Fiscal Year 2008 Performance Evaluation Report
(October 1, 2007 through September 30, 2008)
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 4, 2009

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 Jefferson Lab). 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 2008 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 2008 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, 2007, through September 30, 2008. As such, it provides a standard to evaluate the contractor's management and operation of the Laboratory, and 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 (Reference: JSA's FY 2008 Self-Assessment/Performance Evaluation Report, dated November 7, 2008); and (2) DOE to perform a written assessment of the contractor's performance based on the process described in Appendix B. The following is a summary of DOE's evaluation for FY 2008 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 2008 TJSO Evaluation Score

S&T Performance Goal	Numerical Score	Letter Grade	Weight	Weighted Score	Total Score
1. Provide for Efficient and Effective Mission Accomplishment	3.9	A	40%	1.56	
2. Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Facilities	3.9	A	40%	1.56	
3. Provide Effective and Efficient Science and Technology Program Management	3.9	A	20%	0.78	
				Total Score	3.9
M&O Performance Goal	**Numerical Score**	**Letter Grade**	**Weight**	**Weighted Score**	**Total Score**
4. Provide Sound and Competent Leadership and Stewardship of the Laboratory	3.5	A-	20%	0.70	
5. Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health and Environmental Protection	3.5	A-	30%	1.05	
6. Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of the Laboratory Mission	3.5	A-	20%	0.70	
7. Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs	3.6	A-	15%	0.54	
8. Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems	3.5	A-	15%	0.53	
				Total Score	3.5

FY 2006 TJSO Evaluation Summary Score

	Numerical Score	Letter Grade
S&T Performance	3.9	A
M&O Performance	3.5	A-

Some of the FY 2008 highlights include:

- The Laboratory sustained exceptional progress in keeping employees, users, visitors and subcontractors safe as evidenced by the pro-active preparations for the HSS Integrated Safety Management (ISM) inspection, largely favorable HSS inspection, safety culture exhibited by workers and management, and the achievement of low injury rates as measured by Days Away Restricted Duty (DART) and Total Reportable Case Rate (TRC).

- The 2008 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 was made on the 12 GeV Upgrade Project during this year. The project team was instrumental in achieving CD-2 and CD-3.

- JSA's Earned Value Management System was certified by the Office of Engineering and Construction Management.

- Effective leadership was maintained during the approximately 18 month long process it took to select a new Laboratory Director.

- Numerous JSA/SURA/CSC activities, including an economic impact study to raise public awareness of the importance of the Laboratory to the local, regional, state, and national communities; and outreach activities at the Federal, state, and local levels.

- The Laboratory provided strong support and innovation, working with the Site Office, in developing an improved long range vision for the Jefferson Lab campus and framework for carrying out capital improvements to ensure mission accomplishment.

Some of the challenges facing the Laboratory in FY 2009 are:

- Continuing attention on safety, including ensuring that the principles of ISM are consistently infused in all divisions; and exhibiting the behavioral, cultural, and system attributes associated with a high safety performance organization.

- Enhancing corporate involvement in strategic planning, advancing the case for science and the Laboratory, and targeting business operation opportunities for improvement to further the Laboratory's vision and performance.

- Moving forward with the 12 GeV Upgrade, FEL Upgrade, and Technology and Engineering Development Facility projects, with particular attention to ensuring construction, renovation, and operational activities are performed safely; meeting technical, cost and schedule baselines, and key milestones; and ensuring National Environmental Policy Act (NEPA) requirements are met.

- Continue to make progress on the effective closeout of the HSS Corrective Action Plan findings.

- Continuing vigilance on cyber security, ensuring a robust program and system is in place, and timely and effective closure of POAMs.

FY 2008 Evaluation

The Department's FY 2008 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, and Timeliness of Research and Development)

The Department has assigned an overall score of 3.9 and grade of A resulting from the evaluation of Jefferson Lab's (Jefferson Lab) 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 Science and Technology Results Provide Meaningful Impact on the Field	A	3.9	35%	1.37
1.2 Provide Quality Leadership in Science And Technology	A	4.0	25%	1.00
1.3 Provide and Sustain Science and Technology Outputs that Advance Program Objectives and Goals	A	3.8	25%	0.95
1.4 Provide for Effective Delivery of Science and Technology	A-	3.7	15%	0.56
Overall Performance Goal 1.0 Score				**3.87**

NP

TJNAF nuclear physics group performs at a high level in all areas in mission accomplishment and merits a grade of A:

- The TJNAF S&T Review considered this year's scientific results in spin structure functions, baryon resonances, and form factor measurements will significantly impact our knowledge of nucleon structure.

