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

Thomas Jefferson Site Office
U. S. Department of Energy

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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 2006 JSA Performance Evaluation and Management Plan (PEMP) incorporates the Guidance for the Office of Science Laboratory Performance Appraisal Process issued in June 2006. 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 2006 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: June 1, 2006, through September 30, 2006 (note that the new JSA contract is only for four months of effort due to April 14, 2006 award date). 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.

FY 2006 is an anomaly in that the total contract performance period will be for four months instead of a full year due to the April 14, 2006, award date of the JSA follow-on contract. Since the PEMP is for four months, some agreed upon measures and targets cannot be fully evaluated since they occur after the period of performance or are on-going throughout the year. Therefore, the measures/targets are divided into the following two categories:

- Those measures that have been identified and occur within the four month period will be scored, graded and include appropriate justification; and

- Those measures that will occur outside the four month period will be designated “N/A” and will have a brief statement that addresses the reason for the designation.

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 2006 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 the four month period in FY 2006 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-. In a few cases, the DOE assigned a lower grade than what was listed in the JSA PEMP Performance Report (June 1-September 30, 2006) and does not believe the performance described by JSA supported the higher grade. The breakdown by category and performance measures shows the following ratings:

FY 2006 TJSO Evaluation Score

S&T Performance Goal	Numerical Score	Letter Grade	Weight	Weighted Score	Total Score
1. Provide for Efficient and Effective Mission Accomplishment	3.89	A	45%	1.75	
2. Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Facilities	3.82	A	30%	1.15	
3. Provide Effective and Efficient Science and Technology Program Management	3.86	A	25%	0.97	
Total Score					3.87
M&O Performance Goal	Numerical Score	Letter Grade	Weight	Weighted Score	Total Score
4. Provide Sound and Competent Leadership and Stewardship of the Laboratory	3.75	A-	25%	0.94	
5. Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health and Environmental Protection	3.60	A-	30%	1.08	
6. Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of the Laboratory Mission	3.42	B+	25%	0.86	
7. Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs	3.40	B+	10%	0.34	
8. Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems	3.55	A-	10%	0.36	
Total Score					3.58

FY 2006 TJSO Evaluation Summary Score

	Numerical Score	Letter Grade
S&T Performance	3.87	A
M&O Performance	3.58	A-

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

- The 2006 Science and Technology review of the JLab found that the quality and the productivity and significance of the research program is Outstanding. Recent results include the completion of experiments to determine the electromagnetic form factors of the proton and neutron. These data, along with the soon to be completed parity violation electron scattering experiments G0 and HAPPEX III, will allow JLab to complete one of the major milestones of the medium energy program: the determination of the flavor separated nucleon form factors out to a Q^2 of 4 (GeV/c)².
- The 12 GeV Upgrade Project completed important reviews critical to the success of the project such as the June 2006 “Lehman” Review, design/safety review of Hall D civil construction, value engineering reviews, design safety review of the cryomodule design, and the superconducting spectrometer magnet review. Planning and R&D efforts continue to support path forward to CD-2.
- JSA made great strides to improve upon the Lab’s business management systems through: development and implementation of a project-based work breakdown structure system; development of an Annual Work Plan; development of an integrated management system (JLab Insight) to improve the integration of performance and operational data for more informed and timely decisions; and a reorganized laboratory structure to address operational inefficiencies and to improve Laboratory management and leadership.
- Jefferson Lab’s Free Electron Laser holds the world’s record for average power levels and on October 30, 2006, reached a new record of 14.2 kilowatts of cw light at 16 microns.

Some of the challenges facing the Laboratory in FY 2007 are:

- Continue to enhance worker safety at JLab. Ensure that the principles on Integrated Safety Management (ISM) are implemented across the site including emphasis of JLab’s oversight of subcontractor work. Apply the necessary cultural and organizational changes needed to achieve a safe work environment for all JLab employees and visitors.
- Continued improvement of the Laboratory Self Assessment Program to ensure consistently high quality Self Assessments.

- Move forward with the 12 GeV Upgrade and FEL Upgrade Projects, with particular attention to meeting technical, cost and schedule baselines and key milestones, while satisfying National Environmental Policy Act (NEPA) requirements.
- Continued enhancement of the Cyber Security Program at the laboratory.
- Investigate efficiency initiatives to improve productivity, and to contain and, where possible, reduce costs.
- Enhancement of 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.

The Laboratory completed its FY 2006 (June 1-September 30, 2006) Self-Assessment under the performance-based management contract. Additional details are included in the body of this report.

The Department's FY 2006 Performance Evaluation of JSA is based upon a combination of performance against Contract performance measures; the contractor's self-evaluation report; various reviews; operational awareness activities as well as the results of Department assessments, walkthroughs, and observations; and assessments provided by the Office of Science Nuclear Physics Program and others.

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

The Department has determined an overall rating of A and a score of 3.89 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.

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+	4.30	15%	0.65
1.4 Provide for Effective Delivery of Science and Technology	A+	4.30	15%	0.65
Overall Performance Goal 1.0 Score				3.89

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

The Department has determined that a 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.

The 2006 Science and Technology Peer Review of JLab found that the quality, productivity and significance of the research program is outstanding. Recent results include the completion of experiments to determine the electromagnetic form factors of the proton and neutron. These data, along with the soon to be completed parity violation electron scattering experiments G0 and HAPPEX III, will allow JLab to complete one of the major milestones of the medium energy program: the determination of the flavor separated nucleon form factors out to a Q^2 of 4 $(\text{GeV}/c)^2$. Also, an analysis of Deeply Virtual Compton Scattering (DVCS) data indicates that the hypothesized dominant scattering mechanism may be correct. This is an important requirement for determining the Generalized Parton Distribution Functions (GPD), a major component of the 12 GeV CEBAF Upgrade research program.

