
2007 Performance Evaluation Report
(October 1, 2006 through September 30, 2007)
of
Jefferson Science Associates, LLC.
Contract No. DE-AC05-06OR23177
Thomas Jefferson National Accelerator Facility

Thomas Jefferson Site Office
U. S. Department of Energy

February 6, 2008



Background

On April 14, 2006, the Department of Energy (DOE) awarded its new contract with Jefferson Science Associates, LLC (JSA) for the management of operation of the Thomas Jefferson National Accelerator Facility (TJNAF; otherwise known as Jefferson Lab or JLab). Note that from April 15, 2006 through May 31, 2006, there was a transition of services between the previous contractor (the Southeastern Universities Research Association, Inc. (SURA)) and the new contractor JSA. On May 31, 2006, the previous SURA contract ended and on June 1, 2006, JSA assumed full responsibility for the management and operation of Jefferson Lab.

The new JSA contract implements the current performance-based management approach to oversight within DOE and has established a new culture within the Department with emphasis on the customer-supplier partnership between DOE and the laboratory contractors. It has also placed greater focus on mission performance, best business practices, cost management and improved contractor accountability. Under the performance-based management system, the DOE provides clear direction to the laboratory contractors and develops annual performance evaluation and measurement plans to assess the contractor's performance in meeting that direction in accordance with contract requirements.

The FY 2007 JSA Performance Evaluation and Management Plan (PEMP) incorporates the Guidance for the Office of Science Laboratory Performance Appraisal Process issued in June 2007. The Guidance provides the SC Site Offices with an overall methodology and framework for the new SC-wide performance evaluation and incentive process. This process and methodology was implemented for all SC laboratory contracts beginning with the FY 2006 PEMP.

Each SC laboratory PEMP was standardized by utilizing a common set of Performance Goals and Objectives. The FY 2007 PEMP describes the primary measurement basis for DOE's evaluation of JSA's performance regarding the management and operation of Jefferson Lab for the period: October 1, 2006, through September 30, 2007. This performance evaluation provides a standard by which to determine whether the contractor is managerially and operationally in control of the Laboratory and is meeting the mission and required performance expectations/objectives of the Department as stipulated in the contract. Since this is a performance-based fee contract with an award term incentive, the PEMP will be the basis for determining if any performance fee and/or award term incentive will be awarded.

Specifically, contract clause H.22 entitled "Performance-Based Management and Oversight" requires that a performance-based management approach shall be the key enabling mechanism for establishing the DOE-contractor expectations for oversight and accountability. Contract clause H.11 entitled "Standards of Contractor Performance" requires: (1) the contractor to conduct an on-going self-assessment process as the principal means of determining compliance with the contract statement of work and performance indicators identified in Appendix B (See Attachment 1 for a copy of JSA's FY 2007 Self-Assessment/Performance Evaluation Report); and (2) DOE to perform a written assessment of the contractor's performance based on the process described in Appendix B. The following is the DOE evaluation summary for FY 2007 for each of the eight performance goals.

Executive Summary

The performance measures defined in Appendix B of the contract yielded an overall weighted Laboratory grade for Science and Technology (S&T) of A and an overall weighted Laboratory grade for Management and Operations (M&O) of A-. The breakdown by category and performance measures shows the following ratings:

FY 2007 TJSO Evaluation Score

S&T Performance Goal	Numerical Score	Letter Grade	Weight	Weighted Score	Total Score
1. Provide for Efficient and Effective Mission Accomplishment	3.73	A-	40%	1.49	
2. Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Facilities	3.90	A	40%	1.56	
3. Provide Effective and Efficient Science and Technology Program Management	3.86	A	20%	0.77	
Total Score					3.82
M&O Performance Goal	Numerical Score	Letter Grade	Weight	Weighted Score	Total Score
4. Provide Sound and Competent Leadership and Stewardship of the Laboratory	3.57	A-	25%	0.89	
5. Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health and Environmental Protection	3.64	A-	30%	1.09	
6. Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of the Laboratory Mission	3.52	A-	25%	0.88	
7. Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs	3.68	A-	10%	0.37	
8. Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems	3.60	A-	10%	0.36	
Total Score					3.59

FY 2006 TJSO Evaluation Summary Score

	Numerical Score	Letter Grade
S&T Performance	3.82	A
M&O Performance	3.59	A-

Some of the significant achievements between October 1, 2006 and September 30, 2007 were:

- The 2007 Science and Technology review of the Jefferson Lab found that the research program and CEBAF operations have made outstanding progress during the past year. The quality, productivity and significance of the research and technical programs continue to be impressive.
- Significant progress has been made on the 12 GeV Upgrade Project during this year. The project team was instrumental in successfully completing the External Independent Review (EIR) in support of the OECM's validation of CD-2 Approved Performance Baseline. Planning and R&D efforts continue to support path forward to CD-2.
- The Laboratory has achieved exceptional progress in keeping employee, users, visitors and subcontractors safe as evidenced by the achievement of low injury rates as measured by Days Away Restricted Duty (DART) and Total Reportable Case Rate (TRC). These rates exceeded the challenging goals set by DOE SC.
- Jefferson Lab made great strides to improve upon the Laboratory's business management systems through: implementation of Jefferson Lab Insight; development of the first ever Lab-wide Annual Work Plan; enhancement and automation of the performance appraisal process and system; implementation of Maximo for maintenance work order tracking; integration of the Automated Quality Information Systems and obtaining access to computer based training through Skillport.
- Jefferson Lab leadership provided strong support and innovation in working with the Site Office to achieve project status (CD-0) for the upgrade of the 50 year old Test Lab and construction of new support capability.

Some of the challenges facing the Laboratory in FY 2008 are:

- Enhancing the visibility of corporate involvement in strategic planning and in advancing the case for science and the lab. Optimizing the use of the Initiatives Fund, and other JSA and corporate sponsor efforts in furthering the lab's vision and performance.
- Filling leadership positions in a timely fashion.

- Continuing to enhance worker safety at Jefferson Lab. Ensuring that the principles of Integrated Safety Management (ISM) are consistently applied among all divisions. Applying the necessary cultural and organizational changes needed to continue to improve worker, subcontractor, and visitor safety.
- Moving forward with the 12 GeV Upgrade, FEL Upgrade, and Technology and Engineering Development Facility projects, with particular attention to meeting technical, cost and schedule baselines, and key milestones, and ensuring National Environmental Policy Act (NEPA) requirements are met.
- Continuing improvement of the Jefferson Lab Self-assessment Program to ensure consistently high quality self-assessments across all divisions.
- Maturing the corrective action management process to ensure the closure of casual conditions are based on objective validation.
- Enhancing the Occupational Radiological Control Program to address recurring incidents. Particular attention should be placed on material control and validation of corrective action effectiveness.
- Continuing enhancement of the Cyber Security Program.
- Enhancing the Lab-wide Quality Assurance Program to meet Department expectations of a world-class program that uniformly handles the way in which activities and processes are reviewed and managed.
- Managing under constrained budgets.

The Department's FY 2007 Performance Evaluation is based upon a combination of performance against contract performance measures; the contractor's self-evaluation report; various reviews; operational awareness activities including the results of Department assessments, walkthroughs, and observations; and assessments provided by the respective Office of Science program offices.

GOAL 1.0
Provide for Efficient and Effective Mission Accomplishment
(Quality, Productivity, Leadership & Timeliness of Research and Development)

The Department has assigned an overall rating of A- and a score of 3.73 resulting from the evaluation of Jefferson Lab's (JLab) performance against the stated Objectives for Goal 1.0. The following table summarizes the scoring for each of the Objectives with an overall Goal score and is followed by a narrative evaluation for each of the Objectives. Below is a summary of each of the respective SC program office's evaluation.

Goal Performance Rating Summary

Objective	Letter Grade	Numerical Score	Weight	Weighted Score
1.1 Impact Science and Technology Results Provide meaningful Impact on the Field	A-	3.70	40%	1.48
1.2 Provide Quality Leadership in Science And Technology	A-	3.70	30%	1.11
1.3 Provide and sustain Science and Technology Outputs that Advance Program Objectives and Goals	A	3.80	15%	0.57
1.4 Provide for Effective Delivery of Science and Technology	A	3.80	15%	0.57
Overall Performance Goal 1.0 Score				3.73

NP

The Jefferson Lab performs at a high level in all areas in mission accomplishment and merits a grade of A-. The grades and scores for Goal 1.0 are based on the annual Jefferson Lab S&T review (peer review), the communication to NP at the February Laboratory Managers' Briefings, Program Manager's observations at national and international meetings, and Program Manager's judgment.

HEP

The Thomas Jefferson National Accelerator Laboratory (Jefferson Lab) Superconducting Radio Frequency (SRF) Institute is participating in the International Linear Collider (ILC) high gradient SRF cavity program by processing and testing cavities. This is a priority task for ILC with a goal of achieving cavity gradients of 35MV/m. Jefferson Lab has been very efficient and effective in this critical goal of the ILC program.

WDTS

The Office of Science Education at Jefferson Lab consistently, and especially during FY 2007, manages excellent science education programs for WDTS. Students, undergraduates, educators, and under-represented groups receive individualized attention and instruction that ensures individual success and programmatically meets all expectations of participants in the programs.

The educational staff seeks to have in its programs a diversity of participants, age, race, etc., as well as scientific talent. The program insists that the interns/educators collaborate with one another to build a level of loyalty among the group in an effort to extend interactions beyond the laboratory experience.

Jan Tyler's commitment, management, and involvement in the National Science Bowl Advisory Board is central to the success of this program component. The National Science Bowl is recognized as especially well managed activity. It is labor intensive in that it requires many dozens of details to ensure that hundreds of middle school and high school are comfortable, secure, safe, and have an enriching experience. The National Science Bowl has long been a view as an important activity throughout the Department and the entire DOE complex. The quality of the experience improves each year for all participants including those at the 64 regionals. The success for Science Bowl is due in large part to the camaraderie, collaboration, and foresight of the advisory board members, in particular Jan Tyler.

Objective 1.1 Science and Technology Results Provide Meaningful Impact on the Field

The Department has assigned that a performance rating of A- and a score of 3.7 based upon the evaluation of the JSA's performance in the area of science and technology impact on the field.

NP

The 2007 Jefferson Lab Science and Technology (S&T) review evaluated the performance of the Jefferson Lab experimental research program and the theory group and the lattice QCD program as outstanding.