- The lab continues to grow as a world recognized leader both experimentally and theoretically in advancing research on the structure of the nucleon.

- The lab has maintained a high productivity despite financial constraints compounded by trying to launch the 12 GeV CEBAF (Continuous Electron Beam Accelerator Facility) Upgrade project.

The 2008 Science and Technology panel review evaluated the TJNAF experimental and theoretical research programs as having a significant impact on advancing our knowledge of nucleon structure. One example is the data on short-range correlations of nucleons in nuclei that have resolved a problem in nuclear structure and may shed light on the properties of matter in neutron stars. This work was published in Science Magazine. The laboratory continues to meet or exceed its performance goals and research milestones.

The scores and grades for Goals 1-3 are based on the annual TJNAF S&T review (peer review), communication to NP at the February Laboratory Managers' Briefings, Reviews of the 12 GeV CEBAF Upgrade project and quarterly and monthly reports by the contract project manager, NP program manager's observations at national meetings, and NP program manager's judgment.

WDTS

The Office of Science Education at Jefferson Lab consistently, and especially during FY 2008, 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. The methods to communicate science education are creative, engaging, collaborative, and systematic. Students are educators are places in challenging research positions, and supported by workshops and lectures that directly relate to the content knowledge requires for success in the research project. All participants are provided the complete range resources needed for an exceptional laboratory research experience be it individual support or the development of reference material to teach complicated science concepts.

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

The Department has assigned that a performance score of 3.9 and grade of A based upon the evaluation of the JSA's performance in the area of science and technology impact on the field.

NP

The scientific accomplishments over the past year are considered impressive. They included precision data on spin structure functions, baryon resonances, and form factors. The high visibility publications of short-range nucleon correlations in Science Magazine and the electro-weak coupling constants of the nucleon in Physical Review Letters are indicators that the research coming out of the laboratory is having a high impact on advancing the field.

WDTS

- 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 extent interactions beyond the laboratory experience.

- The education staff by example and action creates a culture among it participants that success of the group is in part contingent upon the success of the individuals.

- Educators and undergraduate interns collaborate and leverage talent with one another with the same level of commitment of their research mentor.

Objective 1.2 Provide Quality Leadership in Science and Technology

The Department has assigned a performance score of 4.0 and grade of A based on the evaluation of the Laboratory's performance in providing quality leadership in science and technology.

NP

The quality and precision of the data coming from the laboratory continues to be unmatched internationally. The quality of the laboratory's polarized electron beams and experimental detectors continues to improve each year, thereby making new experiments possible and improving the quality of ongoing programs. The work of the theory group has international impact, and provides strong leadership in a number of areas of nuclear physics, including hadronic structure, Lattice Quantum Chromo-Dynamics (LQCD) calculations, hadronic modeling, excited baryon coupled-channels analysis, and perturbative QCD. For example, the Chief Scientist is Chair of the Nuclear Physics Working Group for the International Union of Pure and Applied Physics and the Associate Director of Physics at TJNAF is the Vice Chair of the APS Division of Nuclear Physics.

WDTS

- Jefferson Lab is among the DOE laboratories at the forefront of providing "informal education" on their web page. It is segmented by target audiences i.e., educator recourses, undergraduate, K-12 student and core science concepts are reinforced through multiple methods be it worksheets, puzzels/games, reference material, and hands-on activities.

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

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

The Department has assigned a performance score of 3.8 and grade of A 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 number of publications in peer reviewed journals is consistent with the past few years both in experimental (33) and theoretical (67) efforts. Independent peer reviewers indicate that the overall productivity of the laboratory is excellent; but there is concern that the pressure of building the 12 GeV CEBAF Upgrade may limit research output from the 6 GeV program over the next few years.

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.

Objective 1.4 Provide for Effective Delivery of Science and Technology

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

NP

The Laboratory consistently meets and often exceeds its delivery goals and program milestones even under constrained budgets. The Laboratory constantly monitors facility performance in order to improve reliability and improve efficiency. This year, the Laboratory exceeded performance goals (see Objective 2.3) while also achieving the CD-3 milestone for the 12 GeV CEBAF Upgrade.

