistent with DOE requirements. It also did not make sufficient progress on EMS related goals associated with pollution prevention, waste minimization, and resource management. Without an implemented EMS, LLNS does not have a proactive program to ensure meeting DOE's commitments to environmental stewardship.

8.1 Specifically, security requirements traceability is incorporated across all security documentation – the Annual Operating Plans, FS-20 budget submission, and the Site Safeguards Security Plan (SSSP).

The FY 2008 AOPs, identified DOE/NNSA security requirements (performance targets) essential for an efficient and effective security program. The AOPs linked LLNL security funding allocations to each security Budget and Reporting (B&R) category. Both labor and non labor resource requirements necessary to accomplish AOP deliverables were identified, and tracked by LLNS.

The FY 2009 – FY14 security budgets comprehensively identified LLNL security priorities and associated funding level requirements.

The LLNS corrective action plan for addressing HSS concerns includes deliverables in the security planning and performance assurance area that are due from the contractor by December 31, 2008.

8.2 Site security planning supports DOE/NNSA planning, oversight requirements. Specifically, the FY 2009 Annual Operating Plans (AOPs) and the FY 2009 FS-20 budget is developed, and approved in accordance with DOE/NNSA requirements.

LLNS met operational performance expectations for this measure. Both the FY 2009 AOPs and the FY 2009 FS-20 budgets were developed in accordance with DOE/NNSA requirements.

8.3 While LLNS completed the majority of Security and Cyber Security AOP milestones, there are concerns with LLNS performance in satisfying some security target deliverables. There

were 100 FY08 AOP performance targets (77 in the physical security AOP, and 23 in the cyber security). LLNS reported that they completed 96 of these targets, and requested extensions for targets not completed in FY 2008.

Throughout FY 2008, LSO assessed LLNS implementation of the security performance targets. We found that LLNS satisfactorily completed the majority of the targets. However LSO also found non-compliant or ineffective LLNS implementation and issued "Deficiencies" in the LSO Monthly Assessment Report (MAR). Deficiencies were issued in the areas self assessments, intrusion detection, lock and key control, telecommunications security, security training, and management of controlled and prohibited articles. Several AOP performance targets required quarterly reports to LSO. In general, LLNS submitted these reports in a timely manner, and when necessary submitted change requests if additional time was necessary to complete the milestone. In some instances however, we found that the quarterly completion notices were incomplete or insufficient information was provided, and issued "Weaknesses" in the MAR. Weaknesses were issued in the areas of protective force training, performance assurance, cyber security training, and telecommunications security inspections.

8.4 LLNS did not meet effectiveness and efficiency expectations for security functional areas during LSO surveys, DNS inspections, or contractor self assessments.

During the March –April 2008 period, the DOE Office of Health, Safety and Security (HSS) conducted a comprehensive security inspection of LLNL. HSS found significant problems with LLNL protective force operations and certain aspects of the information security program as well as deficiencies in security planning, performance assurance, physical security, and cyber security. Fifty-four findings were issued by HSS. LLNS implemented compensatory measures, developed an HSS Recovery Plan to identify actions to rapidly resolve the most serious issues, and prepared interim and final corrective action plans.

Throughout FY 2008, LSO assessed the LLNL security program as part of the annual survey requirement, and issued 15 deficiencies and 9 weaknesses. Deficiencies and weaknesses were issued in most topical areas including, Program Management, Protective Force, Physical Security, Material Control and Accountability, and Cyber Security. The LSO survey report for FY 2008 will incorporate HSS issues, LSO deficiencies and weaknesses, and status of LLNS actions to resolve these issues. The LSO survey report is scheduled for completion in mid-November 2008.

Altogether, 69 security findings were issued to LLNS in FY 2008. The significance of some of these findings resulted in less than satisfactory ratings by HSS. Considerable management attention from LLNS, as well as NNSA and DOE leadership, was necessary to assure that LLNS could meet protection requirements for special nuclear materials. At this time, protective force operations have been improved significantly. Corrective action plans for physical security systems, information security, and cyber security are underway. LSO considers LLNS performance on this measure to be unsatisfactory.

LLNS did not submit a security self assessment report for FY 2008.

8.5 The Contractor performed in an overall outstanding manner against this measure. It successfully exceeded the metrics set in both training and reporting. The HQs element (IN/CI) has indicated that they are well pleased with both the content and volume of reporting.

6.0 Institutional Management Measures

Measure	Description	Rating
9	Manage business operations in an effective and efficient manner while safeguarding public assets and supporting mission objectives.	Outstanding
9.1	Demonstrate effective internal business controls and continuous improvement to maintain acceptable Financial Management and approved Procurement, Personal Property Management, and Legal Management systems.	Outstanding
9.2	Demonstrate an effective and efficient audit organization; including an integrated monitoring program which a) documents and tracks all corrective actions and b) addresses all internal and external business system review findings and recommendations.	Outstanding
9.3	Establish a centralized Strategic Human Capital Management (SHCM) department that provides leadership and infrastructure to ensure availability, development, and maintenance of workforce excellence.	Good
9.4	Maintain a media relations program and partnerships with the local community and geographic region.	Outstanding
10	Improve the management and performance of the Laboratory through execution of the Contractor Assurance System, Strategic Initiatives, and Parent Organizations' contributions.	Satisfactory
10.1	Implement a Contractor Assurance System (CAS) that ensures that objectives are being accomplished, programs and operations are managed in an effective and efficient manner, and Laboratory management and performance is continuously improved.	Satisfactory
10.2	Develop, evaluate, and implement strategic initiatives to increase the effectiveness and efficiency of Laboratory and the NWC.	Good
10.3	Support from Board of Governors and Parent Organizations to improve the performance of the Laboratory.	Satisfactory