Among the experimental results this year was an improvement of the neutral pion lifetime by a factor of two, an important parameter relevant to the axial anomaly, an important feature of QCD; measurements of two-nucleon short-range correlations in nuclei, important for understanding nuclear structure; and the development of a tagged neutron technique that should significantly improve the quality of measurements of the structure of the neutron.

- The theory group continues to enhance the laboratory research program through calculations needed to extract scientific results from the experimental data. Some examples are:
- The TJNAF lattice Quantum Chromo-Dynamics (LQCD) group, recognized internationally and an integral part of the intellectual environment, is guiding studies of hadron structure using, among other national resources, the computing clusters at Jefferson Lab implemented for LQCD computations.
- This year a new upper limit on the existence of possible Z' boson masses was extracted based on the results of new high precision Jefferson Lab data on parity violation, combined with existing world data.

- NP's first topical center, the Excited Baryon Analysis Center (EBAC), has conclusively demonstrated that a meson cloud contribution is needed to describe the electromagnetic transition between the nucleon and its first excited state the Delta (1232) resonance.
- Jefferson Lab efforts in the investigation of Generalized Parton Distribution functions, both experimental and theoretical, are at the frontier of this new strategy for studying nucleon structure. Senior investigators, postdocs, and graduate students, together form a critical mass to pursue both the theoretical and phenomenological aspects of this research to support the experimental program.
- Development of the efficient "Ganni Cycle" for cryogenics by the Jefferson Lab staff is leading to substantial saving in power costs for the operation of the accelerator, and is being utilized by superconducting facilities throughout the complex for more efficient operation.

They have successfully demonstrated the 1/4 cryomodule for the 12 GeV Upgrade project.

HEP

Jefferson Lab has been a key player in high gradient cavity processing and testing since FY06 with a focus in three areas: (1) development of 1.3 GHz cavity processing and testing; (2) fabrication of TESLA and low loss shape cavities using either fine grain or large grain Nb and development of associated tooling to train US industries; and (3) fabrication of 3.9 GHz cavities, which is part of a 3.9 GHz cryomodule that is to be sent to DESY in cryomodule exchange effort.

With respect to the first emphasis, Jefferson Lab provided the lead in design and construction and extensively participated in development of the ILC cavity processing recipe. The recipe has been adopted by worldwide ILC community. Jefferson Lab worked efficiently, in a timely manner, and within budget. Initial processing of a US purchased cavity as part of the ILC high gradient program has been carried out at Jefferson Lab. In FY 2007, Jefferson Lab worked with Fermi National Accelerator Laboratory in fabrication and commissioning of a Vertical Test Facility (VTS) for testing of cavities at Fermilab. Jefferson Lab provided valuable assistance in the radio-frequency system and controls design of this facility. Jefferson Lab also prepared initial cavities that were tested in the VTS.

For the fabrication of cavities, Jefferson Lab was asked by the leaders of the ILC cavity and cryomodule R&D program to fabricate four cavities (two fine-grain TESLA shaped cavities and two large-grain low loss cavities) and one prototype cavity. TJNAF developed cavity fabrication tooling with an initial idea to train and transfer this technology to US industry.

Jefferson Lab is working with Fermilab to help with fabrication of a 3.9 GHz cavity and has an established cavity fabrication facility. During the testing of initial cavities, it was discovered that there is a significant heating problem with the higher order mode coupler. Fermilab physicists working with Jefferson Lab proposed a solution that has been adopted in the new fabrication. Jefferson Lab has done this R&D fabrication in a timely manner.

In the coming years Jefferson Lab will continue to focus ILC efforts on the development of high gradient cavities and the development of US industry. Jefferson Lab is also working on development of alternate cavity designs and materials. In FY 2008-2009 TJNAF will continue to play a major role. The highlights of the Jefferson Lab program for next three years will be 40 cavity processing cycles per year, ten one-cell cavity processing and testing cycles per year, continued R&D on failed cavities, and investigations of alternate designs and materials.

WDTS

Jefferson Lab has dedicated itself to providing extensive science education opportunities and uses multiple avenues throughout the laboratory to deliver the greatest learning impact. These include facility tours, workshops, seminars, and classes to help with science communication.

Objective 1.2 Provide Quality Leadership in Science and Technology

The Department has assigned a performance rating of A- and a score of 3.7 based on the evaluation of the Laboratory's performance in providing quality leadership in science and technology.

NP

The Laboratory has continued to expand its leading international role in developing its hadron structure program for the 12 GeV Upgrade program. They continue to develop the accelerator and detector technology to improve the precision of measurements of hadron structure, such as neutron tagging, that extend our knowledge of the field. Jefferson Lab is recognized as a world leader in the development of superconducting radiofrequency technology for accelerator cavities. The staff sits regularly on national and international committees.

HEP

Jefferson Lab physicists in collaboration with the ILC effort have proposed a new low-loss design for the ILC cavity shape, and the use of large grain or single crystal Nb in cavity manufacture. Both of these approaches are forward looking. If successful, the new cavity shape could increase the accelerating gradient beyond 35 MV/m. Standard ILC cavity processing calls for electro-polishing of the Nb surface. Similar gradients may be achieved with buffer chemical polishing alone using large grain or single crystal Nb. This could result in a more reproducible gradient and reduced cost.

WDTS

- Jefferson Lab places their interns/educators in research experiences that are within the core competencies of the laboratory.
- Jefferson Lab provides many opportunities for the interns to understand the science in other disciplines by developing customized workshops and enrichment activities.

- The science education office is a “trusted partner” within the Laboratory, having a history of hosting well-prepared and serious interns.

Objective 1.3 Provide and Sustain Science and Technology Outputs that Advance Program Objectives and Goals

The Department has assigned the “Pass” performance rating of A and a score of 3.8 based on the evaluation of the Laboratory’s performance in providing and sustaining science and technology outputs that advance program objectives and goals.

NP

The Laboratory continues to publish a large number of publications and trains a large number of graduate students. The Laboratory maintains a strong visitor program that makes the laboratory an international center for research appropriate to the laboratory.

HEP

Jefferson Lab superconducting infrastructure is shared between in-house programs and the national ILC cavity R&D program. During initial planning Jefferson Lab had agreed to provide 40 processing cycles per year and has met this initial goal. Physicists from Jefferson Lab have taken considerable interest in improving cavity processing and gradients.

WDTS

Met Expectations.

Objective 1.4 Provide for Effective Delivery of Science and Technology

The Department has assigned the “Pass” performance rating of A and a score of 3.8 based on the evaluation of the Laboratory’s performance in providing effective delivery of science and technology.

NP

None.

HEP

As discussed in the summary statement for Objective 1.1, Jefferson Lab ILC SRF efforts are concentrated in 1.3 GHz cavity development, fabrication of new types of cavities and tooling, and fabrication of 3.9 GHz cavities. Jefferson Lab has made excellent progress on 1.3 and 3.9 GHz cavity development and construction. However, alternate cavity design and tooling has been delayed and communication with other laboratories at times intermittent. On balance, the overall effort has been effective.

WDTS

Met Expectations.

GOAL 2.0 Provide for Efficient and Effective Design, Fabrication, Construction and Operation of Facilities

The Department has assigned an overall rating of A and a score of 3.9 resulting from the evaluation of Jefferson Lab's performance against the stated Objectives for Goal 2.0. The following table summarizes the scoring from each of the Objectives with an overall Goal score, and is followed by a narrative evaluation for each of the Objectives. Below is a summary of each respective SC program office's evaluation.

Goal Performance Rating Summary

Objective	Letter Grade	Numerical Score	Weight	Weighted Score
2.1 Provide Effective Facility Design(s)	A	4.00	25%	1.00
2.2 Provide for the Effective and Efficient Construction of Facilities and/or Fabrication of Components	N/A	N/A	N/A	N/A
2.3 Provide Efficient and Effective Operation of Facilities	A	3.90	60%	2.34
2.4 Effective Utilization of Facility to Grow and Support the Laboratory's Research Base	A-	3.70	15%	0.56
Overall Performance Goal 2.0 Score				3.90

NP

Jefferson Lab performs at a very high level in the area of construction and operations and merits a grade of A. The grades and scores for Goal 2.0 are based on the annual Jefferson Lab S&T review (peer review), the communication to Nuclear Physics at the February Laboratory Managers' Briefings, reviews of the CEBAF 12 GeV Upgrade project, Program Manager's observations at national meetings, and Program Manager's judgment.

Objective 2.1 Provide Effective Facility Design(s) as Required to Support Laboratory Programs (i.e., activities leading up to CD-2)

The Department has assigned a performance rating of A and a score of 4.0 resulting from the evaluation of the Laboratory's performance providing effective facility design (e.g., 12 GeV CEBAF Upgrade Project) to support JLab programs.

NP

An Independent Project Review and Mini-Review of the CEBAF 12 GeV Upgrade project were successfully completed. Escalation and contingency concerns were noted during review but resolved quickly afterwards. An External Independent Review was successfully completed in

preparation for CD-2. Four Major Findings and eleven Findings had no impact to proposed baseline cost/schedule. All of the efforts in FY 2007 led to a successful CD-2 approval in early FY 2008. Jefferson Lab leveraged outside funding to benefit the project (e.g., Commonwealth of Virginia for Civil Design). The R&D program has demonstrated validation of design goals; including operation of a 1/4 cryomodule system that will be used in the accelerator upgrade.

Objective 2.2 Provide for the Effective and Efficient Construction of Facilities and/or Fabrication of Components (execution phase, Post CD-2 to CD-4)

Because construction of facilities for the 12 GeV CEBAF Upgrade Project has not begun, this objective is not applicable (N/A) for this performance/evaluation period and, is therefore, not scored.

Objective 2.3 Provide Efficient and Effective Operation of Facilities

The Department has assigned a performance rating of A and a score of 3.9 based on the evaluation of the Laboratory's performance of providing efficient and effective operations of the CEBAF.

NP

The Laboratory consistently meets or exceeds performance metrics. The Laboratory has improved the beam polarization to 85% along with the intensity to provide a substantial increase in the overall figure of merit for polarization experiments. This significantly reduces the length of time needed to run these experiments, increasing productivity. Accelerator output exceeded performance goals with ~5700 hours of beam time (~115% of the goal), and the number for recorded events exceeded the target for each detector Hall. Researchers have a high completion rate for experiments. The Laboratory has a plan to optimize restoration of 6 GeV running of the accelerator and an effective diagnostic program to identify operational failure trends to maintain a high reliability.