Objective 1.2 Provide Quality Leadership in Science and Technology

The Department has determined a 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.

Overall, the Laboratory has a strong staff with highly productive senior and energetic junior scientists. The research staff members continue to play leadership roles in the national community, and serve on important committees and make significant contributions at conferences and workshops.

The theory group has demonstrated strong leadership by advancing research in the area of Lattice QCD calculations and by providing significant theoretical input and guidance to the experimental program. One example is the work on the two photon exchange mechanism that strengthens the experimental results on the proton electromagnetic form factors which challenge the long-accepted parton model of the nucleon. Two other examples are the global model-independent analysis of existing world data to extract nucleon strange and anapole form factors, and the lattice gauge effort to calculate exotic meson masses and their photon couplings in support of the 12 GeV program to understand the confinement mechanism. The lattice gauge effort in nuclear physics is considered outstanding and the group members are considered national leaders in applying lattice gauge to nucleon structure. JLab is one of three labs participating in the joint NP/HEP LQCD Computing Investment. To date, project performance is within cost and schedule baselines.

The JLab Office of Science Education (OSE) consistently, and especially during FY 2006, manages excellent science education programs for Workforce Development. Students, undergraduates, teachers, and under represented groups receive individualized attention and instruction that ensures individual success and programmatically meets all expectations of participants in the programs. OSE has dedicated itself to providing extensive science education and uses multiples opportunities to deliver the greatest learning impact. OSE teaches science and methods on how to best to teach science through mentoring intensive research, collaboration with other students and teachers, seminars, “fun” learning, and etc. The OSE staff is creative, dedicated, disciplined and by maintaining an interactive relationship with current and previous program participants extends the mentor relationship to promote ongoing learning.

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

The Department has determined a “Pass” rating of A+ and a score of 4.3 based on the evaluation of the Laboratory’s performance in providing and sustaining science and technology outputs that advance program objectives and goals.

Laboratory researchers and university users of the CEBAF facility have a commendable publication record in peer reviewed physics journals and for invited talks.

Objective 1.4 Provide for Effective Delivery of Science and Technology

The Department has determined a “Pass” rating of A+ and a score of 4.3 based on the evaluation of the Laboratory’s performance in providing effective delivery of science and technology.

The scientific productivity as measured by number of events obtained in the experimental halls and reported in the Joules/PART system have all been met or exceeded. Nuclear physics program performance milestones are on track for planned completion.

The theory group continues to demonstrate strong leadership in advancing the research program of the laboratory and is well integrated with the experimental program. The lattice gauge effort in nuclear physics is considered outstanding and the group members are considered national leaders in applying lattice gauge to nucleon structure. The Excited Baryon Analysis Center (EBAC) was initiated by implementing a significant visitor program, and coordinating a world-wide collaboration to improve the accuracy and reduce the possible model dependence of the necessary coupled channel analysis.

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

The Department has determined an overall rating of A and a score of 3.82 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.

Goal Performance Rating Summary

Objective	Letter Grade	Numerical Score	Weight	Weighted Score
2.1 Provide Effective Facility Design(s)	A-	3.70	20%	0.74
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	65%	2.54
2.4 Effective Utilization of Facility to Grow and Support the Laboratory’s Research Base	A-	3.60	15%	0.54
Overall Performance Goal 2.0 Score				3.82

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 determined a rating of A- and a score of 3.7 resulting from the evaluation of the Laboratory’s performance providing effective facility design (e.g., 12 GeV CEBAF Upgrade Project) to support JLab programs.

Progress on the 12 GeV CEBAF Upgrade Project is considered highly effective. In FY 2006, the Laboratory obtained Approval of Preliminary Baseline Range (CD-1). Though the Laboratory did not meet one other Level 1 milestone, Approval of Performance Baseline and Long-Lead Procurements (CD-2A), this was not considered a detrimental factor since this was a result of changes to the anticipated appropriations, outside of the Laboratory’s control. The project management team has done an excellent job in responding to changes in planned funding profiles

of the project. Reviewers participating in the June 2006 SC Office of Project Assessment (SC-1.3) review were, overall, impressed with the quality of the work performed, the quality of documentation, and the enthusiasm and capability of the people working on the project. Recommendations from the SC-1.3 review did not reveal any major issues.

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 determined a 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.

Facility operations in FY 2006 are considered highly effective and appropriate considering the reduced budget level. CEBAF met its target goals for reliability and well exceeded the planned number of hours this year. The Laboratory has achieved unparalleled performance in beam quality making it possible to successfully carry out the precision parity violating experiments mentioned above. Sources of operational inefficiency are tracked and analyzed. The cryogenics group was recognized for making a significant improvement in the performance of the cryogenic plant which is the largest single consumer of electrical power. The Laboratory was also recognized for working with other laboratories to implement this same improvement. Deterioration in cryomodule performance has limited the flexibility of the facility to carry out the full research program. While there were no TRC or DART cases during the performance period, the annual Laboratory safety performance as measured by TRC and DART rates, while considered good, was degraded from FY 2005.

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

The Department has determined a rating of A- and a score of 3.6 based on the evaluation of the Laboratory's performance in effective utilization of facilities to grow and support the Laboratory's research base.

The facility is the world's premier center for studies of nucleon structure with electron beams. The pursuit of the 12 GeV CEBAF Upgrade Project will secure a competitive scientific program for the future of the Laboratory. The Laboratory supports a broad international user community of about 1,200 and has a healthy outreach program.

GOAL 3.0
Provide Effective and Efficient Science and Technology Program Management

The Department has determined 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.

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

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

The Department has determined a 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.

The Jefferson Lab’s Five-year Business Plan sets clear programmatic priorities for the Laboratory, including the facility upgrade, running of the facility, executing high impact physics, and leadership in superconducting radio-frequency (SRF) technology. The Laboratory has developed a plan for SRF technology that will not only be important for the 12 GeV CEBAF Upgrade, but be a resource for the Nation. The Laboratory has also developed a white paper outlining the physics opportunities of Quantum Chromodynamics theory calculations on the lattice to address the physics of the JLab’s 6 GeV and 12 GeV research programs.