Explanation for IM Measure Ratings:

9.1 The Contractor did an outstanding job of demonstrating effective internal business controls and continuous improvement to maintain acceptable Financial Management and approved Procurement, Personal Property Management, and Legal Management systems. The Contractor obtained an overall satisfactory financial management performance rating based on NNSA OFFM metrics and the CFO developed a process for tracking the LLNL direct-to-indirect work cost ratio. The Contractor established a mentor-protégé program in accordance with the approved mentor-protégé plan. Additionally it achieved approval and maintained approval of both its property and procurement systems throughout the year. The Contractor fully executed its Contracting Officer approved legal management plan in full coordination with the COR. The Contractor established a Subcontractor Technical Representative Program to reduce risks and increase oversight on large procurements and it provided two outside training courses with the help of the parent companies to improve procurement workforce skills and the quality of procurements. Finally, the Contractor continued its project accounting implementation by completing project milestones on time and within budget.

9.2 The FY 2008 performance of the Independent Audit and Oversight Department (IAOD) is classified as outstanding for the following reasons:

- IAOD accomplished all of its internal audit activities, in accordance with the approved FY 2008 Audit Plan, in spite of undergoing a significant reduction in staff, resulting from LLNS layoffs, attrition and the extended medical leave of two auditors.
- In addition to IAOD's support to the Laboratory's Contractor Assurance Office in the accomplishment of an enterprise-wide risk management system (based on the identification of "universal" risk factors and a "universal' scoring system to establish probability and consequence levels) IAOD has already aligned its risk evaluation methods to the new system, which it used in determining the internal audit activities.
- IAOD took advantage of "information sharing" provided in its participation on the Audit and Ethics Committee. It conducted a risk assessment of LLNL WFO/LDRD cost activities, based upon communication of the existence of costing issues at another site, and has scheduled an audit of this area in its FY 2009 Audit Plan
- The IAOD Director has been recognized for leadership contributions to the internal audit community across the DOE/NNSA complex. He served as Chair of the Contractor Internal Audit Directors (CIAD) Steering Committee during this performance year. He was selected as the first Contractor Controls Coordinator in support of the new established NNSA Controls Council.

Management and coordination of external audit activities has been outstanding, which is notable due to increased OIG/GAO audit activity during the first year of the LLNS contract. IAOD has taken the initiative numerous times during this performance year to facilitate corrective action activities to resolve issues identified in final audit reports. IAOD also volunteered to provide logistical support to the Chief, Defense Nuclear Safety (CDNS) during its two-week presence on-site.

9.3 The Contractor performed at the good level for this performance measure. Under the previous Contractor, the parent organization handled most of the human capital responsibilities for employees with the local organization supporting the parent. Under the new contract and as part of its proposal commitments, the SCHM organization had to establish its organization and execute a number of activities on its own-some for the first time. On October 1, 2007 the Strategic Human Capital Management (SHCM) organization was established based on the Contractor's proposal combining and centralizing laboratory-wide functions into a single organization. The leadership and management in the SCHM organization implemented changes that defined its mission in supporting the laboratory and empowered its staff to collaborate with the other organizations to define its needs in order to develop or revise, implement, and execute tools, process, and procedures to improve the service to the employees and support to management. The SHCM organization executed its normal work scope, additional responsibilities of a new contract and redefined organization coupled with the department's initiated workforce restructuring and reduction in force, and made decisions on which commitments to execute or defer. The following are some key accomplishments in support of management and the workforce this rating period:

1. Fast-tracked identification and definition of the employee skill and knowledge bases for the critical skills positions required to execute the department's changed mission and provide its workforce restructuring plan under Section 3161 of the National Defense Authorization Act of 1993. This project was accomplished in six to eight weeks and this centralized database was used by the contractor to develop its positions for elimination under the involuntary separation plan which was executed in May 2008;
2. Implemented a benefits program for the employees health and welfare benefits for the first time at this laboratory and partnered with Los Alamos National Laboratory (LANL) to share cost in the benefit administration for both sites. The department is driving more shared services between its contractors;
3. Reviewed, revised, or reissued 48 policies from the predecessor contractor;
4. Established a brokering committee for the first time which facilitates placement of employees into vacant position within the laboratory;
5. In collaboration with Weapons Complex and Integration directorate, exceed the defense program workforce reduction goal;
6. Partnered with LANL and completed a new benefits and value study and cost comparison analysis within nine months of assuming the contract;
7. Established an integrated training compliance training and development program to ensure the workforce is qualified to perform current and future work; and
8. Developed, launched or enhanced existing human resources systems to support the voluntary and involuntary separations, work force analytic tool, and on-line self-help systems for health and welfare benefit tools.

The following are some key areas of concern in the Contractor's performance in support of management and the workforce this rating period:

1. The Contractor decided in the second quarter to not to pursue the redesign and implementation of an employee compensation program;
2. The Contractor under performed and failed in five of the seven "stretch" targets related to this measure. The contractor efforts were not at the level that stretched the performance level above normal work scope; and
3. The Contractor committed to five other performance areas in its proposal that were not included in the performance evaluation plan. All five commitments were not executed and completed this rating year as defined in its proposal.