Objective 2.4 Effective Utilization of Facilities to Grow and Support the Laboratory's Research Base

The Department has assigned a performance rating of A- and a score of 3.7 based on the evaluation of the Laboratory's performance in effective utilization of facilities to grow and support the Laboratory's research base.

NP

The Laboratory continues to improve the capabilities of the CEBAF accelerator and the detectors in the three experimental halls making new experiments possible, which attracts new users. The Laboratory has successfully identified some international collaborators for participation in

the 12 GeV CEBAF Upgrade and are pursuing additional opportunities. They have a significant foreign user community. The Laboratory has an extensive visitor program in theory that makes the facility an internationally recognized center for nuclear science using polarized electron beams.

GOAL 3.0
Provide Effective and Efficient Science and Technology Program Management

The Department has assigned an overall rating of A and a score of 3.86 resulting from the evaluation of Jefferson Lab’s performance against the stated Objectives for Goal 3.0. The following table summarizes the scoring from each of the Objectives with an overall Goal score, and is followed by a narrative evaluation for each of the Objectives. Below is a summary of each respective SC program office’s evaluation.

Goal Performance Rating Summary

Objective	Letter Grade	Numerical Score	Weight	Weighted Score
3.1 Provide Effective and Efficient Stewardship of Scientific Capabilities and Program Vision	A	4.00	40%	1.60
3.2 Provide Effective and Efficient Science and Technology Project/Program Planning and Management	A	3.90	40%	1.56
3.3 Provide Efficient and Effective Communications & Responsiveness to Customer Needs	A-	3.50	20%	0.70
Overall Performance Goal 3.0 Score				3.86

NP

Jefferson Lab merits a grade of A for science and technology program management. The grades and scores for Goal 2.0 are based on the annual Jefferson Lab S&T review (peer review), the communication to Nuclear Physics at the February Laboratory Managers’ Briefings, reviews of the CEBAF 12 GeV Upgrade project, Program Manager’s observations at national meetings, and Program Manager’s judgment.

WDTS

Jefferson Lab has done an excellent job of advancing the mentor culture at the laboratory. By hosting mentor workshops, supporting students and educators in their laboratory research, ensuring positive research relationships between mentor and intern, and providing technical and administrative support so the interns can work effectively, the Laboratory staff has kept the education program performing at a very high level.

Objective 3.1 Provide Effective and Efficient Stewardship of Scientific Capabilities and Program Vision

The Department has assigned the performance rating of A and a score of 4.0 based on the evaluation of the Laboratory's performance in providing effective and efficient stewardship of scientific capabilities and program vision.

NP

The Laboratory has a clear plan for maintaining a strong science program while building the 12 GeV Upgrade and then transitioning to the 12 GeV program as the upgraded facility is turned on. The Laboratory maintains a strong stewardship of capabilities in superconducting radio-frequency accelerator cavity technology. The Laboratory is working on long term capabilities beyond the 12 GeV Upgrade.

WDTS

Met expectations.

Objective 3.2 Provide Effective and Efficient Science and Technology Project/Program Planning and Management

The Department has assigned the performance rating of A and a score of 3.9 based on the evaluation of the Laboratory's performance in providing effective and efficient science and technology project/program planning and management.

NP

The Laboratory has made a plan to carry out the highest priority experiments in the 6 GeV program before the shutdown for the Upgrade project. The user community is concerned that delays in some of the 6 GeV program caused by investments in the 12 GeV program will negatively impact the 6 GeV program and the graduate students dependent on 6 GeV experiments.

WDTS

Met expectations.

Objective 3.3 Provide Efficient and Effective Communications and Responsiveness to Customer Needs

The Department has assigned an overall rating of A- and a score of 3.5 based on the evaluation of the Laboratory's performance in effective communications and responsiveness.

NP

Laboratory management has regular, timely and effective communications with DOE and the user community. The user community is generally well satisfied with the support the laboratory provides. The Laboratory management participates in bi-weekly calls with the Office of Nuclear Physics to discuss progress and issues, and participates in approximate monthly face-to-face meetings.

WDTS

- Jefferson Lab has focused time and talent on operating as a well-integrated team and the results demonstrate a significant increase in productivity where student outputs are of superior quality and the research experience is a rich and productive experience.
- Jefferson Lab is always very responsive to other education programs at other laboratories making available best in class practices and procedures available to help lift the quality of programs. Jefferson Lab is always willing to work with WDTS to ensure the laboratory perspective and resources are to the best advantage in support of the WDTS mission.

GOAL 4.0

Provide Sound and Competent Leadership and Stewardship of the Laboratory

The Department has assigned an overall rating of A- and a score of 3.57 for this performance goal based upon giving higher consideration to vision, collaboration and technology transfer efforts during the performance period. The following table summarizes the individual scores and overall grade for this goal. Accompanying comments follow.

Goal Performance Rating Summary

Objectives	Letter Grade	Numerical Score	Weight	Weighted Score	Overall Score
4.1 Provide a Distinctive Vision for the Laboratory and an Effective Plan for Accomplishment of the Vision to Include Strong Partnerships Required to Carry out those Plans	A	3.76	35%	1.32	
4.2 Provide for Responsive and Accountable Leadership throughout the Organization	A-	3.50	35%	1.23	
4.3 Provide Efficient and Effective Corporate Office Support as Appropriate	B+	3.40	30%	1.02	
Overall Performance Goal 4.0 Total					3.57

Objective 4.1 Provide a Distinctive Vision for the Laboratory and an Effective Plan to Accomplish the Vision Including Strong Partnerships Required to Carry Out Those Plans

The Department has assigned an overall rating of A and a score of 3.76 for this objective.

Measure 4.1.1 – The vision (20-year outlook) addresses outstanding science questions of national priority to DOE. The vision informs and is aligned with that of the DOE Office of Science and the NSAC long range plan and is maintained in a dynamic way to carry out and adapt to changes in these plans, and to allow for innovative initiatives that maximize the benefit to the Office of Science.

The Department has assigned the performance rating of A and a score of 4.0. The Laboratory has a well-defined vision for the future. The Lab's 20-year vision continues to address the scientific questions of national priority to DOE. Jefferson Lab is responsible for fulfilling 8 of 10 strategic milestones for the Office of Science. JSA has taken extra steps as enumerated in its self-evaluation report (e.g., the Global Sciences Forum Working Group on Nuclear Physics, the W69 of IUPAP, various committees of the American Physical Society, and OECD Nuclear Science Working Group) to further its development and relevance as well as advance Office of Science interests at the national and international levels. JSA established several committees through which the eleven-member board is fulfilling its responsibility to ensure successful performance of the contract by providing an effective level of corporate oversight of and engagement with the Lab programs.

Measure 4.1.2 – The Business Plan (5-year) establishes the management agenda and identifies the opportunities, risks and required resources needed to realize Laboratory goals. The Business Plan sets the framework to optimize scientific output in a cost effective manner. Integrally, JSA develops a 5-year budget plan as a mechanism by which the Laboratory can ensure its goals are met.

The Department has assigned a performance rating of A- and a score of 3.7. The Laboratory sponsored two science community meetings at the JSA office in Washington, DC which brought together 50 participants representing several national labs and universities. The meetings facilitated input to the NSAC planning process.

Measure 4.1.3 – The Laboratory has formalized vital collaborations and understandings with institutions in academe, users of the Laboratory, other national Laboratories, and private sector entities for advancing priority issues in science, scientific workforce, and applications of science and technology.

The Department has assigned a performance rating of A- and a score of 3.6. The Laboratory has taken extra steps to strengthen ties that advance science issues of national priority to DOE through the development of five new MOUs/MOAs with Universities and other institutions. The Laboratory reached an agreement with five universities, including Old Dominion University (ODU) for the creation of an accelerator group at ODU. The Laboratory also established a new Bridge appointment with a local University faculty member.

Measure 4.1.4 – The Laboratory has corporate citizenship programs that encourage community support of the Laboratory and its programs and that draws on Laboratory competencies and meets community needs. These corporate citizenship efforts include public outreach and improved scientific literacy. This responsibility of the Laboratory is measured both by metrics and peer reviews. The Laboratory also has an outreach program to the broader scientific community to increase the awareness and scientific community support of the Laboratory and its accomplishments.

The Department has assigned a performance rating of A and score of 4.0. The Laboratory conducted a Biennial Open House with over 5000 in attendance. The Laboratory is commended for its outreach efforts and the associated results. Jefferson Lab's Science Education Program contributes to the Commonwealth and the nation's science education and literacy. The educational centerpiece is the Laboratory's K-12 science education program – Becoming Enthusiastic About Math and Science (BEAMS). This program served approximately 1500 student each year and teachers have reported an increased understanding of science, careers and applications. Likewise, the Laboratory is to be commended for its Teacher Academy in the Physical Science (TAPS) Program, Science Undergraduate Laboratory Internships (SULI) Program, and High School Summer Honors Program; all three are exceptional science education programs. Public visibility awareness efforts are strong. Jefferson Lab also hosted the Virginia Regional High School Science Bowl on February 10 and Virginia Regional Middle School Science Bowl on March 10.

Measure 4.1.5 – JSA and its corporate owners have developed and implemented technology transfer and commercial applications and projects with other agencies and organizations to augment Laboratory efforts and to enhance utilization of Laboratory-developed and related technologies.

The Department has assigned a performance rating of A- and a score of 3.5. SURAFund makes accessible to the Lab its SURAFund initiative, offering opportunities for startup companies associated with the Lab. SURAFund continues its sponsorship of and involvement in numerous technology commercialization activities across the country directly promoting Jefferson Lab technology for licensing.

Objective 4.2 Provide for Responsive and Accountable Leadership throughout the Organization

The Department has assigned an overall rating of A- and a score of 3.5 for this objective.