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

The Department has determined a 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.

Laboratory management is given high marks for maintaining Laboratory productivity during the re-compete period of the DOE Management and Operations (M&O) contract and with a reduced budget. The new partnership of Computer Sciences Corporation (CSC) and Southeastern Universities Research Association (SURA) is considered a positive change that has the potential

to improve the day-to-day operations of the Laboratory. Management has worked to more fully integrate efforts of theory and experiment in order to increase the science productivity of the Laboratory.

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

The Department has determined a rating of A- and a score of 3.5 based on the evaluation of the Laboratory’s performance in effective communications and responsiveness.

Some members of the user community continue to express concern that they are not being integrated into the overall Laboratory decision making process when it comes to the scientific program and the 12 GeV CEBAF Upgrade. Laboratory management does a satisfactory job in presentations at briefings to the Office of Nuclear Physics, although iterations are typically required in order to obtain all of the requested information. The Laboratory responds promptly to requests for information from the Office of Nuclear Physics and the Site Office.

The Office of Science Education (OSE) at JLab has done an excellent job of advancing the “mentor” culture at the Lab. By hosting mentor workshops, supporting students and teachers in their lab research, ensuring positive research relationships between mentor and intern, and providing technical and administrative support so the interns can work effectively, the OSE staff has improved the program tremendously.

GOAL 4.0

Provide Sound and Competent Leadership and Stewardship of the Laboratory

The Department has determined an overall performance rating of A- and a score of 3.75 for this goal based upon giving higher consideration to vision, collaboration and technology transfer efforts during the foreshortened 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-	3.75	35%	3.75	
4.2 Provide for Responsive and Accountable Leadership throughout the Organization	N.A.	N.A.	35%	N.A.	
4.3 Provide Efficient and Effective Corporate Office Support as Appropriate	N.A.	N.A.	30%	N.A.	
Overall Performance Goal 4.0 Total					3.75

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

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 determined a performance rating of A- and a score of 3.7. The Laboratory in particular the Chief Scientist, has continued to develop and improve the laboratory's 20-year science vision and capability for address sing outstanding science questions. Furthermore, 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.

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.

Updating of the Business Plan falls outside of the performance period; consequently, it was not evaluated and is scored not applicable (N/A) in line with JSA's self-evaluation.

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

The Department has determined a performance rating of A- and a score of 3.7. The Laboratory has taken extra steps to strengthen ties that advance science issues of national priority to DOE through the numerous engagements discussed in JSA's self-assessment of measure 4.1.1 performance as well as through MOUs and collaborations with universities and other SC laboratories; participation in the NSAC long-range planning process; user joint and bridge faculty appointments; and fellowships. The Department looks forward to the contributions to be made by the JSA Board of Directors' Program committee.

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 agrees with a performance rating of A and score of 4.0. The Laboratory's citizenship programs are broad and effective. 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 Lab's K-12 science education program – Becoming Enthusiastic About Math and Science (BEAMS). This program has yielded measurable results, increasing test scores of these students in Virginia Standards of Learning tests in Math and Science. 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. SURA's participation in the Energy Science Coalition, Task Force for the Future of American Innovation and the Alliance for Science and Technology Research in America as well as the Distinguished Friend of Science Award exemplify broad outreach efforts.

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 determined a performance rating of A- and a score of 3.6. The technology commercialization efforts enumerated in JSA's self-assessment (e.g., Inteum Intellectual Property database, Invention Disclosure system, Terahertz Applications Symposium, Commonwealth of Virginia Innovative Technologies Symposium, and SURA fund) are notable. The Department looks forward to the fruits of these efforts as well as the partnership previously established with the University of Virginia Patent Foundation.

Objective 4.2 Provide for Responsive and Accountable Leadership throughout the Organization

This Objective, and its corresponding Measures, is rated as not applicable (N/A) due to the briefness of the performance rating period.

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 and responsibilities and accountabilities and authorities.**

Measure 4.2.2 – Fully implements a performance based integrated management system including: a Work Breakdown Structure (WBS) developed to at least the fourth level for all Laboratory activities; and proposed management information systems (Applied Insight/AQIS/Maximo) implementation underway.

Objective 4.3 Provide Efficient and Effective Corporate Office Support as Appropriate

This Objective, and its corresponding Measures, is rated as not applicable (N/A) due to the briefness of the performance rating period.

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.

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 (GDGP) and Scientists (GCS), and facilitate joint and bridge appointments between universities and the Laboratory.

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

The Department has determined an overall rating of A- and a score of 3.60 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	3.89	45%	1.75	
5.2 Provide Efficient and Effective Implementation of Integrated Safety, Health and Environment Management	B+	3.44	45%	1.55	
5.3 Provide Efficient and Effective Waste Management, Minimization, and Pollution Prevention	B	3.00	10%	0.30	
Performance Goal 5.0 Total					3.60

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

The Department has determined an overall rating of A and a score of 3.89 for this objective based upon giving higher consideration to measures 5.1.1 and 5.1.2.

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 contractors, official travel and personnel paid under joint arrangements.

The contractor clearly exceeded the B+ Performance Level by attaining a DART case rate of 0.0, using the CAIRS reportable figures; however, the “A” Performance Level for DART case rate must be less than 0.38 when factoring in all subcontractors, as defined below:

“For performance level of 3.5 and higher the DART rate includes DART cases and hours worked for laboratory staff, users, and subcontractors. This includes hours worked from service and construction subcontractors having fewer than 11 on-site employees. This excludes DART cases involving subcontractor employees whose work is limited to transient activities and direction/oversight is not provided by DOE or JSA (e.g., copy machine repair, express mail delivery, telephone installation/repair, vending machine service).”