Evidence is the contractor provided reports, briefings, and demonstration of the database to the service center subject matter expert.

9.4 The Contractor did an outstanding job in maintaining a proactive media relations program and beneficial partnerships with the community. The Contractor developed and implemented new media relations and community outreach strategies to enhance the image of the Laboratory, NNSA, and DOE. These efforts included holding community roundtables with community leaders, developing a new Environmental web site, starting a new external weekly report highlighting Lab accomplishments, and establishing a presence in new social media such as

iTunes and Flickr. The Laboratory also successfully dealt with controversial issues such as layoffs, BSL-3, Environmental Restoration, and Complex Transformation.

10.1 The Contractor has made significant and noteworthy progress on standing up the new LLNS approach to Contractor Assurance System (CAS) system in FY 2008. LLNS inherited an approach to CAS and some pre-existing tools from the predecessor contractor. LLNS made deliberate decisions to accept some of these tools and activities from the previous UC contractor, but also brought new approaches to CAS from the partner and parent organizations of LLNS. LLNS developed new CAS tools and implemented improvements to many of the pre-existing portfolio of CAS tools and activities. LLNS experienced staffing challenges throughout FY 2008, (including the involuntary separations), as well as a lag in institutional acceptance of CAS activities; this slowed progress of the CAS development and implementation. Moreover, many of the inherited tools from the predecessor contractor were not sufficiently developed nor entrenched to be useful as an adequate foundation on which to build the new LLNS CAS model. Hence, the LLNL Contractor Assurance Office (CAO) had to re-establish parts of the CAS foundation which slowed down activities that would have advanced its planned CAS trajectory. Examples include the Standards Based Management System, Standards and Requirements and institutional metrics.

10.2 The Contractor did a good job at implementing strategic initiatives to increase effectiveness and efficiency. It successfully restructured its business and operations organization, realigned its workforce, and established process improvements. Although the Contractor did not meet several of its stretch targets in the area of cost savings and reductions, it implemented a number of cost reduction initiatives that resulted in significant cost savings and avoidance. Significant cost savings were achieved through the following initiatives as validated by OFFM: award of a new banking agreement contract, reduced purchases of computers/peripherals and office furnishings, reduced travel, implementation of a new travel booking tool, IT consolidations, and consolidation of financial systems. Additional cost avoidances were achieved through the Workforce Restructuring that resulted in a significant number of employee separations, leveraging LANS experience in establishing a new pension and benefits program, and entering into a joint trust agreement with LANS for the administration of the pension plan. In some instances the Contractor was unable to demonstrate a baseline and cost savings that could be validated by OFFM.

10.3 The Contractor did a satisfactory job of obtaining support from the Board of Governors and Parent Organizations to improve the performance of the Laboratory. The Parent Organizations conducted 28 functional management assessments during FY 2008 in a wide variety of functional areas that cut across the Laboratory. The LLNS Office, the Board of Governors and Lab managers continue to focus on follow-up to recommendations contained in the completed Functional Management Assessments. The Board of Governors met 4 times over the course of the year and identified key areas of concern; various committee members met with LSO senior managers to discuss some of those key areas and determine the LLNS' progress on improvement. Additionally, the Contractor instituted a Six Sigma Program within the Contractor Assurance Office which has begun individual projects to improve performance in discreet areas. Finally, the contractor completed all the required revisions to the policies and procedures identified in its blue sheeting process and it also completed all of the High and Medium priority

items identified in the LSO approved plan to address the issues identified in the due diligence walk down report prepared by the LLNS Transition Team.

A major issue of concern continues to be the Contractor's ability to retain and recruit key personnel and succession planning.

7.0 Fixed Fee Targets

The PEP included 13 fixed targets in Mission, 9 in Operations, and 9 in Institutional Management. The following table summarizes the status of the fixed fee targets in each performance area:

Target Status	Mission	Operations	Institutional Management
Pass	13	7	9
Fail	0	2	0
Total	13	9	9
Percent Passed	100%	78%	100%

By achieving a rating of 92% in Mission, 78% in Operations, and 100% in Institutional Management, the Contractor is not precluded from earning the associated Stretch Incentive Fee as set forth in the PEP. Note that the Contractor must still earn an Adjectival Rating of good or better in order to be eligible for the associated Stretch Incentive Fee.

Completion status for each of the fixed fee targets is set forth as follows in Mission, Operations, and Institutional Management. Completion of the targets was validated by the assigned LSO SME, Assistant Manager, and approved by the Contracting Officer as documented on the individual Target Completion Forms.