Measure 4.2.1 – JSA has a responsive Board of Directors and corporate owners that provide timely and effective policy guidance and oversight; offers subject matter expertise; facilitates corporate reach back; and provides entrée to vital, external resources. JSA establishes an effective organization that:

- Focuses the Laboratory Director on corporate, strategic, customer, and stakeholder goals, priorities and issues;

- **Empowers the Chief Scientist to provide overall direction for balanced, highest impact science;**
- **Empowers the Chief Operation Officer to integrate operations and business management functions-deliver more science with efficiencies;**
- **Optimizes matrix support functions to assure efficient deployment of resources;**
- **Fully integrates safety throughout the organization; and**
- **Formalizes and documents roles, responsibilities, accountabilities, and authorities.**

The Department has assigned a performance rating of A- and a score of 3.5. During this reporting period, three key Laboratory personnel left the Laboratory. These three positions were filled quickly with no impact to the Laboratory. Laboratory actions to fill these positions have been effective. The Laboratory efforts in seeking broad support for the Lab are commendable. The Laboratory should enhance communications with the SC Front Office.

Measure 4.2.2 – Fully implements a performance based integrated management system including: An Annual Work Plan (AWP) that is aligned with the Laboratory vision, the Five Year Business Plan, the Work Breakdown Structure is developed; and implement the Jefferson Lab Insight (Applied Insight), the Maximo Work Order system, and AQIS within the first year of the contract.

The Department has assigned the performance rating of A- and a score of 3.5. The Laboratory has fully implemented the WBS and AWP during the performance period and is moving towards comprehensive implementation of Insight/AQIS/Maximo. The positive impact to Laboratory operations due to the AWP can be more fully evaluated once a full budget cycle has been completed.

Objective 4.3 Provide Efficient and Effective Corporate Office Support as Appropriate.

The Department has assigned an overall rating of B+ and a score of 3.4 for this objective. In 2008, JSA Board should take steps to enhance the dialogue between the JSA Board and the Site Office. Enhanced dialogue can strengthen communication, feedback and improvement between the Site Office and the Board, provide an opportunity for the Board to present progress on Board initiatives and to convey the Board's strategic planning and other efforts in support of the laboratory.

Early in 2007, the Laboratory Director indicated his intent to step down in October 2007 and willingness to remain through December to help with the transition to the new Director. One of the most important contributions JSA and its corporate owners can make to the laboratory is the selection of the Director. While selection of a highly qualified individual is paramount, a significant delay in the report date of the new Director will influence the Department's FY 2008 evaluation of JSA.

To assist in DOE's annual evaluation of JSA's performance in Objective 4.3, it is requested that JSA provide a self-assessment of performance relative to each proposal commitment accepted by DOE in the award of the contract to JSA. The self-assessment should be provided to TJSO on or about October 31 of each year.

Measure 4.3.1 – **The corporate owners offer reach back to their own corporate expertise and that of outside, nationally recognized experts serving on the Board of Directors subcommittees in areas such as scientific leadership, project management, IT organization, risk assessment, and a variety of business disciplines to address emerging problems and for a process of continuous improvement.**

The Department has assigned a performance rating of B+ and a score of 3.4. During this reporting period the various JSA entities through the Initiatives Fund promoted JLab science and technology, including graduate fellowships, sabbatical support, Director's discretionary fund, user group activities, various science workshops, and partnerships with regional governments and universities. SURA provided land in support of the 12 GeV Hall D and owns, operates and manages the Residence in support of users at the Lab. The JSA Programs committee reaffirmed the continuance of certain programs that preceded the contract award, such as the Fellowship program, thesis award, poster contest, etc. Support was provided for the Internum database, technology assessment, property management system review, Skillport, and emergency management system review.

Measure 4.3.2 – **The JSA Board will facilitate close connections of key staff to academe and assist the Laboratory in taking steps to strengthen ties to the user community. To this end, the owners will work with the Laboratory Director to arrange for university appointments for key staff, including Governor's CEBAF Distinguished Professorships (GDCP) and Scientists (GCS), and facilitate joint and bridge appointments between universities and the Laboratory.**

The Department has assigned a performance rating of B+ and a score of 3.4. The Laboratory Director, Chief Scientist, and Associate Director for Experimental Physics hold the Governor's Distinguished CEBAF Professorship.

Measure 4.3.3 – **JSA and its corporate owners will pursue creative financing options and implement those that make prudent business sense and that are approved by the DOE.**

The Department has assigned a performance rating of B+ and a score of 3.4. Through the JSA owner accounts, JSA provided bridge funding to enable procurements for the 12 GeV project to continue on schedule when receipt of the Virginia funds did not align with the procurement schedule.

GOAL 5.0
Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health, & Environmental Protection

The Department has assigned an overall rating of A- and a score of 3.64 for this performance goal. The rationale for the Department’s position is furnished within each applicable sub-element.

Goal Performance Rating Summary

Element	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
5.0 Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health, and Environmental Protection					
5.1 Provide a Work Environment that Protects Workers and the Environment	A-	3.70	45%	1.67	
5.2 Provide Efficient and Effective Implementation of Integrated Safety, Health and Environment Management	A-	3.48	45%	1.57	
5.3 Provide Efficient and Effective Waste Management, Minimization, and Pollution Prevention	A	4.00	10%	0.40	
Performance Goal 5.0 Total					3.64

The Contractor’s performance on timely reporting of ES&H events has improved relative to previous rating periods. There have been isolated instances when deliverables are transmitted in a manner that either didn’t meet the assigned suspense date, or that didn’t allow a customary amount of time for Site Office review before the product was to due (i.e. meeting permit report due dates). While such situations are less frequent than previously experienced, the Department would like to reiterate the importance of this business relationship as more than just a courtesy.

The Department acknowledges the initiatives being taken to address fall protection on roofs and safe access to elevated locations, as these are considered to be among the facilities highest priorities when evaluated from a risk/consequence perspective. Workers and subcontractors must also be able to recognize situations when fall protection is required, and act accordingly, as it is unlikely that engineering controls are going to be in place for every possible work and maintenance location.

Objective 5.1 Provide a Work Environment that Protects Workers and the Environment

The Department has assigned an overall rating of A- and a score of 3.70 for this objective.

Measure 5.1.1 – The contractor’s progress in achieving and maintaining “best-in-class” ES&H program performance as measured by the day away, restricted or transferred (DART) case rate. This rate includes: All JSA/Jefferson Laboratory staff, nuclear physics users, and JSA subcontractors, staff on official travel, and personnel paid under joint arrangements.

The Department has assigned the performance rating of A- and a score of 3.7. The Contractor's safety statistics for the year have been exemplary, not only in relationship to the goals set by the Office of Science, but also relative to our SC peer institutions. The Department is appreciative that the Contractor's self-assessment included an itemized summary of the recordable injuries during the rating period. This summary helps us evaluate the topical and chronological relationships of these events and their relative severity. While the number of injuries sustained by subcontractors and Users was relatively small in their overall number, these subgroups accounted for all recordable injuries sustained in FY 2007. Consequently, the inclusive DART statistics for FY 2007 was 0.27, when accounting for all users and subcontractor including those with less than 11 on-site employees. By the established criteria, this places the Laboratory in a marginal position of meeting the "A" performance criteria.

When evaluating the Contractor's recordable injury statistics from the "glass half full" perspective, the Contractor's core staff are performing exceptionally well, especially considering the maintenance intensive activities conducted during the year. On the other side, the safety of subcontractor operations should be a higher priority when considering ways to improve the overall safety program for the future.

During the major Scheduled Accelerator Down (SAD) this past summer, the Site Office took note of the intermittent presence of Subcontracting Officer Technical Representatives (SOTRs) at the daily Accelerator work briefings. This was considered a positive initiative, and we are hopeful that such planning and communication forums continue to be used in the future, as safe and efficient work execution necessitates such coordination across Divisional boundaries. The PVC pipe explosion event at SLAC this past year reinforces the importance of work planning review and coordination, especially when subcontractors are involved. A collateral benefit of a very structured level of work coordination is enhanced operational efficiency achieved by forecasting incompatible work activities.

Measure 5.1.2 – The contractor's progress in achieving and maintaining "best-in-class" ES&H program performance as measured by the total reportable case rate (TRCR). This rate includes: All JSA/Jefferson Laboratory staff, nuclear physics users, contractors, official travel, and personnel paid under joint arrangements.

The Department has assigned a performance rating of A- and a score of 3.7. The Contractor's impressive TRCR performance shares many similarities with the DART performance identified above for Measure 5.1.1. The Contractor exceeded the SC target for TRCR performance using CAIRS data, making Jefferson Lab one of only two SC Laboratory's to reach this level of performance. The PEMP specific (inclusive) TRCR statistics for FY 2007 was 0.66, when accounting for all users and subcontractor including those with less than 11 on-site employees. By the established criteria, this places the Laboratory in a marginal position of meeting the "A" performance criteria.

The Contractor has demonstrated a more visible contribution to the DOE and SC Lessons Learned system than they have in years past. This is a commendable condition and it shows a progressive trend that we hope continues, as we believe that an organization that can confidently disclose its vulnerabilities is an indication of a healthy and robust safety management program.

The Site Office acknowledges the Lab's increased utilization of causal analysis in post-event reviews. To ensure the investment made in causal analysis is meaningful, the corrective actions taken to address causal factors need to be implemented with an institutional perspective. Another aspect of accident and incident reviews that warrants special consideration is how extensively "extent of condition" reviews are conducted. The FY07 NTS entry prompted by radiological material handling/control events highlights the importance of extent of condition reviews. When an activated magnet was found in the Blue Crab facility, the resulting extent of condition review initially performed was limited to off-site storage locations. In retrospect, a more comprehensive inventory review may have been prudent at that time, since the Lab's FY07 10 CFR 835 self-assessment review had already identified a concern on radiological inventory accountability. By sharing this perspective, the Site Office is not intending to cast criticism on the Lab's radiological work stand-down and associated corrective actions related to the NTS entry, as we believe this mandatory awareness training was both appropriately managed and executed; however, reflection on this event is intended to underscore the Site Office's perspective on the importance of using a holistic perspective when conducting event reviews and trend analysis.

Measure 5.1.3 – 100% of all jobs for which the projected collective TEDE exceeds 100 mrem per Job Specific RWP are reviewed (pre and post job) by a radiological engineer for ALARA considerations. 90% of jobs for which an RWP is generated where the collective TEDE does not exceed 100 mrem are reviewed (pre and post task) by a radiological engineer for ALARA considerations.