WDTS

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

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

The Department has assigned an overall score of 3.9 and grade of A 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)	N/A	N/A	0%	0
2.2 Provide for the Effective and Efficient Construction of Facilities and/or Fabrication of Components	A	4.0	25%	1.0
2.3 Provide Efficient and Effective Operation of Facilities	A	4.0	60%	2.40
2.4 Utilization of Facility to Grow and Support the Laboratory's Research Base and External Community	B+	3.4	15%	0.51
Overall Performance Goal 2.0 Score				**3.91**

NP

TJNAF nuclear physics group performs at a high level in the design, fabrication, and operation of research facilities and merits a grade of A:

- The Laboratory successfully achieved CD-2 and CD-3 approval to baseline and start construction of the 12 GeV CEBAF Upgrade
- The Laboratory continues to exceed all its performance goals.
- The Laboratory continues to improve facility performance reliability and efficiency.

The Laboratory has done an excellent job in achieving approval to start construction for the 12 GeV CEBAF Upgrade project. This is a significant accomplishment. The Laboratory has accomplished this while also keeping the refurbishing program of CEBAF on schedule and maintaining a productive research program.

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

N/A

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)

The Department has assigned an overall score of 4.0 and grade of A based on the evaluation of the Laboratory's performance of providing effective and efficient construction of facilities and/or fabrication of components.

NP

The Laboratory received CD-2 approval on an accelerated schedule and the project was successfully baselined. The Laboratory received approval to start construction, CD-3, for the 12 GeV CEBAF Upgrade project in FY 2008 based in part on outstanding results of an independent project review of its readiness to begin construction. The Laboratory also successfully met other construction start requirements, including receiving an independent certification of its earned value management system that will be used to monitor performance of the 12 GeV CEBAF Upgrade project.

Objective 2.3 Provide Efficient and Effective Operation of Facilities

The Department has assigned an overall score of 4.0 and grade of A based on the evaluation of the Laboratory's performance of providing efficient and effective operations of the CEBAF.

NP

The CEBAF operation in fiscal year FY 2008 exceeded all goals set. In particular, the reliability reached 92% with beam availability in the experimental halls of 90% (Hall A), 86% (Hall B) and 87% (Hall C). The Hall performances quoted as a percentage of delivered usable beam compared to what was proposed are 110% (Hall A), 92% (Hall B), and 102% (Hall C). Due to budget constraints the machine operated for 3914 hours, as opposed to the 3500 hours originally planned with the FY 2008 Appropriation. Reliable 5.75 GeV operation has been restored; but is below the 6 GeV hardening goal of 5.9 GeV set by the laboratory for FY 2008.

Objective 2.4 Effective Utilization of Facility to Grow and Support the Laboratory's Research Base and External User Community

The Department has assigned an overall score of 3.4 and grade of B+ 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 user community continues to be generally satisfied with the Laboratory's support of their research program and facility utilization. However, they are concerned about schedule constraints on the 6 GeV program due to budgetary pressure from starting the 12 GeV Upgrade. This will require Laboratory management to make schedule decisions that will negatively impact student theses projects. The Laboratory continues their outreach to the local community

through their BEAMS and ACTS programs for students and teachers, respectively. The Laboratory encourages participation of undergraduate students in research through its Science Undergraduate Laboratory Internship (SULI) program. At the graduate level, the Laboratory supports joint appointments with universities, graduate fellowships, the Hampton University Graduate Studies summer school, seminars, and summer lecture series.

GOAL 3.0
Provide Effective and Efficient Science and Technology Program Management

The Department has assigned an overall score of 3.9 and grade of A 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	3.8	40%	1.52
3.2 Provide Effective and Efficient Science and Technology Project/Program Planning and Management	A	4.0	40%	1.60
3.3 Provide Efficient and Effective Communications and Responsiveness to Customer Needs	A-	3.7	20%	0.74
Overall Performance Goal 3.0 Score				**3.86**

NP

TJNAF nuclear physics group performs at a high level in all areas of science and technology management and merits a grade of A:

- The Laboratory continues to do an excellent job in S&T program management.
- It achieved CD-2 and easily passed a readiness review to achieve CD-3 status for the 12 GeV Upgrade project.
- The Laboratory has hired a new lab director that both laboratory staff and the user community seem to be pleased.
- Laboratory management has run a productive 6 GeV research program.