Mission

Target	Description	Status
Target 1.1.1	Complete initial energy balance models, develop working case models in Secondary Design codes.	Pass
Target 1.1.2	Complete a preliminary model for the initial conditions for Boost, and assess adequacy of Pu EOS tables for this model.	Pass
Target 2.3.9	Deploy initial suite of new global EOS data tables for QMU, V&V, and other applications.	Pass
Target 2.6.3	Required monthly reporting for the NIC is received on time at least 90% of the time.	Pass
Target 3.1.2	Provide non-LEP engineering evaluations, releases, and other technical documentation on schedule and within budget.	Pass
Target 3.2.1	Complete Level 1 and 2 milestones.	Pass

Target	Description	Status
Target 4.1.5	Complete performance on the FY08 Draft Additional Protocols Update Declaration or Declaration, pending Entry into Force (EIF), in accordance with approved schedules Provide Safeguards Technology Applications deliverables in accordance with approved schedules.	Pass
Target 4.3.1	Develop and demonstrate next-generation tools for intelligence analysis of nations and terrorist threats by the end of FY 2008.	Pass
Target 5.1.2	Establish and effectively manage a process that conducts external peer reviews. Establish an S&T Assessment Office (STAO) reporting to S&T PAD to manage the overall scientific assessment and work with the Board of Governors S&T Committee to establish guidelines for the peer-review process.	Pass
Target 5.2.1	During FY08, maintain or increase percentage of LLNS LDRD projects that have been further developed by WFO sponsors or industry partners, developed intellectual property (patents and records of invention), and received major external awards (e.g., R&D 100 Awards).	Pass
Target 5.3.1	Complete continuous activities necessary for successful growth of non-NNSA sponsored programs (WFO & DOE non- NNSA). Target: As measured through - Improved quality of WFO proposal packages and reduced response time on WFO proposal questions - Established internal controls to ensure that LLNL is eligible to respond to Broad Agency Announcements and Financial Assistance Solicitations prior to initiating a proposal	Pass
Target 6.3.4	Required monthly project reporting is received on time at least 90% of the time.	Pass
Target 6.5.1	Submit to NNSA by 9/30/08 a transition plan for the removal of CAT I/II SNM from LLNL beginning not later than FY09 and completing by the end of FY2012. Plan shall include key milestones, potential barriers, critical decision points, and funding requirements.	Pass

Operations

Target	Description	Status
Target 7.1.5	Conduct "Safety Leadership Workshops" to develop strong consistent leadership for all supervisors. All supervisors (as defined by Strategic Human Capital as of 10/31/07) to be trained by end of FY08. Establish "Zero Accident Teams" for all programs and operations by end of FY08.	Pass

Target	Description	Status
Target 7.1.6	Maintain a program for timely identification and reporting of non-compliances in conformance with regulatory requirements and laws for ESH&Q and nuclear safety to assure NNSA/LSO, local, state and federal regulators are informed of events requiring their review or response to such issues. This program shall minimize enforcement actions taken by regulatory agencies (including DOE Office of Enforcement) for any late reporting of events.	Pass
Target 7.1.7	Execute milestones within approved ISMS Project Plan dated 6/17/08 that are due by 9/30/08.	Pass
Target 7.2.5	Complete all CERCLA Federal Facility Agreement milestones for FY 2008 on time.	Pass
Target 8.1.1	Requirements traceability is incorporated across all security planning documentation – Annual Operating Plan (AOP), FS-20 budget submission, and Site Safeguards and Security Plan (SSSP).	Fail
Target 8.2.1	The LLNL FY09 AOP is developed, approved by LSO and submitted to Defense Nuclear Security (DNS) on schedule.	Pass
Target 8.2.2	The LLNS FY09 FS-20 budget submission is performance based, clearly links resources to requirements and is submitted by 4/1/08.	Pass
Target 8.4.1	Satisfactory or Effective security survey ratings assigned by LSO, and DNS..	Fail
Target 8.5.1	Conduct Counterintelligence Awareness education classes for 500 (enterprise wide) NNSA/DOE personnel.	Pass

Institutional Management

Target	Description	Status
Target 9.1.2	Establish LLNL mentor-protégé program in accordance with the approved mentor protégé plan by the end of FY 2008.	Pass
Target 9.1.3	Fully execute LSO-approved legal management plan by the end of FY 2008.	Pass
Target 9.1.4	Simplify rate structure for FY 2008 to analyze true cost of business/equity to all clients and ensure appropriate use of service centers.	Pass
Target 9.1.6	Obtain approval of LLNS procurement system not later than October 2007.	Pass
Target 9.1.7	Maintain procurement system approval throughout FY 2008 utilizing the NNSA-approved objectives matrix.	Pass
Target 9.1.8	Obtain approval of LLNS property system not later than October 2007.	Pass
Target 9.1.9	Maintain property system approval throughout FY 2008 utilizing the NNSA-approved objectives matrix.	Pass
Target 9.4.1	Develop and implement new media relations and community outreach strategies to enhance the image of the Laboratory, NNSA, and DOE.	Pass

Target	Description	Status
Target 10.3.1	By 10/31/07, provide to LSO a prioritized plan with milestones to address the issues identified in the due-diligence walk down report prepared by the LLNS Transition Team.	Pass

8.0 Stretch Incentive Fee Targets and Results

The Performance Evaluation Plan included 40 stretch targets in Mission, 22 in Operations, and 29 in Institutional Management. The following table summarizes the status of the stretch incentive fee targets in each performance area:

Target Status	Mission	Operations	Institutional Management
Pass	37	15	19
Fail	3	7	10
Total	40	22	29
Percent Passed	93%	68%	66%

Completion status for each of the Stretch Incentive Fee Targets is set forth as follows in Mission, Operations, and Institutional Management. Completion of the targets was validated by the assigned LSO SME, Assistant Manager, and approved by the Contracting Officer as documented on the individual Target Completion Forms.