The Department has assigned a performance rating of A- and score of 3.7. The cumulative dose for the Laboratory workforce was down for calendar year 2006, relative to the previous year; furthermore, the off-site radiation dose estimate for the most recent Rad NESHAP report was likewise down from the previous reporting year. These positive program trends are tempered by some of the negative issues that were identified as a result of investigations stemming from the July 2006 Price Anderson Amendment Act (PAAA) NTS entry. One of the more disconcerting issues revealed from the causal factor investigation was the inability to determine the Radiation Work Permit (RWP) under which beam viewer plates were removed. The accelerator location in which this equipment was located/removed is in an area of relatively high dose fields and radiological contamination concerns, thus warranting a task specific RWP. No such RWPs were identified for this work during the estimated dates in which this equipment was removed from the accelerator.

The Department is expectant that the pre and post job reviews identified in this PEMP measure not focus solely on the ALARA aspects of the work. In order to meet these expectations, the Contractor must do a much more thorough job of reviewing the radiological work, and the corresponding documentation. The Department's review of the RWPs generated during the rating period revealed some inconsistencies in recording work authorizations and general records management. Attention to details is very important in managing these records. The importance of quality records becomes evident when trying to accurately reconstruct worker dose estimates, such as that being currently undertaken by the Radiation Control Group.

Overall the Department was impressed by the conduct of the Radiological Work Stand-down that was conducted in response to the radiological material control events. It was insightful to hear feedback from the workforce during the Stand-down. The lab will need to give priority attention to address the lack of familiarity of some staff have on the correct process to handle materials being removed from the accelerator and end stations. The information provided in the Stand-down and other program awareness initiatives are hoped to rectify this situation.

Measure 5.1.4 – Conduct Radiological Control Program Peer Review.

The Department has assigned a performance rating of A- and score of 3.7 for this measure. Due to the unanticipated delay in receiving the report from the September 2006 Radiation Program Peer Review, the Department was reliant upon finding evidence that the Contractor took timely actions to address issues identified during the conduct of the peer review. Such evidence was ultimately furnished to the Department, but the Contractor should not wait to formally track such items, especially when issues are immediately recognized and acknowledged as valid, and when the formal report is delinquent for months after the conduct of the review.

Aside from the protracted release of the final report from the Radiation Program Peer Review, the Department was very pleased with the review team's use of CRADAs in the conduct of their assessment, and the frank nature of their comments at the out-brief. It is the Department's expectations that a similar format be used for future peer reviews, as to promote evaluations of specific programmatic elements, and promote more time to evaluate implementation of Radiation Control policies and procedures in the field.

Objective 5.2 - Provide Efficient and Effective Implementation of Integrated Safety, Health and Environment Management.

The Department has assigned an overall performance rating of A- and score of 3.48 for this objective.

Measure 5.2.1 – Number of Management Self-assessments (MSAs) conducted and reviewed and accepted by ESH&Q Division. The number of Independent Assessments (IAs) completed. Number of work observations on average per week.

The Department has assigned a performance rating of B+ and a score of 3.4 for this measure. The Department acknowledges the effort being applied by the Contractor in conducting MSAs and IAs, both in terms of improving participation and quality. The Contractor's recently institutionalized database for recording workplace observations is considered to be a significant step forward in monitoring the types of ES&H issues being identified in the field. This centralized system will also have the benefit of being able to gauge the extent of line management involvement in monitoring work. The Department concedes that the 4th Quarter participation in recording workplace observations improved for select groups, and the overall performance met the criteria of the measure. Upon reviewing some of the work observation entries, there are still opportunities to improve the amount of detail being entered into the system, and improve the extent of line supervision participation in conducting the work activity observations. To ensure the transparency aspect of this measure is satisfied in the future, the

Department must be allowed access to the detailed entries in the Contractor's Safety Observation system.

Measure 5.2.2 – Maintain an open reporting culture through an established employee concerns program, infusing management expectations in performance appraisals, conducting Director's Safety Council and Worker Safety Committees providing training, and rewarding safety performance.

The Department has assigned a performance rating of A and a score of 3.8 for this measure. The Laboratory held numerous roundtable meetings to foster feedback. It is noted that both the Chief Scientist and Chief Operating Officer jointly participated in these meetings; the participation of both individuals reflects the attention and engagement of senior management of the two laboratory directorates. An active Worker Safety Committee is a key feature of a good safety culture, and both the worker representatives and laboratory management are encouraged to continue to nourish this activity. Efforts to continue to engage all laboratory managers and the safety workers on a continuing basis as well as recognizing individual and group efforts to improve safety, are noteworthy. A continuing dialogue and openness between laboratory and site office staff and management are important to be able to sustain and to affect continuous improvement in the laboratory's safety program.

Measure 5.2.3 - Contractor provided Worker Protection Program (WPP) submittal to TJSO by February 9, 2007 as required by 10CFR851.

The Department has assigned a performance rating of B+ and a score of 3.4 for this measure. As a continuation of the efforts initiated in FY 2006, the Contractor successfully managed an advanced schedule to develop and implement the WPP to meet the deadline in the rule, including furnishing the Department with advanced review opportunities. The outstanding implementation issues were entered into the NTS system with adequate, interim compensatory measures in place. Progress toward the completion of the NTS action to develop and implement a pressure safety program has been evident and transparent thus far, and the Department is hopeful that these commitments continue to be tracked to closure, including implementation verification.

Objective 5.3 Provide Efficient and Effective Waste Management, Minimization, and Pollution Prevention

The Department has assigned an overall performance rating of A and score of 4.0 for this objective.

Measure 5.3.1 – Number of environmental incidents resulting in administrative or technical permit violations and that could have resulted from improper EMS implementation: 1 administrative, 0 technical permit violations. Apply causal analysis principals to environmental incidents if one occurs in this period.

The Department has assigned a performance rating of A and a score of 4.0 for this measure. The Contractor's performance in environmental stewardship is reflected by receiving the White House Closing the Circle Award for the operational efficiencies in cryogenic system operation.

This is the highest award to be received by a Federal Agency in pollution prevention and it places the Laboratory in select company as this was in direct competition with agencies beyond the DOE. In addition to the reduced green house emission associated with the reduced consumption of electrical energy, other Laboratories and private industries are also enjoying the reduced utility costs through the Contractor’s partnerships.

As stated in the Departments response to 5.1.2, the output of causal analysis reviews should include consideration of applicability beyond the immediately impacted work group or activity. The Contractor is reminded that this expectation on holistic consideration applies as much to lessons learned from environmental events as it would from causal analysis findings that stemmed from a review of a safety related event.

GOAL 6.0
Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of the Laboratory Mission(s)

The Department has assigned an overall rating of A- and a score of 3.52 is assigned for this performance goal. The following table summarizes the scores and overall grade for this Goal. Comments are contained within the individual objectives that follow.

Goal Performance Rating Summary

Objective	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
6.1 Provide an Efficient, Effective, and Responsive Financial Management System(s)	B+	3.41	25%	0.85	
6.2 Provide an Efficient, Effective, and Responsive Acquisition and Property Management System(s)	A-	3.69	25%	0.92	
6.3 Provide an Efficient, Effective, and Responsive Human Resources Management System	A-	3.50	20%	0.70	
6.4 Provide Efficient, Effective, and Responsive Management Systems for Internal Audit and Oversight; Quality; Information Management; and Other Administrative Support Services as Appropriate	B+	3.38	15%	0.51	
6.5 Demonstrate Effective Transfer of Technology and Commercialization of Intellectual Assets	A-	3.62	15%	0.54	
Overall Performance Goal 6.0 Total					3.52

Objective 6.1 Provide an Efficient, Effective, and Responsive Financial Management System(s)

This objective consists of three performance measures related to financial management systems. The Laboratory performed well in all three areas in FY 2007. A new CFO was hired in FY 2007. The Department has assigned an overall rating of B+ and a score of 3.41 for this objective based on the following:

Measure 6.1.1 – Effectively track costs against budgets to ensure cost performance

The Department has assigned a performance rating of A- and a score of 3.5. During the year, the Laboratory makes financial information available to managers and employees on a daily basis to help them with their duties. The Annual Work Planning (AWP) is the tool that is being implemented to help exercise financial control. However, as noted in the Lab's self-assessment, one of the comments from the S&T review was "Annual work planning process has been implemented in a staged fashion which appears to be flexible and reasonable; but, it has not yet been used in resource prioritization or performance evaluation where the process will be put to the test." It is this final implementation and use of AWP as intended that will determine the effectiveness of AWP in providing timely financial and operational performance information to drive improvements.

The Laboratory performed well in insuring that costs and commitments did not exceed available funding and that regular accounting and budget reports were accurate and timely. The Laboratory also responded professionally and timely to data calls and ad hoc reporting throughout the year.

Measure 6.1.2 – Demonstrate an effective financial management system through accurate, timely and complete financial reports to DOE, external reviews and internal and external audits

The Department has assigned a performance rating of B+ and a score of 3.4. All required documentation, reports and assurance statements to date have been provided in a timely manner. The Laboratory's write-up and DOE oversight confirms evidence of a solid and effective financial management system in place. There were several detailed reviews of the Laboratory's financial processes and results in FY 2007. The OIG performed several reviews and ORO performed a detailed financial management system baseline review of JSA's financial system processes with no material weaknesses found. Additionally the Laboratory conducted their own management self-assessment.

Measure 6.1.3 – Financial attestations accurately reflect the status of internal controls and are provided in a timely manner.

The Department has assigned a performance rating of B+ and a score of 3.3. The JSA CFO organization works hard to maintain strong control and accountability. Financial managers and staff review their processes regularly to validate and strengthen internal control. The Laboratory worked with ORO to meet their A-123 reporting requirements. There were no material findings

from the A-123 validation or the JSA Financial Management Baseline Review. The only concern raised by ORO was the quality of JSA's A-123 documentation of test plans. Elements required for inclusion in test plans were not provided. While JSA did complete the required FY 2007 scope of work, the quality of the documentation should have met required level of detail.

Objective 6.2 Provide an Efficient, Effective, and Responsive Acquisition and Property Management System(s)

The Department has assigned an overall rating of A- and a score of 3.69 for the performance measures evaluated during this period as an accurate evaluation of JSA's FY 2007 acquisition and property management program.

Measure 6.2.1 – Demonstrate efficacy of the acquisition system through outstanding results on annual performance measures (Procurement Balanced Scorecard) that cover critical aspects of the procurement process.

The Department has assigned a performance rating of A- and a score of 3.5 resulting from the Balanced Score Card (BSC) score of 94, which utilizes DOE's FY 2007 Core Performance Measures as the basis of the assessment. The targets under the various BSC performance metrics are based on national (and/or negotiated) targets issued by DOE's Office of Procurement Assistance Management.