- Laboratory management continues to provide resources to improve reliability and efficiency of the CEBAF accelerator and to improve the quality of its polarized electron beams.

- The Laboratory maintains good relations with its research user community and the DOE Program Office.

WDTS

TJNAF 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 an overall score of 3.8 and grade of A based on the evaluation of the Laboratory's performance in providing effective and efficient stewardship of scientific capabilities and program vision.

NP

The Laboratory continues to improve the overall efficiency and performance of the CEBAF facility enhancing its scientific capabilities and lowering costs. The Laboratory has secured CD-3 status for its 12 GeV CEBAF Upgrade project, securing a future program for the next decade. The Laboratory is engaged at an appropriate level in R&D on future facilities beyond the 12 GeV CEBAF Upgrade. The Laboratory hosted 29 and organized another 30 workshops, conferences, and meetings this year.

WDTS

The Laboratory 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.

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

The Department has assigned an overall score of 4.0 and grade of A based on the evaluation of the Laboratory's performance in providing effective and efficient science and technology project/program planning and management.

NP

The FY 2008 S&T Review found that Laboratory management has successfully selected a new Director while maintaining a productive research program and achieving CD-3 status early for the 12 GeV CEBAF Upgrade project. Laboratory management continues to focus on improving the overall efficiency and effectiveness of the Laboratory staff and facility. They have implemented new software for organizing and tracking the workforce and the business activities of the laboratory and improved the safety of the working conditions of the Laboratory as evidenced by lower incidents of accidents to the staff.

WDTS

- Jan Tyler's commitment, management, and involvement in the National Science Bowl Advisory Board are 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 viewed 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 regions. 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 3.3 Provide Efficient and Effective Communications and Responsiveness to Customer Needs

The Department has assigned an overall score of 3.7 and grade of A- based on the evaluation of the Laboratory's performance in effective communications and responsiveness.

NP

The Laboratory continues to have efficient and effective communications with the DOE. They are responsive and careful to respond to requests as requested. Based on reports at the S&T Review, the user research community is happy with the Laboratory's communications and responsiveness to their needs.

WDTS

- The Laboratory 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.

- The Laboratory 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 score of 3.5 and grade of A- 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. Comments are contained within the individual objectives that 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-	3.6	30%	1.08	
4.2 Provide for Responsive and Accountable Leadership throughout the Organization	A-	3.6	35%	1.26	
4.3 Provide Efficient and Effective Corporate Office Support as Appropriate	B+	3.3	35%	1.16	
Overall Performance Goal 4.0 Total					**3.5**

Objective 4.1 Provide a Distinctive Vision for the Laboratory and an Effective Plan for Accomplishment of the Vision to Include Strong Partnerships Required to Carryout Those Plans

The Department has assigned an overall score of 3.6 and a grade of A- for this objective based on the following:

<u>Measure 4.1.1</u> – 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. JSA monitors and reviews regularly its vision to ensure that critical elements (effective leadership, quality workforce, proper planning, outstanding research and operational processes, new initiative development) are in place to achieve the vision and to adapt to changes in plans that maximize the benefit to the Office of Science.

The Laboratory continues to have a well-defined vision for the future. The Laboratory's comprehensive vision was submitted to the Office of Nuclear Physics and approved. The Laboratory's vision continues to address the scientific questions of national priority to DOE. Jefferson Lab has provided outstanding support to the budget process. The Laboratory's leadership worked with the DOE and the national science community to keep regional and

national decision-makers aware of Jefferson Lab's contribution to the DOE science mission. The Laboratory maintains excellent relations with State of Virginia which has resulted in significant state funding for the Laboratory.

<u>Measure 4.1.2</u> – 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 Laboratory submitted a responsive and comprehensive final Business Plan to DOE in May 2008. The Laboratory actively engaged in request for information and resolution of outstanding issues.