Mission

Target	Description	Status
Target 1.1.8	Complete initial energy balance models and develop working case models in Secondary Design code, apply to one weapon system.	Pass
Target 1.1.9	Issue an HED experiments plan coordinated with LANL in support of the National Boost Initiative.	Pass
Target 1.1.10	Demonstrate development and application of an ensemble-of-models approach to determine/quantify uncertainties where little or no experimental data exists through application to TWO weapon systems in FY08 and documentation of the methodology in a classified publication.	Pass
Target 2.1.2	Develop an innovative approach of targeted experiments and data mining to support LLNL assessment and certification activities in view of the future transfer of Cat I/II SNM work from Superblock (6.5.3).	Pass
Target 2.6.5	At least 10% of established NIC level 0, 1, 2 milestones are completed more than 30 days ahead of schedule.	Pass
Target 2.6.6	Cumulative Schedule Performance Index and Cost Performance Index for NIC are each at least 0.95 for FY 2008.	Pass

Target	Description	Status
Target 2.6.7	The total recordable case rate for NIC-related activities does not exceed 2.5 for FY 2008.	Pass
Target 2.6.8	NIF Configuration controlled Ignition Point Design specifications updated and verified by experiments and calculations involving all of the NIC participants.	Pass
Target 3.2.3	By the end of FY 2008, issue plan with options to reduce hydrotest facility footprint. Plan should include the conditions for the reductions that are coordinated with complex-wide consolidation plans for hydro testing.	Pass
Target 3.5.9	Complete assessment plan for one system in FY 2008.	Pass
Target 3.5.11	Assess the current state of hazardous hydrotest debris containment and draft a plan to further develop the technology to meet future mission needs.	Pass
Target 3.5.12	Demonstrate facility-free experiments using Phoenix pulse power experiments.	Pass
Target 3.5.13	Develop integrated and optimized Pu and hydro test plans with LANL by the end of FY 2008.	Pass
Target 3.5.14	Track progress in EVMS to resolve issues identified through QMU analysis by the end of FY 2008.	Pass
Target 4.1.7	Apply nuclear material detection technologies and methodologies to meet arms control treaty verification requirements by the end of FY 2008.	Pass
Target 4.1.9	Establish a Coordinated Operations Support Center for 24/7 WMD assistance (NIRT, RAP, ARG, NAP, JTOT, NARAC) by the end of FY 2008.	Pass
Target 4.2.3	Develop integrated S&T roadmap with LANL, PNNL, ORNL to improve material security tracking, signature detection and monitoring, and exploitation of source data by the end of FY 2008.	Pass
Target 5.1.3	Enhance credibility in the external scientific and engineering community and lower the overall cost of external peer review by implementing improved processes (e.g., by including additional LANL and Battelle Laboratory staff on LLNL peer review committees and by shared committee members with LANL) by the end of FY 2008. Expected accomplishment: 25% savings for the peer review process.	Pass
Target 5.1.4	Develop S&T strategic plan for each organizational element in FY 2008. Roll-up into the Laboratory S&T portfolio strategy by 9/30/08.	Pass
Target 5.1.5	Begin application of EVMS to management of institutional investments. Apply EVMS to new Global Security, LDRD, and IT projects of $5 million or greater. Train program and project managers in EVMS.	Pass
Target 5.2.5	Establish joint research projects with LANL that pursue selected strategic objectives, will be defined by the end of FY 2008 for institutional or programmatic funding.	Pass

Target	Description	Status
Target 5.3.2	Grow energy programs from $30M to $90M in 7 years in four thrust areas: proliferation-resistant nuclear power, sustainable carbon-free fossil energy, renewable energy sources, hydrogen production and delivery for transportation industry; increase by $3M in FY 2008 (supports 5.3.6).	Pass
Target 5.3.3	Grow non-NNSA funded science programs to $120M, by the end of FY 2012; increase by $10M in FY 2008 (supports 5.3.6).	Fail
Target 5.3.4	Update with LANL S&T roadmap for national/global security by the end of FY 2008 and update in FY 2009 as needed.	Pass
Target 5.3.5	Create a joint LLNL-PNNL subsurface science institute, through drafting of a charter and complementary program plans, to address permanent disposition of the CO2 and in situ development of unconventional resources by 9/30/08.	Fail
Target 5.3.6	Increase non-NNSA work (includes WFO, DOE non-NNSA- SC, IN, NE etc.) by $450M in seven years, by $30M in FY 2008 (includes 5.3.2, 5.3.3).	Pass
Target 5.3.7	Develop a WFO business development approach focused on needs of sponsors and based on Battelle/UC experience; used to guide S&T roadmap by the end of FY 2008.	Pass
Target 5.4.3	Double industry-funded programs to $20M in the next 5 years, by $2M for IPAC in FY 2008.	Pass
Target 5.4.4	Double licenses to 40 within 5 years, increase total licenses by three in FY 2008.	Fail
Target 5.4.5	Initiate at least three new LLNL team strategic partnerships by 9/30/09, establish at least one new strategic partnership by 9/30/08.	Pass
Target 5.5.2	Develop marketing plan with team of Chemical Biological Radiological Nuclear Explosives (CBRNE) experts from parent organizations to ensure focus in areas supporting NNSA and alignment with core competencies by the end of FY 2008.	Pass
Target 5.5.3	Prepare gap analysis of DHS requirements and budgets with LLNL capabilities and S&T roadmap to ensure long-term sustainability of programs by the end of FY 2008.	Pass
Target 5.5.4	Develop and propose equity investment model for DHS work, in cooperation with other national laboratories such as SNL-CA, LANL, ORNL, PNNL; coordinate plan with S&T roadmap by the end of FY 2008.	Pass
Target 6.3.7	For the NIF project, at least 10% of level 0, 1, and 2 milestones are achieved more than 30 days ahead of the approved plan.	Pass
Target 6.3.8	The Total Recordable Case rate for NIF does not exceed 2.0 for FY 2008.	Pass
Target 6.3.9	Cumulative Schedule Performance Index and Cost Performance Index for the NIF project (TPC funded activities) are each at least 0.98 for FY 2008.	Pass