The Business Services Department continues to have a high level of customer satisfaction within the Laboratory by establishing liaison responsibility/assignments to assist in procurement planning and the execution of procurement requirements. Their efforts have resulted in an average procurement cycle time of 5.9 days. The use of P-cards and e-commerce appears to be well controlled with the active P-card holder assigned to an Approving Official at anytime during FY 2007 never exceeded a ratio of 3.1. The procurement managers have an average of 20+ years of experience and are dedicated to supporting the overall mission of the Laboratory. The Laboratory continues to support effective competition with 80.1% of all available procurement dollars being awarded competitively.

Several new processes were implemented during this fiscal year that greatly improved the acquisition process and helped reduce the overall cost of operations. The use of reverse auctioning has greatly enhanced the Laboratory's ability to contract with small business concerns as well as promote competition with a projected cost savings of up to \$60,000 annually. A new process to purchase temporary contract labor that provides support/coordination with the Human Resources department to ensure that the proposed salary ranges are reasonable and consistent with comparable Laboratory staff. The use of the new Maximo requisition system which allows Laboratory staff to identify the status of their active purchase requisitions through award of the resulting purchase order/subcontract, as well as an updated webstock system (eCommerce) to speed the vendor catalog download process with in a 2 hour time frame whereas the old process took one to five days.

Measure 6.2.2 – Effectiveness of JSA’s Small Business Program Outreach – Small Business Program Goal Achievement.

The Department has assigned a performance rating of A+ and a score of 4.2 resulting from JSA’s strong support for the Department’s socio-economic objectives and goals. Their dedicated efforts exceeded all of their six FY 2007 contractually required socio-economic subcontracting goals and in some cases, doubled their goals as compared to their FY 2007 goals. JSA also identified three companies for DOE’s Mentor Protégé program ahead of their targeted schedule and two Mentor Protégé agreements were approved by DOE and become effective on February 2, 2007. The Department notes that the first company (JWLS Enterprises, Inc.) is a disadvantaged, service-disabled veteran-owned and HUBZone small business for offices supplies/remanufactured toner cartridges and the second company (Techno General Services Company) is a woman-owned small business for Quality Assurance, Management & Environmental Consulting Services.

JSA’s Small Business Manager is on the Executive Board of the Virginia Minority Supplier Development Council and is the Small Business Representative on the Department’s Integrated Contractors Purchasing Team and was selected as a representative on DOE Headquarters Team to assist in development of guidance for the issuance of Small Business Plans for DOE. As part JSA’s outreach efforts, JSA operated a small business booth at the annual DOE Small Business Conference, which once again shows JSA’s strong commitment to the Department’s small business program. In addition, both Mentor Protégé companies attended the Virginia Minority Supplier Development Council trade fair and the DOE Small Business Conference and were marketed by the Laboratory’s Small Business Manager. JSA continues to do an outstanding job of balancing achievement of socio-economic goals while maintaining subcontracting competition and optimizing a cost efficient purchasing organization.

In FY 2006, four of the Laboratory-held small business subcontracts were reassigned to the Site Office as DOE prime contracts as part of the Department’s initiative to increase direct prime contracts with small businesses. This transition continues to be successfully implemented due to the high degree of communication, coordination and cooperation between the Laboratory and the Site Office staffs and management.

Measure 6.2.3 – Demonstrate efficacy of the property system through outstanding results on annual performance measures that cover critical aspects of the personal property management process.

The Department has assigned a performance rating of A- and a score of 3.7, which reflects the level of achievement of the FY 2007 performance goals, and agrees that the measures are an accurate evaluation of the Laboratory’s 2007 performance in property management and protection.

While the Sensitive Property Inventory fell to “Marginal” in 2005, 2006 results reflected improvement, and the 2007 results indicate a return to an acceptable level of accuracy in all categories. The results of the contract transition inventory conducted in FY 2006 highlighted weaknesses in the Laboratory’s property management system and procedures that required

increased management attention. Following transition to a new contractor, the Laboratory initiated action to strengthen the property management system and to ensure appropriate emphasis on the responsibilities and accountability of all employees as well as property custodians, for protection and use of Government property, and the necessity to ensure that established procedures in the approved Property Management System are followed. Actions initiated to address the identified weaknesses include:

Commodity managers assigned to review and approve purchase of various types of material and property most notably TOOLS;

1. All custodians are now required to annually validate assigned property;
2. Security guard activity has been modified to increase “security presence” to act as deterrent;
3. Annual security awareness briefing was updated to reinforce employee property protection and reporting responsibilities;
4. Informed staff of new JLab Fraud, Waste and Abuse reporting telephone number;
5. Marking new tools as processed by Shipping & Receiving function; and
6. Improved and expanded property related internal communications to generate and sustain heightened employee awareness of property protection, use and reporting responsibilities, issuing an average of one property management notice or news item every 4 to 6 weeks.

The Laboratory also conducted an Independent Assessment of the Property Management System in 2007, which found no major deficiencies and generated a number of observations and recommendations regarding the system. Improvements from the changes in the Jefferson Lab Property Management System by Jefferson Science Associates (JSA) are becoming evident. FY 2007 property Inventory results met DOE goals. Jefferson Lab continues to emphasize the need for good housekeeping and disposal of excess items, which contributes to maintaining relatively neat conditions in the warehouse areas and accelerator site.

Changes made in the material receiving process include bringing this function completely “in-house,” providing improved oversight, and more efficient control and tracking for property between receipt and delivery to the end user. The Lab has implemented an initiative to eliminate the Technical Stockroom by the end of FY 2008, replacing it with a small business subcontract award to provide on-site and on-line (e-commerce) availability of technical requirements with quick turn-around delivery (i.e., “just-in-time” support). Benefits anticipated from this initiative include elimination of the Technical Stockroom inventory, and release of resources to other areas of property management.

Objective 6.3 Provide an Efficient, Effective & Responsive Human Resources Management System

The balanced scorecard approach was continued in FY 2007 by JSA to measure performance in the Human Resource area. A grade of 3.5 (A-) is assigned for this objective based on the following:

Measure 6.3.1 – Balanced Score Card Results

The Lab met all six of the Balance Score Card measures, which covered the areas of Diversity, Benefits, Compensation, Retention, Internal Business Practices, and Reporting. A new HR Manager was hired during FY 2007. Noteworthy accomplishments the Lab completed during the year included: overhauling their performance appraisal process, developing a matrixed staffing process, and reviewing HR policies to insure consistency with Appendix A of the contract.

Objective 6.4 Provide Efficient, Effective, and Responsive Management Systems for Internal Audit and Oversight; Quality; Information Management; and Other Administrative Support Services as Appropriate

The Department has assigned an overall rating of B+ and a score of 3.38 for this objective based on the following: (This objective consisted of five measures which contributed to the overall score)

Measure 6.4.1 – Oversight through Internal Audit – Internal audits completed in accordance with annual audit plan

The Department has assigned a performance rating of A- and a score of 3.5 for this measure. During FY 2007 there were no material findings identified via audits. The number of planned and completed internal audits was consistent with those of the past two FYs; despite the fact that the Internal Audit Director devoted a significant amount of time planning for and coordinating A-123 testing in the last half of FY 2007.

Measure 6.4.2 – Oversight through Internal Audit—Consistent with Professional Auditing Standards and DOE contract requirements receive an overall satisfactory rating from an external peer review by qualified persons from other DOE contractor internal audit organizations every five years

The Department has assigned a performance rating of A- and a score of 3.5 for this measure. JSA successfully received an overall satisfactory from an external peer review, including one noteworthy practice and no findings of noncompliance. The peer review noted that the Lab's IA activity conformed to the Institute of Internal Auditor's *Standards for the Professional Practice of Internal Auditing (Standards)*. The Peer Review Team noted a best practice in the area of information technology where JSA Internal Audit has implemented a comprehensive web site as a resource to JLab staff and management.

Measure 6.4.3 – Monitor/Maintain a Quality Improvement Plan.

The Department has assigned a performance rating of B+ and a score of 3.1 for this measure. The Contractor's energy and progress toward completing the QA commitments is acknowledged. Continued tracking and transparency of the QA improvement initiatives is warranted. As expressed in the Departments April 2007 acceptance of the QA Plan, an update to this document is warranted to reflect the extensive changes made in supporting programs, and to highlight the

elements that are still under development. The periodic QA program status meetings being held with the Department are extremely valuable in charting the progress of QA initiatives and challenges. The Department is also impressed by the recent efforts to cross-link corrective action plans with assessment efforts on the QA group's web page.

Measure 6.4.4 – Achieve FY07 milestones related to the May 16, 2006 letter “JSA Acceptance of SURA ESH&Q Documents” as described in the plan submitted in accordance with referenced letter.

The Department has assigned a performance rating of B+ and a score of 3.4 for this measure. Good progress was made in meeting commitments, and in a quality and collaborative fashion. The Department is looking forward to completing the final phases of the contract requirements review process.

Measure 6.4.5 – Deliver an integrated efficient and effective Information Technology Architecture that supports the mission of the Laboratory and benchmarks favorably with respect with other DOE laboratories, research universities and commercial industry best practices.

The Department has assigned a performance rating of B+ and a score of 3.4 for this measure. The IT Steering Committee was set up in August 2006 and includes CSC corporate participation and membership, DOE membership, and SURA university membership. The committee has met roughly every other month FY 2007, plus portions of the committee met multiple times in preparation for the IT External Review in September. The committee members reviewed Lab IT activities including the cyber security enhancement plan and its progress. Members of the committee have provided the data for the IT FY 2009 OMB Exhibit 53 budget data call and this information was presented to the full committee in its April meeting. The committee members, particularly those making presentations, prepared the Jefferson Lab IT Architecture document that was used for the IT External Review in September 2007. The actual architecture resulted from work of the committee that integrated the Laboratory's mission including the strategic plan.

Jefferson Lab's newly upgraded network connection is capable of transferring data at a rate of up to 10 Gigabits per second (gbps), putting Jefferson Lab firmly on the leading edge with its ability to provide high-speed data transfers to computers offsite. The initial data rate is 1 gbps per second and was upgraded to several gbps at midyear as the high-speed firewall solution was deployed. The upgrade also supports the future bandwidth requirements of the experimental program, the lattice QCD computing initiative, the planned 12 GeV Upgrade and a number of other projects at Jefferson Lab.