The contractor’s “inclusive” DART case rate was 0.39, resulting from a single injury sustained by a subcontractor employee (< 11 on-site employees). Given the relevant safety accomplishments identified in the contractor’s Self Assessment, and considering the Laboratory’s historical performance in this measure, the Department has determined a grade of A- and a score of 3.6. While this represents a slight decrement from the Contractor’s Self Assessment score of “A,” it remains a notable accomplishment given the high expectations that were established.

The DuPont STOP training and similar initiatives have likely promoted safety-minded behaviors within the workforce. The Site Office has also been pleased with the improved visibility of Lessons Learned and safety related discussions. Examples of this include incorporating safety topic into some recurring meetings, and by including topical safety information in the Laboratory's weekly report and Insight web page.

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 contractor's DART case rate of 0.0, using CAIR input figures, was exemplary over this rating period, and clearly exceeded the B+ criteria. Using linear interpolation of the "inclusive" TRC case rate of 0.39 (including subcontractors with < 11 on-site employees), the Department has determined a grade of A and score of 4.0.

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 determined a grade of A+, and score of 4.1. Due to the small number of applicable Radiation Work Permits (RWP) generated during the rating cycle, achieving the maximum performance levels in this measure was relatively straightforward. The quality of the RWP documents appears to have greatly improved relative to previous records reviewed by the Department. Sustained performance in this regard is vital to maintaining legally defensible documents that support the Radiation Safety program and worker safety.

During the rating period, a Radiological Deviations Report (RDR) was issued in response to an internally identified problem on storing radiological materials outdoors. The actions taken as a result of this discovery were considered to be both prompt and comprehensive. With the pending compliance associated with 10 CFR 851, the Department is hopeful these types of self directed actions could be used as a model for open reporting and managing corrective actions, extending beyond the Radiation Safety group.

Measure 5.1.4 – Sealed Source Radioisotopes are accounted for and controlled in accordance with all relevant procedures.

The Department has determined a grade of A+ and score of 4.1 for this measure. The Key Watcher system being used at the Lab to help track and manage sealed sources is still considered to be an exemplary system within the DOE.

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

The Department agrees with the performance and positive actions which are captured in the Contractor's PEMP Self Assessment Report; however, in the larger context of this Objective, the Department has determined an overall rating of B+ and a score of 3.44 is more appropriate for this Objective based upon giving higher consideration to measure 5.2.1 and, as supported by a number of examples cited below. These examples are not intended to diminish the acknowledged accomplishments and positive performance attained by the Contractor, but is cited to assist the Contractor in improving upon the good performance already established, to achieve higher performance evaluations.

Measure 5.2.1 – 100% of Management Self Assessments (MSAs) (4 of 4) conducted and reviewed and accepted by ESH&Q Division (100% means that Physics, Accelerator, Administration, and EH&S will perform at least one MSA (meaning a department, group or division level can perform this MSA to meet this measure) during the 4th quarter of FY06). Independent Assessments (IAs) Completed = 100% - means two IAs (2 of 2) conducted and draft reports are in written. Meet the milestone commitments identified in memorandum from Christoph W. Leemann to James A. Turi: JSA Acceptance of SURA ESH&Q Documents, dated May 16, 2006. Conduct 15 work observations during the scheduled accelerator down (SAD) (June-July 2006).

The Department acknowledges the contractor satisfied the performance levels identified in this measure, including conduct of Management Self Assessments (completing 1 of 1 ES&H related MSAs) and Independent Assessments (completing 2 of 2 ES&H related IA's). Based on the combination of meeting some "A" performance levels in this measure, and the performance related conditions identified below, the Department has determined a rating of B+ and a score of 3.4 for this measure.

Although the Contractor provided a submittal intended to meet the milestones identified in the memorandum from Christoph W. Leemann to James Turi, this submittal required supplemental information from the Contractor to be complete.

The Blind Penetration/Dig Permit program has not been timely incorporated into the EH&S Manual, despite prompting by the Site Office. Staff awareness of the details in this program may not extend beyond the Facilities Management group, including personnel assigned oversight responsibility of impacted activities. The refinement of the Blind Penetration/Dig Permit program by Facilities Management was prompted by lessons learned, both internally and externally. Such lessons learned need to be instituted Lab-wide in timely manner.

On July 10, 2006, an investigation was initiated by Facilities Management and the Accelerator Division in response to a worker identifying exposed conductors (bare wire ends) extending out of an open electrical panel. The breaker attached to these conductors was determined to be in the off position at the time of its discovery. A series of interviews and inquiries were performed, but the report was not formally issued until December. Failure to issue event reports such as this in a timely manner deprives the Laboratory from effectively sharing lessons learned.

During the conduct of the Lock-Out/Tag-Out and Fall Protection Surveillances at the end of August 2006, the Department identified multiple instances of subcontractors performing work inconsistent with routine safety practices. Examples of this include:

- workers standing on the very top of step ladders,
- transitioning between a folded step ladder and a roof deck at the same height, and
- not conducting a zero energy verification step during the execution of a lock-out/tag-out on a HVAC unit.

The extent to which similar safety shortcomings may exist across the Laboratory is not fully known since this was a limited duration Surveillance; however, the Site Office is expectant that internal monitoring and enforcement is being conducted Lab-wide to address such issues when encountered. Some observations and findings identified in the Department's LO/TO Surveillance were similarly identified in the Lab's MSA conducted in March 2006. The Department believes some of these instances should have had interim corrective actions in place given the amount of time between these two efforts.