Target	Description	Status
Target 6.3.10	Cumulative Schedule Performance Index and Cost Performance Index for the NIF project (A&I funded activities) are each at least 0.95 for FY 2008.	Pass
Target 6.5.4	Remove XX of SNM from LLNL to an appropriate disposition site(s) by 9/30/08.	Pass
Target 6.6.3	Submit one facility for US Green Building Council review and certification under the Leadership in Energy and Environmental Design (LEED) Existing Building rating system by the end of FY 2008.	Pass
Target 6.6.4	Exceed the annual energy use intensity reduction goals of 3% and meet the annual water reduction goals of 2% referenced in EO13423 by the end of FY 2008.	Pass

Operations

Target 7.1.8	Establish common WebEOC Status Boards (unclassified) that convey situational awareness/common operating picture to HQ by 6/30/08.	Pass
Target 7.1.9	Complete Phase II certification of LLNS ISMS for LLNL in FY08.	Fail
Target 7.1.10	Initiate LSO-approved action plan by 3/30/08 for the following emergency preparedness and response multi-year initiatives: (1) Adopt California's Standardized Emergency Management System and integrate, where applicable, with the National Incident Management System; and (2) Accelerate replacement of antiquated paging systems with a single, code-compliant paging system that achieves a 25% increase over last year's building and/or population totals that have been upgraded with and/or addressed by, respectively, the new paging system.	Pass
Target 7.1.11	Submit the following plans for LSO approval by the dates in parenthesis. 1. Provide Implementation Plan for DOE STD 1098-1999, DOE Standard for Radiological Control. (2/1/08) 2. Program Plan for Non-Nuclear Facility Safety Basis, which will include the programmatic and process improvements and implementation schedule. (6/2/08) 3. Program Plan for Construction Safety, which will describe an institutional program to monitor, document, evaluate, and improve performance in construction safety. (2/1/08) Initiate approved Plans within 60 days of submittal.	Fail
Target 7.1.12	For the Fire Protection Program, repair/correct legacy facility (code) deficiencies. Decrease backlog deficiencies or existing equivalencies/exemptions by more than 10% of the "total cost" to repair/correct the deficiencies.	Pass

Target	Description	Status
Target 7.1.13	Submit bio-governance Improvement Plan by June 1, 2008 for LSO approval. The Plan will include, but will not be limited to, structure and operations process of the Institutional Bio-safety Committee and transfer of select agents. Initiate approved Improvement Plan within 60 days of submittal.	Pass
Target 7.1.14	Submit accurate Transportation Shipping Requests (TSR) to the Office of Secure Transportation (OST) no less than 60 days prior to the Material Availability Date, with updates before the 30 and 7 day submittal requirements, as indicated on OST TSR Form 1540.5 Ninety percent of TSRs will meet these requirements. Note: Does not apply to shipments supporting de-inventory activities.	Pass
Target 7.1.15	Perform two institutional activities in the Occupational Safety Program by the end of FY08. These activities are: (1) Develop and implement institutional performance requirements for all Industrial Safety Professionals on site, and (2) Conduct LLNL functional management self-assessments in at least two functional areas to include electrical safety.	Pass
Target 7.1.16	Improve safety performance in TRC and DAC rates by 20% as compared to the averages (same metrics) for the years FY07, FY06 and FY05; develop and submit an improvement plan to increase near-miss reporting, trending and analysis by April 1, 2008, then implement processes and procedures by September 30, 2008.	Fail
Target 7.1.18	By 03/01/2008, establish a worker-involved institutional committee that is chartered to improve the Occupational Health Program. By 07/15/2008, develop a comprehensive 5-yr Strategic Plan for Occupational Health. (Reference: DOE O 440.1a, 10CFR850, 10CFR851.20(a)(4), 20(b)(5), 25(c), and App. A, sections 6.(c) and 8.(d,e,&h).)	Pass
Target 7.1.19	Fully implement the Software Quality Assurance Program in all Nuclear and Radiological Facilities by 9/30/08.	Pass
Target 7.1.20	Submit DSA/TSR which incorporate DOE Standard 1186 and Standard 3009 Change Notice 3 for all Hazard Category 2 and 3 facilities by 9/30/08.	Pass
Target 7.2.8	By 9/30/08, demonstrate progress on modified and more aggressive site EMS goals in support of DOE/NNSA goals related to Executive Order 13423 Strengthening Federal Environment, Energy, and Transportation Management and the DOE Transformational Energy Action Management (TEAM) initiative.	Fail
Target 7.2.9	By 9/30/08, dispose approximately 8 m3 of GTCC mixed waste to NTS or a commercial TSDF subject to available funding and timely response from commercial treatment vendors.	Pass