<u>Measure 4.1.3</u> – The Laboratory has formalized vital collaborations and understandings within and among 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 Laboratory added two additional faculty appointments in FY 2008 for a total of seventeen faculty appointments. Two additional MOUs/MOAs have been added and three additional bridge appointments have been added in FY 2008. The corporate owner continued to provide opportunities to showcase Jefferson Lab technologies at its workshops and symposia. A license agreement has been was negotiated with Omley Industries for the Laboratory's RF feed-through technology for cryogenic applications. The JSA Initiatives Fund is being productively utilized to support graduate fellowships and faculty members.

<u>Measure 4.1.4</u> – JSA promotes and supports the Laboratory's corporate citizenship programs that encourage community support of the Laboratory and that draws on Laboratory competencies and meets community needs. These corporate citizenship efforts include public outreach and improved scientific literacy. 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 Laboratory is commended for its efforts to raise public awareness of the importance of the Jefferson Lab to the local, regional, state, and national communities, an economic impact study, commissioned by the owners, was completed, and discussed with important community stakeholders.

The Laboratory is also commended for its continued outreach efforts and the associated results. Jefferson Lab's Science Education was featured in an article published in Education Week November 16, 2007 "Scientist Nurture Teacher's Growth in Math and Science." Science Education Metrics continued to be impressive with 10,238 students served and 2,036 teachers served. The JSA Initiatives Fund support of the Jefferson Science Activities for Teachers program to enable teachers to more effectively teach math and science, as well as support of the Research Internship for Foreign Undergraduates is acknowledged. Public visibility awareness

efforts are strong, including the Science Series events and lectures. Jefferson Lab also hosted the Virginia Regional High School Science Bowl on February 8 and Virginia Regional Middle School Science Bowl on March 1.

Measure 4.1.5 – Develop a baseline understanding and trending the cost of doing business.

The Laboratory was proactive in developing and implementing the strategy to address the cost of doing business. The Laboratory worked closely with the Site Office in developing the cost of doing business baseline for Jefferson Lab. The Laboratory conducted 2nd and 3rd quarter reviews with the Site Office to ensure that a common understanding was achieved.

Objective 4.2 Provide for Responsive and Accountable Leadership throughout the Organization

The Department has assigned an overall score of 3.6 and a grade of A- for this objective based on the Laboratory maintaining effective leadership during the approximately 18 month long process it took to select a new Laboratory Director, and on the following:

Measure 4.2.1 – JSA's Board of Directors and its corporate owners assure effective leadership of the Laboratory and provide timely and effective policy guidance and oversight; offers subject matter expertise; facilitate corporate reach back; and provide entrée to vital, external resources for support of science and the programs of the Laboratory.

During this reporting period, the JSA Science Council engaged with the Laboratory's science program to discuss important issues such as 12 GeV Upgrade Project and the science program in general. The Department was pleased with the hiring of a new Associate Director for ESH&Q. Filling this position should help the lab continue in a path of success in the ESH&Q program. The owner sponsored the Enabling Grand Challenge Science: the Light Source of the Future Workshop with Louisiana University and Florida State University to begin discussion about "the enormous diversity of possible next generation light sources and how they can be used to understand the science articulated by the NAS and DOE in their proposed Grand Challenges."

The JSA Board continues to maintain a high caliber of representatives on the JSA Science Council by appointing Dr. Isaacs, Argonne National Lab Deputy Director for Science Programs to serve. Dr. Isaacs' expertise will provide experience and knowledge to help the Lab continue to maintain its leadership in important scientific fields.

Objective 4.3 Provide Efficient and Effective Corporate Office Support as Appropriate

The Department has assigned an overall score of 3.3 and a grade of B+ for this objective based on the following:

The Department agrees that the Laboratory has performed very well in key areas. In particular, the Department is very pleased with the selection of Dr. Montgomery as the new Jefferson Lab

Director, although the Department would have preferred that the process took less time. The JSA Board provided corporate expertise and reach back to demonstrate commitment to the Laboratory. JSA Board also took effective steps to enhance the dialogue between the JSA Board and the Site Office. This dialogue strengthened communication, feedback, and improvement between the Site Office and the Board.

Performance in this area must be tempered by the fact JSA, SURA and CSC failed to communicate with and provide transparency with the Department on an evolving matter which affected the contract and required action by SURA, CSC, JSA, and the Department by mid December 2008 in order to be in place before the end of 2008. It is the Department's understanding that SURA first became aware of the matter in July and the Department was not alerted. The local Laboratory management became aware of the matter in September and the Department was not alerted. The Department was first informed of the matter on October 28, leaving a very brief time to handle a very complex and delicate issue. Accordingly, the Department assigned a lower score in this area.