While the Contractor has made strides to improve the oversight of subcontractor work, increased presence and vigilance of Subcontracting Officer's Technical Representatives (SOTR's) directly monitoring work activities is warranted. The DuPont STOP program and the mentoring approach it employs is an industry accepted technique to promote a safety conscious workforce; however, chronic non-compliance for an individual or subcontractor's group needs to be tracked and responded to in a manner commensurate with the safety significance and degree of recidivism. It is hopeful that the recent training program presented by the Lab to SOTRs will help these individuals execute their important oversight role in monitoring the safety performance of subcontractors.

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, re-establishing the "stop work" authority for every employee via a policy memo from the Laboratory Director and additional training, and rewarding safety performance.

The Contractor's level of performance for this measure is consistent with "A" performance, as discussed in the Contractor's Self-Assessment Report; however, due to the shortcomings identified below, the Department has determined a rating of A- and score of 3.6 for this measure.

During the rating period, there were multiple instances which highlight the need to improve timely reporting of safety events and issues, both within the Laboratory and to the Site Office. Examples of this included, but were not limited to, the FEL tent frame collapse event, and a near-miss involving a potential oxygen deficiency condition. The Contractor is encouraged to monitor the promptness of reporting ES&H related events, as to track performance and improve communication. Timely and transparent flow of ES&H related information is essential to maximizing Lessons Learned through scene preservation and obtaining accurate accounts and testimonials from personnel. Timely and transparent reporting is also an important consideration in preparing for compliance with 10 CFR 851.

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

Measure 5.3.1 – Number of environmental incidents resulting in administrative or technical permit violations and EMS Action Plan implementation: 1 administrative, 0 technical permit violations. Complete remaining EMS Action Plan items scheduled for completion by September 30, 2006. Apply causal analysis principals to environmental incidents if one occurs in this period.

The “B” Performance Level is defined as follows:

≤ 2 administrative, 1 technical permit violations and complete all but one of the EMS 2005 Action Plan items by CATS due dates.

The contractor accomplished items identified in the higher performance levels, such as using Causal Analysis techniques after environmental spills; however, the Notice of Violation received from the Hampton Roads Sanitation District (HRSD) is consistent with the “B” performance criteria. As such, the Department agrees with the contractor’s self-assessment grade of B and score of 3.0 for this measure. The Department is expectant that persons responsible for waste materials and effluents will have a questioning attitude before releasing or discharging waste materials. During the same monitoring effort conducted by HRSD, transient high phosphorus concentrations were also identified. While this condition resulted in a modest service surcharge fee being levied, versus a compliance action, the contractor should have identified this condition through the sampling already conducted in-house. This condition draws into question the rigor in which the results of environmental samples are being evaluated. Applying action levels to sampling results, for both internally and externally derived environmental samples, should help identify changes before the compliance limits are exceeded.

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 determined that an overall rating of B+ and a score of 3.42 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+	3.47	25%	0.87	
6.2 Provide an Efficient, Effective, and Responsive Acquisition and Property Management System(s)	A-	3.50	25%	0.88	

Objective	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
6.3 Provide an Efficient, Effective, and Responsive Human Resources Management System	B	3.05	20%	0.61	
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+	3.37	15%	0.51	
6.5 Demonstrate Effective Transfer of Technology and Commercialization of Intellectual Assets	A-	3.65	15%	0.55	
Overall Performance Goal 6.0 Total					3.42

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. JSA performed well in all three areas for the four month period. The Department has determined a rating of B+ and a score of 3.47 for this objective based on the following:

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

The Department has determined a rating of A- and a score of 3.5. JSA performed very well during this short, post transition time frame. Costs and commitments did not exceed available funding in the contract. JSA has begun implementation of management tools to help manage and track costs. Additionally, the Lab's cost variance in their projected overhead rate calculations was less than one percent, which meant that overhead costs were appropriately estimated and provided no negative impact on operational budgets.

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

The Department has determined a 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. There were no major problems with the transition to the new contract and the CFO organization insured all needed information was transferred and carried forward into the new contract. The JSA CFO worked closely with the Site Office and ORO CFO organization to insure an orderly transfer of accounts. The JSA CFO addressed outstanding findings and recommendations from reviews and audits. The transition to a new contract and resulting short time frame of this report (four months) did not leave time for a review of JSA's financial management system. This review will start in FY 2007. The CFO staff was a key participant in JSA's setup of their Work Breakdown Structure (WBS). The WBS will support the Laboratory's integrated performance-based management approach which, when fully implemented, will provide timely financial and

operational performance information to drive improvements. To achieve a score of A+ would require a significant financial management process improvement or best practice be implemented. It will not be known if significant financial management process improvement is gained until this system has been utilized for a period of time and an evaluation is performed.

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

The Department has determined a rating of A- and a score of 3.5. The JSA CFO organization worked hard to maintain strong control and accountability. Financial managers and staff reviewed their processes regularly to validate and strengthen internal control. The JSA CFO during this period amended their Cost Accounting Standards Disclosure Statement to add a needed special construction rate to be used for the 12 GeV Upgrade Project. The Disclosure Statement clearly describes Jefferson Lab's actual cost accounting practices. The JSA CFO was also actively engaged in the completion of the ambitious schedule required by OMB Circular-123 and the required identification and testing of internal controls for high risk areas.

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

The Department has determined an overall rating of A- and a score of 3.5. This rating was lowered due to a number of events relating to improper use and protection of government property.

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.

Note: Measure not applicable to this period per PEMP.

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

The Department has assigned an overall 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 2006 contractually required socio-economic subcontracting goals and surpassed their targeted procurement dollars for small business by \$1.5M. JSA also identified three companies for DOE's Mentor Protégé program ahead of their targeted schedule. The Department notes that the first company is a small disadvantaged business for engineering and technical services, the second company is a disadvantaged, service-disabled veteran-owned and HUBZone small business for offices supplies/remanufactured toner cartridges and the third company is a woman-owned small business for 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. 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.

On April 1, 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.

The use of P-cards and e-commerce appears to be well controlled. The procurement managers have an average of 20+ years of experience and are dedicated to supporting the mission of the Laboratory.