Target	Description	Status
Target 7.2.11	By 9/30/08, identify and execute cost savings In the Waste Management Program toward disposal of radioactive waste. These cost savings are based on the approved FY08 work plans.	Pass
Target 7.2.12	By 4/1/08, declare full implementation with ISO 14001 within the laboratory support operations and line programs and notify LSO.	Fail
Target 8.2.3	Identify, prioritize and develop a funding and execution plan for security infrastructure life cycle upgrades by 6/30/08 using the FY09 Ten Year Site Plan.	Fail
Target 8.3.2	Provide Sandia /CA perimeter access control and security alarm response if approved by DOE/NNSA by the end of FY 2008.	Pass
Target 8.3.3	Implement a new unclassified non-public network where no unclassified sensitive information resides to support foreign national access and minimize inadvertent access to sensitive information by the end of FY 2008.	Pass
Target 8.4.3	LLNS will study security incident data to determine primary causal factors. Primary causal factors data will be provided to LLNL management to help develop and implement actions intended to mitigate and/or reduce security incidents.	Pass
Target 8.4.4	Conduct a "Make-Buy" analysis on the possibility of outsourcing Pro Force and, if the Make-Buy analysis indicates, draft a Request for Proposal (RFP) for Protective Force operations (including training facilities) by 9/30/08 for LSO review and approval.	Fail
Target 8.5.4	Produce 75 Intelligence Information Reports in FY 2008.	Pass

Institutional Management

Target	Description	Status
Target 9.1.11	Award noncompetitive subcontracts to DOE designated protégés by March 31, 2008.	Fail
Target 9.1.12	Establish a Subcontractor Technical Representative (STR) Program to reduce risks and increase oversight on large procurements by March 31, 2008.	Pass
Target 9.1.13	Provide at least two outside professional training courses in FY 2008 to improve procurement workforce skills and quality of procurements as measured by the objectives matrix and NNSA reviews.	Pass
Target 9.1.14	Continue project accounting implementation; complete FY 2008 project level milestones on time and within budget per approved baseline schedule (FY08 Financial Management Systems Plan dated July 20, 2007).	Pass
Target 9.1.15	Reduce supply chain management costs by 15% by the end of FY 2010 and by 5% in FY 2008.	Pass

Target	Description	Status
Target 9.1.16	By March 31, 2008, execute upgrade of business and financial systems (BSIP) that automates reporting, eliminates duplication and supports EVMS; complete FY 2008 project level milestones on schedule.	Pass
Target 9.2.3	Provide notification to the LLNS senior management team of negotiated corrective actions which have not been resolved. 100% of compliance issues resolved within six months of issuance and 75% of system issues within twelve months of issuance.	Pass
Target 9.2.4	Demonstrate successful integration of ES&H audit and review functions and activities within the current LLNL Audit and Oversight organization by 9/30/08.	Pass
Target 9.2.5	Demonstrate examples of activities where the results show quality improvement(s), innovation(s), and successful teaming by 9/30/08.	Pass
Target 9.3.4	By 7/31/08, develop action plans to close gaps in skill and knowledge bases in FY 2008, expand to include essential skills in FY 2009.	Fail
Target 9.3.5	Achieve an additional 2% to 3% DP workforce reduction through internal efficiency gains above the expected 2% reduction in FY 2008 and continue it through FY 2009.	Fail
Target 9.3.6	By 12/31/07, SHCM AD with PADs, ADs, PDs will coordinate recruiting needs and efforts. S&T roadmap will support defining future workforce requirements, which may not be mature until FY 2009.	Pass
Target 9.3.7	By 5/31/08, define future critical and essential skill requirements for a 5-year period based on laboratory-wide plan.	Fail
Target 9.3.8	Design and begin implementation by the end of FY2008, a LLNL compensation program that 1) identifies roles, responsibilities and pay ranges for all LLNL jobs including managers and individual contributors; 2) makes pay-linked distinctions internally between LLNL jobs, including distinctions within management jobs and within individual contributor jobs; 3) sets pay for LLNL jobs based on surveys of similar jobs in the relevant market by occupation; 4) establishes the objective and mechanisms for paying each LLNL job consistent with pay in the market on average for that job's responsibility level and occupation; 5) incorporates variable (non-base) pay as an integral compensation component to enhance incentives for LLNL employee performance and promote cost control; and 6) links the pay of individual LLNL employees with their job performance.	Fail
Target 9.3.9	By 9/30/08, SHCM Director coordinates multisite effort to complete each site's critical and essential skills needs. Work with pre-selected Universities to develop curricula and training programs tailored to NNSA needs.	Fail