Beginning February 5, the Computer Center Help Desk expanded its hours to enhance support to the Lab. It is now available 8:00am – 4:30pm. The staff and users have provided numerous comments on how this resource has been of benefit to them.

Measure 6.4.6 – The Laboratory’s Information Technology favorably benchmarks with other DOE laboratories, research universities, and commercial industry best practices.

The Department has assigned a performance rating of B+ and a score of 3.4 for this measure. The IT Independent External Review committee was set up at the end of January 2007 along with its charter. The Independent External Review committee met in September and made a number of comments including the following:

- The Lab is doing an amazing amount of very good work with surprisingly few people;
- Strongly enabling the excellent science at Jefferson Lab; and,
- Clear that the IT unit heads have a clear vision of the technical projects, programs and activities that comprise their future goal set and have been successful at developing and executing annual plans.

While there were no major findings, there were several recommendations for areas for improvement including the following:

- Over the next few years to add more value—without losing collaborative culture or clear focus on enabling science.
 - More formal planning from strategy to projects
 - More formal process culture—like the accelerator culture.
 - More published policies and procedures with derivative metrics.
 - Benchmark against your world-class peer group.

Objective 6.5 Demonstrate Effective Transfer of Technology and Commercialization of Intellectual Assets

The Department has assigned an overall rating of A- and a score of 3.62 for the performance measures evaluated during this period as an accurate evaluation of JSA’s FY 2007 technology transfer program. This performance objective measures the degree to which key technologies related to Jefferson Lab’s primary scientific mission are disseminated to industry. Performance is measured by the amount of intellectual property generation and the level of customer satisfaction. JSA entered into several Work-For-Others/Cooperative Research and Development Agreements this fiscal year. Particularly noteworthy were the laboratory’s transfer of cryogenic technology to the Brookhaven National Laboratory and the National Aeronautics and Space Administration.

Measure 6.5.1 – The proper stewardship of intellectual assets and Laboratory owned or originated technology as measured by Invention Disclosures and Patent Applications. Intellectual Property Stewardship as indicated by the annual number of Invention Disclosures and/or Patents awarded.

The Department has assigned a the performance rating of A+ and a score of 4.2. In FY 2007, JSA successfully executed twenty-one invention disclosures and awarded five patents related directly to Jefferson Lab's core competencies. The invention disclosures were as follows: ID #1208 – Digital Self Excited Loop for Accelerating Cavity Field Control; ID# 1209 – High-performance and Inexpensive SRF Accelerator Structures; ID #1210 – Method for Reduction in Microwave Power Required for Particle Accelerator; ID #1211 – Concept of a surgical guidance system using hand-held probe with an accompanying position coincidence detector; ID #1212 – Floating Pressure Process; ID #1213 – Biased Transimpedance Amplifier Device and Method for Low Noise Readout from Voltage-controlled Detectors; ID #1214 – cMsg Messaging Software; ID#1215 – Optimized Procedures for High-performance SRF Accelerator Structures; ID #1216 – A Compact Accelerator Driver for High-Power Sources of Coherent Radiation; ID #1217 – A Simple Bi-convex Laser Beam Shaper; ID #1218 – UHV Ion Pump process for achieving Vacuum Levels of SE-12 Torr or better; ID # 1219 – Dual Conductor Heat Station; ID #1220 – Niobium and Niobium Allow Knife-Edge Flange; ID #1221 – Boron Nitrite Nanotube Streamers; ID #1222 – Particle Beam Focusing Magnet with Multiple Sectors of Independent Strength; ID #1223 – Improved Laser Safety Goggles; ID #1224 – Optimized SRF Cavity Structures; ID #1225 500 MHz Radio Frequency(RF) Phototube; ID #1226 – Co-incident, weakly interacting particle optics focusing lattices to focus and transport particles of widely different stiffness; ID #1227 – Imaging method for monitoring the delivery of high dose rate brachytherapy and verification of radiation does delivered and ID #1228 – Method and apparatus for data readout and acquisition. The patents awarded were as follows: #7,151,266B1 – Nuclear Cargo Detector; #7,151,347BA1 – Passivated Niobium Cavities; #7,166,973B1 – Use of Incomplete Energy Recovery for the Energy Compression of Large Energy Spread Charged particle Beams; #7,167,075B1 – Dual Design Resistor for High Voltage Conditioning and Transmission Lines and #7,209,579B1 – Anatomic and Functional Imaging of Tagged Molecules in Animals This is a significant accomplishment as it relates to the FY 2007 overall annual goals.

Measure 6.5.2 – The market impacts created/generated as a result of technology transfer and deployment activities as measured by licenses and/or options agreements executed.

The Department has assigned a performance rating of B and a score of 3.0. In FY 2007, JSA successfully executed a ten-year license agreement with Linde BOC Processing Plants, LLC for the Laboratory's Helium Processing technology. Note that other facilities are utilizing this technology as a way of greatly reducing their cryogenic electricity requirements/operating costs. These processes have been submitted to the U.S. Patent Office for review and a patent is pending. In addition, the Laboratory has been negotiating a potential license that was anticipated to be completed by the end of FY 2007, but the Laboratory has allowed four other companies to compete for the technology in order to be fair to all interested offerors. The Laboratory continues to have an effective technology transfer program.

Measure 6.5.3 – Contributions to the transfer of Laboratory originated knowledge and technology as measured by customer assessments.

The Department has assigned a performance rating of A- and a score of 3.7 for customer satisfaction resulting from the annual customer survey. For the FY 2007 survey, the Laboratory implemented a new process that allows customers to provide feedback online in efforts to increase the number of surveys and facilitate the collection of feedback throughout the year versus an end of the year survey. JSA received a 4.6 out of a 5.0 score from the Laboratory’s technology transfer customers.

**GOAL 7
Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs**

The Department has assigned a overall rating of A- and score of 3.68 based on scores achieved for the measures used to rate performance on this goal. Overall performance exceeds expectations of performance as set by the performance measures specified for the objectives with some areas of notable increased performance and no notable areas of diminished performance. The following table summarizes the scores and overall grade for this goal. Comments are contained within the individual objectives that follow.

Goal Performance Rating Summary

Objective	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
7.1 Manage Facilities and Infrastructure in an Efficient and Effective Manner that Optimizes Usage and Minimizes Life Cycle Costs	A-	3.47	50%	1.74	
7.2 Provide Planning for and Acquire the Facilities and Infrastructure Required to support Future Laboratory Programs	A	3.88	50%	1.94	
Overall Performance Goal 7.0 Total					3.68

Objective 7.1 Manage Facilities and Infrastructure in an Efficient and Effective Manner that Optimizes Usage and Minimizes Life Cycle Costs

The Department has assigned an overall rating of A- and a score of 3.47 for this objective. The score for this objective was based on a weighted average of the score of the three quantitative performance measures. The weighting of the measures and comments on how the measures were scored follow.

Measure 7.1.1 – Asset Condition Index (ACI).

The Department has assigned a performance rating of B+ and a score of 3.1 for this measure. The score for this measure is calculated based on data in the Facilities Information Management System (FIMS) and performance level requirements specified in DOE O 430.1B “Real Property

Asset Management.” Using the data in FIMS the calculated ACI is 96%. The maximum PEMP score that may be obtained for an ACI of less than 96.5% is 3.4. The contractor’s level of performance meets expectations for this measure.

Measure 7.1.2 – Extent contractor validates accuracy of data in the Facilities Information Management System.

The Department has assigned a performance rating of A and a score of 3.8 for this measure. The score for this measure is calculated based on the Facility Information Management Systems (FIMS) data validation completed in March with no errors identified, which resulted in a green scorecard. The data validation revealed 100% data accuracy and 0% error rate for data analyzed using the statistical sample obtained from the random generator report in FIMS.

Measure 7.1.3 – The efficiency and effectiveness of contractor efforts for sustainment, recapitalization, and acquisition of required facilities and infrastructure to support Lab programs through the performance of maintenance by achieving MII of at least 2%.

The Department has assigned a performance rating of B+ and a score of 3.4 for this measure. The score for this measure was based on the Contractor achieving an MII of 2.94. The PEMP does not provide for an increase in the rating on this measure for achieving an MII above 2% since a key element of this measure is efficient use of maintenance funds. Therefore, the Contractor’s level of performance on this measure meets expectations.

Objective 7.2 Provide Planning for and Acquire the Facilities and Infrastructure Required to support Future Laboratory Programs

The Department has assigned an overall rating of A and a score of 3.88 for this objective. The score for this objective was based on a weighted average of the score of the three quantitative performance measures. The weighting of the measures and comments on how the measures were scored follow.

Measure 7.2.1 – The Ten Year Site Plan is recognized by funding entities as providing a sound strategy for acquisition of required facilities and infrastructure to support future laboratory programs.

The Department has assigned a performance rating of A- and a score of 3.7 for this measure. The score for this measure was based on the Contractor taking extra measures to assure that the Ten Year Site Plan was developed, reviewed, updated, in line with the Laboratory Business Plan, and utilized as a Laboratory management document in a timely fashion. The contractor assembled a team of subject matter experts, including an outside A&E firm, to develop a Science Laboratory Infrastructure (SLI) line item proposal that was successful in achieving funding support. The new project, the Technology and Engineering Development Facility (TEDF), is currently budgeted at \$72.2M for FY 2009 through FY 2012. Activities were also completed to

achieve CD-0 for this project during FY 2007. The Ten Year Site Plan was submitted on July 24 as scheduled. It was updated to reflect 12GeV conventional facilities, the new TEDF project, increase to the level of GPP funding, expansion of information on energy and sustainability management, and show the revised list of funded and proposed projects.

Measure 7.2.2 – Cost Performance on projects greater than or equal to \$100K.

The Department has assigned a performance rating of A and a score of 4.0 for this measure. The score for this measure was based on Cost Performance at 0.5% overrun for projects greater than or equal to \$100K. This performance was significantly better than the goal of less than 8% to be assigned by taking the average of initial bid (contracted) amounts compared to the final contract amounts considering all applicable funding increases for all appropriate contracts closed out during the rating period.

Measure 7.2.3 – Schedule Performance on projects greater than or equal to \$100K.

The Department has assigned a performance rating of A and a score of 4.0 for this measure. The score for this measure was based on a Schedule Performance index of 0.941 for projects greater than or equal to \$100K. This performance was significantly better than the goal of less than 1.15 to be assigned by using the average of the actual number of days for completion of projects (or designated milestones) to the number specified by the original contracts expressed as a coefficient of actual divided by contracted.