Measure 6.2.3 – Demonstrate efficacy of the property system through outstanding results on annual performance measures (Property and Vehicle Balanced Scorecard) that cover critical aspects of the personal Property management process.

Note: Measure not applicable to this period per PEMP since the Department has not conducted a full, formal evaluation of the Property Management and Protection measure, largely due to the transition of Laboratory operation to a new M&O Contractor. The design and purpose of the evaluation process is the measure of performance of normal operations. As a result of the contract transition, and the implementation of a new DOE Property Management Program under DOE Order 580.1, the Laboratory's Property Management System has been substantially revised. The revised system is currently being reviewed for approval and is thus in a state of flux. A number of problems in the proper use and protection of government property have been noted over the course of the past 12 to 18 months. The revisions made to the Property Management System are designed to strengthen internal controls and increase management involvement in and visibility of the system operation. The Site Office anticipates that organizational changes by the new M&O Contractor, coupled with the revisions to the Property Management System, will improve accountability within the system and assure compliance with the DOE Personal Property Program requirements. It should be noted that available data indicates that, in the process of establishing its benchmark property inventory under the new M&O Contract, the Laboratory has achieved an accuracy of 98% in its sensitive property inventory and in excess of 99% for capital equipment, and is maintaining a functional, acceptable Property Management system despite the changes and uncertainties inherent in transition.

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

The balanced scorecard approach for FY 2006 was continued by JSA after contract transition to measure performance in the Human Resource area. The Department has determined that an overall rating of B and a score of 3.05 for this objective based on the following:

Measure 6.3.1 – Balanced Score Card Results.

The Department has determined a rating of B+ and a score of 3.1. JSA identified six performance targets relating to six critical areas of Human Resources services. These areas included diversity, compensation, benefits, retention, internal business processes, and timely reporting. While ideally performance would be measured for a full year, at the end of the current performance period, the Lab was meeting or exceeding the target on five of the six measures. A potential weakness identified to the Lab was not utilizing the results of the scorecard to take actions to make improvements. The fact that scorecard benchmarks are met should not be seen that improvement is not needed or possible.

Measure 6.3.2 – Completion of outstanding contract activities.

The Department has determined a rating of B and a score of 3.0. During this period the JSA staff has been professional and responsive to addressing outstanding contract items such as negotiation of the Advanced Understanding on Human Resources, Appendix A and completion of workforce planning and compensation documents. As a practical matter the only item remaining for completion is for the Lab to request that their compensation system be certified.

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

This objective consisted of three measures which contributed to the overall score. The Department has determined that an overall rating of B+ and a score of 3.37 for this objective based on the following:

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

The Department has determined a rating of 3.5 and a score of A- for this measure. JSA completed all audits included in its FY 2006 annual audit plan. Several of the audits are awaiting management responses and are expected to be issued within timeframes called for in the evaluation plan. In addition, the audit staff completed the Internal Audit Implementation Design document required by the new contract.

Measure 6.4.2 – Consistent with Professional Auditing Standards receive an overall satisfactory rating from external reviews every five years.

Note: Measure not applicable to this period per PEMP.

Measure 6.4.3 – Develop a Quality Improvement Plan.

2The Department has determined a rating of B+ and a score of 3.1, which is slightly less than the contractor's self-assessment grade of B+ and score of 3.4. The Department's rating is based, in part, on the October 25, 2006, e-mail from the contractor transmitting a QIP signed by the

Laboratory Director on September 29, 2006. Subsequent e-mail received by the contractor on November 30, 2006, indicates the QIP had yet to be officially transmitted to the Department. In order to obtain full credit on PEMP milestones, the contractor should transmit these products to the Department in a timely manner through official correspondence.

The Department attempted to convene a session for the contractor to provide TJSO staff and management with an overview on the Quality Improvement Plan, but this presentation was delayed several months. The Site Office is hopeful that the contractor will establish direction and management of Quality Assurance initiatives to achieve a high level of performance relative to the measures in the FY 2007 PEMP.

The Department acknowledges there has been an incremental improvement in the way assessments are planned, assessors are trained, and how the issues and records are managed.

Measure 6.4.4 – 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 determined a rating of A- and the score of 3.5 for this measure. The IT Steering Committee held its first meeting on August 30, 2006. There are 15 participants from across the Lab plus CSC and W&M participants and a Site Office observer. The charter has been accepted by the Committee and the CIO. The Committee is currently meeting monthly. The Department looks forward to the committee's contributions to enhancing the laboratory's IT Architecture.

The Committee addressed several areas including: the aggressive cyber security upgrade plan put in place following the DOE SC-OA Site Assistance Visit in mid September; preparations for the new IT Division to be put in place October 1, 2006; user satisfaction and requests for IT services; and the development of MIS applications, including JLab Insight.

In addition, IT and ESH&Q worked together for development and implementation of IT solutions related to the ESH&Q organization. The activities completed in this area were:

- Conducted information and analysis Webex with CSC to investigate AQIS solutions.
- Assigned two individuals as liaisons for interfacing needs relative to Applied-JLab Insight solutions. ESH&Q needs were discussed with JLab IT department for Insight expectations.

Measure 6.4.5 – The Laboratory's Information Technology favorably benchmarks with other DOE laboratories, research universities and commercial industry best practices.

Note: Measure not applicable to this period per PEMP.

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

The Department has determined an overall rating of A- and a score of 3.65 for performance measures evaluated during this period as an accurate evaluation of JSA's FY 2006 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. During this four month performance period (June 1, 2006 through September 30, 2006), JSA entered into several new Work-For-Other/Cooperative Research And Development Agreements with the following companies: Linde Corporation for cryogenics R&D; Muons, Inc. for advanced accelerator design with CASA; and, Advance Energy Systems, Inc. for continued development of the THz User Lab.