Target	Description	Status
Target 9.3.10	FMA of succession planning processes will include a review and recommend improvements to Recruitment and Retention program during 4th quarter of FY 2008.	Pass
Target 10.1.2	Demonstrate improvements in performance management, issues identification, and correction plan implementation, from the independent assessment and internal management assessment plan by the end of FY 2008.	Fail
Target 10.1.3	Set the requirements for the issues tracking improvement project by 3/1/08. Include the requirements for standing up the new institution-wide tracking system for all CAPs, and the mapping of existing CAPs into the system.	Pass
Target 10.2.1	By December 31, 2007, restructure organization, realign workforce, and establish process improvements and cost reduction targets for each directorate reporting to PAD for Operations and Business.	Fail
Target 10.2.2	By June 30, 2008, partner with LANS on business system development and assess consolidating payroll, accounts payable, and travel expense processing to reduce costs. Provide the results and path forward for executing by the end of the FY 2008.	Pass
Target 10.2.3	Apply Lean Six Sigma methodology in FY 2008 to continuously improve systems. Submit business cases for records management, facilities asset management, safety and environmental systems, nuclear operations, and device life-cycle standards or equivalent prioritized projects by March 31, 2008. Initiate improvement projects per LLNS' prioritized improvement projects list.	Pass
Target 10.2.4	Reduce Laboratory support costs by 20% ($150M annually) by the end of FY 2010; target reduction of $50M for FY 2008.	Fail
Target 10.2.5	Save $3M per year from consolidated management approach with LANS by FY 2009; target savings of $1M in FY 2008.	Fail
Target 10.2.6	Consolidate, upgrade, and modernize IRM systems in FY 2008 to improve security, performance, and agility while reducing costs by $40M in three years (part of reduction of support costs by 20%), by $10M in FY 2008.	Pass
Target 10.3.3	Parent organization experts to conduct 26 assessments (8 mission, 18 business and operations) covering all primary functional and programmatic areas. In addition, perform up to six contingency assessments as needed by the end of FY 2008.	Pass
Target 10.3.4	Use parent best practices in FY2008 (i.e. EVMS, Six Sigma/PBL, and other best practices, systems and tools set forth in this PEP) to show improvements in laboratory performance during FY08.	Pass

Target	Description	Status
Target 10.3.5	Director of the Board will identify critical areas of concern or opportunities for significant improvement on a monthly basis or as identified. Parent organizations will provide eight AIM teams for LLNL at no cost to NNSA: ES&H, IM, NWC, Nuclear Operations, Security-Large Vault-type Rooms, Training, CAS, Radiological Safety. AIM teams will capitalize on the reach-back capabilities of the parent organizations to assess, improve, and/or modernize operations by 9/30/08.	Pass
Target 10.3.6	By April 30, 2008, complete 100% of the High priority items and by Sept 30, 08 complete 50% of the medium priority items identified in the LSO approved plan to address the issues identified in the due-diligence walk down report prepared by the LLNS Transition Team.	Pass
Target 10.3.7	Complete all required revisions to policies and procedures identified through the Blue-Sheeting process by August 31, 2008.	Pass

9.0 Multi-Site Incentive Fee Targets

Based on a draft report received from NNSA-HQ on October 27, 2008, it appears that all of the Multi-Site Targets were successfully completed by the Complex. The Contractor is entitled to earn 100% of the Multi-Site Incentive Fee in accordance with the PEP.

Multi-Site	Multi-Site Target	Status
1	Down-select W76 Life Extension Program (LEP) Canned Sub-Assembly (CSA) material.	Pass
2	Deliver B61-7/11 LEP Quantities to DoD On Time per P&PD.	Pass
3	Approve W88 SS-21 HAR.	Pass
4	Complete Complex Transformation NEPA Process by AUG08.	Pass
5	Match 2007 Dismantlements.	Pass
6	Deliver Products for DoD On Time Per P&PD.	Pass

Multi-Site	Multi-Site Target	Status
7	Implement a NNSA Supply Chain Management Center (SCMC).	Pass
8	Implement Gas Sampling Activities using Powerless Pump Module.	Pass
9	Implement Elements From FY2007 developed Multi-Site Enterprise IT Plan.	Pass
10	Implement Requirements Modernization Initiative (RMI) Phase II Implementation.	Pass
11	Implement Advanced Simulation and Computing (ASC) Tri-Lab Productivity on Demand (TriPoD) Initiative by 30SEP08.	Pass
12	Build six New W88 Pits & Install Equipment in FY2008 to increase pit capacity to 80 pits per year by the operational date of a CMRR-Nuclear facility.	Pass
13	Reduce Uncertainty in Warhead Performance.	Pass
14	Remove 11 metric tons of SNM From NNSA Sites by 30SEP08.	Pass

Appendix A
Acronyms Used in This Report

CI	Counterintelligence
DBT	Design Basis Threat
DHS	Department of Homeland Security
DOE	U. S. Department of Energy
DWTF	Decontamination/Waste Treatment Facility (DWTF)
ETCU	Engineering Technology Complex Upgrade
FIRP	Facility and Infrastructure Recapitalization Program
HED	High Energy Density
ISM	Integrated Safety Management
ISSM	Integrated Safeguards and Security Management
IWAP	Integrated Weapons Activity Plan
LANL	Los Alamos National Laboratory
LLNL	Lawrence Livermore National Laboratory
LSO	Livermore Site Office
MC&A	Material Control and Accountability
NIF	National Ignition Facility
NNSA	National Nuclear Security Administration
NTS	Nevada Test Site
PISA	Potential Inadequacies to the Safety Analysis
QMU	Quantification of Margins and Uncertainties
RHWM	Radioactive and Hazardous waste management
RRW	Reliable Replacement Warhead
RTBF	Readiness in Technical Base and Facilities
SAFE	Security Awareness for Employees
SCIF	Sensitive Compartmented Information Facility
SECON	Security Condition
SEMI	Safety and Emergency Preparedness Inspection
SFI	Significant Finding Investigation
SNM	Special Nuclear Material
TSF	Terascale Simulation Facility
TSR	Technical Safety Requirements
TYCSP	Ten Year Comprehensive Site Plan
UC	University of California
USQ	Unreviewed Safety Question