GOAL 8.0

Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems

The Department has assigned an overall rating of A- and a score of 3.60 resulting from the performance measures as an accurate evaluation of the Laboratory’s Emergency Management, Cyber Security and ISSM performance during this period. The following table summarizes the scoring from each of the objectives.

Goal Performance Rating Summary

Objectives	Letter Grade	Numerical Score	Weight	Weighted Score	Overall Score
8.1 Provide an Efficient and Effective Emergency Management System	A-	3.60	30%	1.08	
8.2 Provide an Efficient and Effective System for Cyber-Security	A-	3.62	50%	1.81	
8.3 Provide an Efficient and Effective System for the Protection of Special Nuclear Materials, Classified Matter, and Property	A-	3.48	10%	0.35	
8.4 Provide an Efficient and Effective System for the Protection of Classified and Sensitive Information	A-	3.60	10%	0.36	
Overall Performance Goal 8.0 Total					3.60

Objective 8.1 Provide an Efficient and Effective Emergency Management System

The Department has assigned an overall rating of A and a score of 3.60 for this objective as an accurate evaluation of the Laboratory's emergency management performance during this period based on the following measure:

Measure 8.1.1 – Conduct emergency management exercises as identified in the ERAP for FY07. Response to an actual or simulated emergency event demonstrates an above average level of proficiency and opportunities for improvement are identified and acted upon. Participate in at least one local emergency preparedness exercise assisting a local entity in their preparedness.

The Department has assigned a performance rating of A- and a score of 3.60 for this measure. The Contractor completed 100% of the tasks assigned to achieve this rating as specified in the PEMP. Highlights include a multi-jurisdiction hurricane tabletop using the NIMS model, validation of emergency response with off-site coordination via a potential chemical exposure, improvements in emergency communications, and a new notification system. However, gaps were noted concerning feedback and improvement (F&I). The Department will be looking for improvement in this area in FY08. Specifically,

- After actual events, non-JSA responders were not solicited for their feedback, yet JSA still took credit for using these events to fulfill exercise/drill commitments.
- JSA relied solely on exercises and actual events for F&I (i.e., no assessments or reviews were conducted). The Department agrees with JSA that exercises and actual events can be considered internal assessments (when adequately analyzed), but the intent of PEMP sub-element, "*Results of internal and external reviews, surveys and inspections demonstrate that Emergency Management System is effective...*," was not to completely rely on exercises and actual events.
- A thorough process to identify weaknesses and opportunities for improvement from events, exercises, and drills is missing (e.g., critiques/hot washes or similar have not been conducted).

Due to the critical nature of emergency planning, the Department looks to increased communication and collaboration in this area in FY 2008.

Objective 8.2 Provide an Effective and Efficient System from Cyber Security

The Department has assigned an overall rating of A- and a score of 3.62 for this objective as an accurate evaluation of the Laboratory's cyber security systems performance during this period based on the following measures:

Measure 8.2.1 – Number of times Jefferson Lab computers were compromised or were used to attach other systems and that any incidents were reported within the required timeframes.

The Department has assigned a performance rating of A- and a score of 3.50. There were no root-level compromises during this rating period. All cyber security incidents were reported to the Site Office and CIAC, and certified via requisite monthly “null reports.” Enhancements completed include two-factor authentication for the Business Services Network and system administrators on core computing systems, network segmentation, daily vulnerability scanning, and the remediation process of found vulnerabilities. A new Cyber Security Program Plan (CSPP) was written to reflect the enhancements.

The Laboratory is to be commended on the utilization of “white hat” penetration testing and documentation review efforts that helped streamline the ST&E (Systems Testing and Evaluation) phase toward successful certification. This phase and a Certification and Accreditation (C&A) package was also completed in September 2007, with minimal residual observations. In what proved to be an extremely challenging year the Laboratory did well in committing resources and adjusting priorities in response to Department initiatives.

Measure 8.2.2 – Performance on addressing identified cyber-security vulnerabilities.

The Department has assigned a performance rating of A- and a score of 3.7. In Network Segmentation, the Lab completed procurements and testing of firewall service modules used for Enclave protection. In addition, segmentation of Business Services, key System Administrators, Cyber Analysts, Core Servers, and Level-1 through Level-4 rated Desktops were completed.

With respect to Vulnerability Scanning and Remediation, a specific list of real-time or operationally critical machines that should not be scanned asynchronously was developed and incorporated into the scanning process. Daily Top-Twenty scanning of all systems except specifically excluded machines and also Deep scans of all systems except specifically excluded machines has been implemented.

In Patch Management, there was continued in-place patch-delivery under current procedures with no compromises resulting from untimely patch distribution. The Site Office verified that critical patches were delivered to all on-line machines within 14 days of availability.

SANS top-twenty scans and remediations were performed on 100% of all systems (exclusive of special systems) daily during FY 2007. At the end of the 2nd quarter, the system reported 135 machines with critical vulnerabilities of which 17 are part of the original 600. The validity of the reports on the remaining 17 machines was assigned during the 3rd quarter and weekly deep scans were initiated. At year’s end, all from the original count were verified by the Site Office as complete.

The IT Division's on-site Systems Testing & Evaluation (ST&E) for Cyber Security was completed, with excellent feedback from reviewers on staff competencies and qualifications, based system builds, network segmentation, and mitigating controls. The Site Office Manager was kept apprised of the progress of all enhancement projects throughout the rating period, and all of these projects scheduled for the year were completed.

Measure 8.2.3 – Establish SANS Top 20 Scanning Program to track the scanning and remediation of SANS “Top Twenty” vulnerabilities.

The Department has assigned a performance rating of A- and a score of 3.70. During the 1st quarter of FY 2007, SANS top-twenty scans and remediations were performed on 100% of the computer systems onsite, surpassing the A+ performance level of 50%. The logging procedures currently use the Computer Center Problem Reporting system. All daily and weekly scanning goals have been met with daily averages below 3% (goal was 5%.) for systems with critical vulnerabilities that do not have compensatory controls. The Site Office has and will continue to closely monitor this program through its operational awareness activities. Improvements could be made by the Laboratory to enhance the reporting process of these statistics and the incorporation of these in a flowchart, procedure, or similar document.

Objective 8.3 Provide an Efficient and Effective System for the Protection of Special Nuclear Materials and Property

The Department has assigned an overall rating of A- and a score of 3.48 for this objective resulting from the performance measures as an accurate evaluation of the Laboratory's performance in protection of special nuclear materials and property based on the following:

Measure 8.3.1 – Maintain an effective Security Program, demonstrated by:

- **Ensuring non-U.S. citizens' from sensitive countries who have badged access to Jefferson Lab facilities, or perform work on CRADAs or Work for Others are identified, and are entered into the Foreign Access Central Tracking System.**
- **Current timely and approved security-related Admin Policy and Security Plans.**
- **Reportable and accountable “Other Nuclear Materials” are inventoried and reported with DOE approved procedures.**

The Department has assigned a performance rating of A- and a score of 3.60 for this measure. All activities required by this measure were completed including registration of 267 non-U.S. citizens for badged access to Jefferson Lab facilities. All were entered into the Foreign Access Central Tracking System at the time that they are issued a badge. In addition, continuous administrative coordination with HQ DOE's security staff and UFV&A Assignment Review Panel was provided to ensure timely approval the T-5 packages. Effective integrated security and property protection awareness resulted in an efficient investigation and prosecution of the theft of high grade copper sheeting. Close coordination between senior Lab Management, DOE TJSO Site Office Manager, supervisors, Legal, HR, Newport News Central Precinct detectives,

and the DOE Inspector Generals Office resulted in recovery of two van loads of government property, criminal conviction for property theft, and payment of restitution for un-recovered property. Effective information sharing between Jefferson Lab officials, DOE Washington Regional Counterintelligence Office, and Norfolk FBI resulted in detection and reporting of persons of interest for national security purposes and the development of a credible threat analysis for the laboratory which is being used as a basis for designing countermeasures to deter economic espionage. Very good laboratory cooperation and communication continues with the DOE Counterintelligence Office and others.

Measure 8.3.2 – Demonstrate effective Security Program through internal, self-assessment and external reviews, surveys and inspections.

The Department has assigned a performance rating of B+ and a score of 3.40 for this measure. All activities required by this measure were satisfied. In addition, Jefferson Lab contracted with Gregg Services to complete a site-wide Security Risk Assessment aimed at identifying potential threats, vulnerabilities, and associated risks. A plan was developed to address the recommendations. An independent Security Risk Assessment of physical security designs and plans for the 12 GeV upgrade project was also completed.

Measure 8.3.3 – Complete all corrective actions in accordance with approved Corrective Action Plans (CAPS).

The Department has assigned a performance rating of B+ and a score of 3.40 for this measure. All activities required by this measure were completed on time with high quality deliverables. Therefore, the Contractor's level of performance on this measure meets expectations.

Objective 8.4 Provide an Efficient and Effective Program for the Protection of Classified and Sensitive Information

The Department has assigned a overall rating of A- and a score of 3.60 as represents an accurate evaluation of the Laboratory's protection of sensitive information performance based on the following:

Measure 8.4.1 – Effectively operate a sensitive information system for the Laboratory's Business Sensitive and Personnel Sensitive information.

The Department has assigned a performance rating of A- and a score of 3.60. Most important is the fact there were no compromises of Business Sensitive and Personnel Sensitive information during this rating period. At of the end of the 3rd quarter, strong authentication had been rolled out for all core network, Linux, and Windows systems. The roll out of strong authentication for Business Administration enclave was completed in July and a broader rollout to other systems is underway.

The Laboratory performed a preliminary evaluation for the new Sensitive Information and technologies at the Laboratory, mostly in the areas associated with the FEL; and updated the Sensitive Information policies, developing a process for a formal evaluation. The materials for

training the FEL staff involved with sensitive information were prepared in September. It is evident that Moderate-level system controls, administrative processes, and other enhancements are needed by the Laboratory in order to fully protect this area.

Network segmentation was completed as part of the cyber security enhancement plan and a firewall put in place for the Business Services network. Implementation of laptop encryption and 2-factor authentication will be a challenge as the forecast for emerging technology, budget, and impending guidance will continue to be unstable. The Lab will need to make tough decisions in the balance of the science program and cyber posture, as these factors will impact all of the cyber programs.