Measure 6.5.1 – Stewardship of Intellectual Assets.

The Department has determined a rating of A and a score of 3.9. In FY 2006 (June 1, 2006 through September 30, 2006), JSA successfully executed four invention disclosures and awarded two patents related directly to Jefferson Lab's core competencies. The invention disclosures were as follows: ID # 1205 - Method of Reducing Ion Bombardment of a Photocathode in a DC Photogun by Means of Positively Biasing an Anode invented by Eduard Pozdeyev; ID # 1206 - Process for Optimizing the Yield and Production Rate of Single-Walled Carbon Nanotubes Using Free Electron Laser Synthesis invented by Mark W. Smith (NASA) and Kevin Jordan; ID# 1207 - Apparatus for Free Electron Ablative Synthesis of Carbon Nanotubes invented by Mark W. Smith (NASA) and Kevin Jordan; ID# 1208 - Digital Self Excited Loop for Accelerating Cavity Field Control. The patents were as follows: U.S. Patent No. 7,057,390 B1 - Linear Beam Raster Magnet Driver Based on H-Bridge Technique and U.S. Patent No. 7,113,920 B1- Electronic Stockroom and Catalog. This is a significant accomplishment as it relates to the FY 2007 overall annual goals.

Measure 6.5.2 – Licenses and Options Assessments.

The Department has assigned a rating of B+ and a score of 3.4. In FY 2006 (June 1, 2006 through September 30, 2006), JSA successfully executed one license agreement with Hampton University for the use of JSA's WEB based on-line catalog system entitled, "Electronic Stockroom and Catalog." This is a significant accomplishment as it relates to the overall FY 2007 annual goals. The Laboratory continues to have an effective technology transfer program.

Measure 6.5.3 – Customer Satisfaction.

As it relates to customer satisfaction, this measure is determined by an annual survey which is not being conducted during this rating period due to the limited four month evaluation period. JSA is currently modifying their customer feedback process to facilitate the collection of customer feedback throughout the year versus an end of year survey. The Department agrees with N/A.

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

The Department has determined an overall rating of B+ and a score of 3.40 based on scores achieved for the measures used to rate performance on this goal. Overall performance meets expectations of performance as set by the performance measures specified for the objectives with some areas of 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	B+	3.40	50%	1.70	
7.2 Provide Planning for and Acquire the Facilities and Infrastructure Required to support Future Laboratory Programs	B+	3.40	50%	1.70	
Overall Performance Goal 7.0 Total					3.40

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 B+ and a score of 3.4 for this objective. The score for this objective was based on averaging the score on two of three quantitative performance measures. Comments on how the measures were scored follow.

Measure 7.1.1 – Asset Condition Index (ACI).

The Department has determined a rating of B+ and a score of 3.4 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 96.34%. 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 agrees with no rating for this measure due to the less than one year duration of this performance period. This will be an appropriate measure for subsequent performance periods and will be maintained.

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 determined a 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 2.34%. 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 determined a rating of B+ and a score of 3.4 for this objective. The score for this objective was based on performance on only one of the three measures for this objective due to the less than one year duration of this performance period. 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 Ten Year Site Plan meets the requirements for a rating of B+ and a score of 3.4 for this measure. The Ten Year Site Plan has been recognized by the SC Laboratory Infrastructure program as a “viable, comprehensive Ten Year Site Plan” and it was used in the development of the Business Plan and to support the Nuclear Physics Operations Efficiency Review.

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

The Department supports no rating for this measure due to the less than one year duration of this performance period. This will be an appropriate measure for subsequent performance periods and will be maintained.

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

The Department supports no rating for this measure due to the less than one year duration of this performance period. This will be an appropriate measure for subsequent performance periods and will be maintained.

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 3.5 based upon an 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-	3.53	50%	1.77	
8.3 Provide an Efficient and Effective System for the Protection of Special Nuclear Materials, Classified Matter, and Property	B+	3.47	10%	0.35	
8.4 Provide an Efficient and Effective System for the Protection of Classified and Sensitive Information	A-	3.50	10%	0.35	
Overall Performance Goal 8.0 Total					3.55

Objective 8.1 Provide an Efficient and Effective Emergency Management System

The Department has determined a rating of A- and a score of 3.6 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 – An emergency response exercise is conducted. Response to an actual or simulated emergency event demonstrates an above average level of proficiency and opportunities for improvement are identified and acted upon. Completion of the remaining FY 2005 Emergency Management Program peer review elements.

The Department has determined a rating of A- and a score of 3.6 for this measure. The Contractor completed 100% of the tasks assigned to achieve this rating as specified in the PEMP and provided a laboratory-wide pandemic response plan; assisted in revision to the final COOP; conducted four emergency exercises, drills and mobilization for actual events; participated in a regional avian influenza pandemic tabletop exercise and planning session; and demonstrated laboratory-wide hurricane readiness through a corporate assessment of hurricane preparedness activities. It was determined that participation from the Contractor to complete the final COOP was not necessary and was not a factor in the grading.

Objective 8.2 Provide an Effective and Efficient System from Cyber Security

While a strict application of the performance metrics would have supported a higher rating and score, the Department has determined an overall rating of A- and a score of 3.5 for this objective as discussed below. During the brief rating period, while specific cyber security metrics were successfully attained, risks existed that could potentially put Laboratory assets at stake. In

addition, the Department took into consideration the findings of the September 2006 TJNAF Cyber Security SAV review. The Department recognizes the Laboratory's promptness in addressing the findings of the September 2006 and earlier reviews. While improvements in posture continue to occur, mitigating circumstances are considered in reviewing the overall cyber security program. A key note is that cyber security is not negatively affecting the delivery of science and the Laboratory is to be commended for that. A balance will need to be struck in order to handle Departmental initiatives as well as maintain the Laboratory's mission of delivering productive science. The Lab will be seriously challenged in the next fiscal year to continue minimizing security risks while implementing new technology, new network structure, and new cyber culture.

Measure 8.2.1 – Compromises, attacks and reporting.

The Department has assigned a rating of A- and a score of 3.5. There was one root-level compromise during this rating period. All cyber security incidents were reported to the Site Office and CIAC, and certified via requisite monthly "null reports." During this rating period there were significant staffing and resource obstacles faced by the Computer Center due to the budget reduction yet the Laboratory still maintained protection as there was only one compromise. Cyber security did not negatively impact the delivery of science as there has not been negative feedback from the User Community or Accelerator Operators. But the staffing challenges did impact the Laboratory's ability to work on development activities to strengthen the networking security during this period. However, the Laboratory did launch most of the procurements required to complete cyber networking security enhancements in FY 2007.

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

The Department has assigned a rating of B+, and a score of 3.4. Due to the abbreviated rating period this was the only milestone scheduled for this time frame. The Laboratory's two-factor authentication project schedule was put on hold in order to comply with DOE's order not to spend anything on authentication systems until HSPD-12 issues were resolved. The Site Office has validated that a pilot program for testing of 2-factor authentication is in place with access to 27 machines being fully controlled by 2-factor technology. A procedure-based model for separation of privilege using pre-2-factor technologies was evaluated for the Computer Center's system administrators. The Site Office observed on a continuous basis, the successful interaction between devices used by the Cyber Security Team. There is no loss of network services/ protocols. This model will now be modified to rely on the 2-factor technology. A phased approach can now be implemented beginning with system administrators, and then within the Windows and Linux environments.

Measure 8.2.3 – Establish SANS Top 20 Scanning Program.

The Department has determined a rating of A- and a score of 3.7. Scanning and remediation of SANS Top Twenty vulnerabilities was completed on 495 machines in the 4th quarter of FY 2006. The Site Office has validated the remediation of these statistics by view of reports in the StillSecure VAM (Vulnerability Asset Management) console.

The Lab is scanning and logging vulnerabilities using VAM but remediation of those vulnerabilities is at a low pace due to a severe lack of staff. Remediation takes a considerable amount of time as most vulnerable machines have to be “walked” down by staff. Vulnerability scanning ramp-up plans were predicated on the manpower available at that time which was a scant half an FTE. Given those resources, scanning of every non-excluded machine was once a quarter. This frequency of scanning allows time for undetected weaknesses and thus increases the possibility of malicious activity to take place. The target number of fixing vulnerabilities was exceeded, but there was an issue of timeliness of remediation, especially for systems with old vulnerabilities, some as old as three-years, being added to the network by users. Additional equipment was placed on order to speed up the frequency for vulnerability scanning, and a hiring plan was put in place for additional staff to rapidly patch the vulnerabilities. The pace of patching systems with vulnerabilities placed on the network keeps this from being rated as a stellar overall scanning and remediation program.

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

The Department has determined an overall rating of B+ and a score of 3.47 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 JLab 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 determined a grade of A- and has determined a score of 3.6 for this measure. All activities required by this measure were completed. In addition, the Contractor prepared and coordinated written jurisdictional agreements for TJNAF between the Chief Magistrate, Seventh Judicial District, Chief of Police, Newport News Police Department, and the DOE Site Office. Meetings were held regularly with HQ DOE regional and FBI Norfolk agents to exchange information. A meeting was also held with the Newport News Chief of Police and his senior staff to discuss community policing and incident management. The Contractor also updated a support agreement with the U.S. Air Force Combat Command Program Management Squadron to enable TJNAF cleared personnel to use a near-by secure space and secure communications equipment to discuss threat information with DOE headquarters.

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

The Department has determined a rating of B+ and a score of 3.4 for this measure. All activities required by this measure were satisfied. In addition, the June 2006 independent Security Survey

concluded “the survey team judged JLab to have an excellent security program that is managed and implemented by knowledgeable, dedicated staff.” However, the Laboratory did receive 3 findings. The findings were not significant enough to decrease the Security Survey rating below satisfactory. The Lab was also recognized in the report for excellent security planning for the Biennial Open House where over 8,000 visitor’s cars were parked at a fringe parking area and thousands of riders were screened prior to entering buses for access to the CEBAF Accelerator.

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

The Department has determined a rating of B+ and a score of 3.4 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 Sensitive Information

The Department has determined an overall rating of A- and a score of 3.5 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 determined a rating of A- and a score of 3.5. Two initiatives took place. One effort was the survey of all of the Lab’s sensitive information in IT systems. The survey was 80% complete by the end of September with a goal to be complete by the end of the calendar year.

Another effort involved providing training for all computer account holders on Personally Identifiable Information (PII) and what to do if they believe that any had been lost or compromised. They have to individually take the web based training and certify that they did or did not have access to PII, and if they had it on any portable electronic media. Also included in the training was an acknowledgement of the lack of expectation of privacy on DOE owned IT systems, and social engineering training on cyber attacks. The Site Office verified that about 85% of the staff had completed the training by the end of September and about 50% of the Users, Contractors, etc. had completed the training, thereby meeting goals for this time period. 100% was achieved for all computer account holders as of October 24, 2006.

While there is no classified information at Jefferson Lab, there is sensitive information (e.g., business sensitive information, personnel records, and employee concerns records) that require protection from unauthorized access. The Laboratory’s ability though to protect sensitive information with moderate controls applied is not evident, and leaves this data, which includes PII (Personal Identifiable Information), at risk. Implementation of 2-factor authentication would allow protection at the moderate level, but the Laboratory’s two-factor authentication project schedule was put on hold in order to comply with DOE’s order not to spend anything on

authentication systems until HSPD-12 issues were resolved. The Laboratory was given permission to implement two-factor authentication late in the performance period and immediately began a pilot program with plans for a FY 2007 production roll-out.