Measure 4.3.1 – The JSA Board provides corporate expertise and reach back to demonstrate its commitment to the success of the Laboratory in its provision of effective leadership and management, business support processes and infrastructure needs. The JSA Board and its Committees are comprised of experts and leaders in science, education, and industry, who bring to bear tangible and intellectual resources to carry out the primary responsibility to manage and operate the Laboratory in accordance with the JSA/DOE contract and in support of the DOE scientific agenda.

The JSA Board is actively and productively engaged with the Laboratory's operations and future. The JSA Board has done an excellent job in enhancing communication between the Board and the Site Office. Regular meetings between the Board representative and the Site Office management were very effective in communicating the Board's activities.

Measure 4.3.2 – The JSA Board proactively pursues opportunities that strengthen and facilitate Laboratory's ties to academe and to the user community, both by improving upon current programs and initiatives, and by evaluating newly proposed programs and initiatives that enhance the basic science and research programs of the Laboratory.

The Laboratory continues to have exceptional advocacy and outreach efforts. These efforts have contributed significantly to the health and growth of TJNAF.

Measure 4.3.3 – The JSA Board provides non-DOE resources (personnel and/or funds) through its owners, other organizations, and private sources to support programs, initiatives, and activities that promote and/or enhance the basic science and research programs of the Laboratory, and that support the Laboratory's extended user community.

JSA's annual commitment and utilization of the $500,000 Initiatives Fund to support programs, initiatives, and activities that strengthen the Laboratory's scientific endeavors and development is commendable. JSA worked closely with the Commonwealth of Virginia to maintain annual

support to Jefferson Lab, and to seek support to the 12 GeV Project. The JSA Board's refinement of the Initiatives Fund process to enhance the understanding and transparency for those proposing new projects was well done.

The JSA Programs Committee awarded eight graduate fellowships to students at SURA member universities in FY 2008. Jefferson Lab continues to effectively utilize Jefferson Lab Insight for business management applications and "Skillport" to enhance training opportunities at the Laboratories.

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

The Department has assigned an overall score of 3.5 and grade of A- for this performance goal. Comments are contained within the individual objectives that follow:

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-	3.5	30%	1.05	
5.2 Provide Efficient and Effective Implementation of Integrated Safety, Health and Environment Management	B+	3.4	60%	2.04	
5.3 Provide Efficient and Effective Waste Management, Minimization, and Pollution Prevention	A-	3.7	10%	0.37	
Performance Goal 5.0 Total					3.46

There were many different off-normal events and conditions identified during the year that were linked to material handling activities. Despite a general lack of similarity in causes between these events and conditions, the shear number of occurrences and significance or potential significance was concerning. An excerpt from the HSS ES&H assessment report highlights this point, *"The number and severity of deficiencies observed in the forklift program indicate that increased management attention is needed to ensure safe forklift operations at the site."* This particular HS-64 Finding shared commonalities with a Finding issued by the Site Office in a January 2008 Material Handling and Rigging Surveillance report. The Site Office acknowledges that the Laboratory has made attempt to improve both the quality and consistency of some material handling training, as exemplified by the use of an industry recognized training program

for crane operators; furthermore, the immediate actions taken to address the HSS forklift attachment finding were deemed appropriate. Nevertheless, additional focus and initiatives toward improving material handling safety are warranted.

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

The Department has assigned an overall score of 3.5 and grade of A- for this objective based on the following:

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.

The Laboratory's performance in safety, as measured through the lagging indicators of Total Recordable Case Rate (TRC), and Days-Away Restricted Duty (DART), was considered exceptionally good, based on comparison to both DOE goals and general industry performance. The PEMP goals for the TRC rate and DART rate were 0.65 and 0.25, respectively. There were three workplace injury events during FY 2008, and all were DART cases (and therefore also TRC cases). Two of those injuries were sustained by Laboratory-proper employees, while one injury was to a subcontractor having fewer than 10 on-site employees. Consequently, the DART and TRC case rate using Office of Science criteria is 0.33, and the inclusive PEMP criteria (all employees, users, and subcontractors) was 0.38. The Laboratory is commended for having been able to sustain consistently good performance over the past few years relative to recordable injuries; however, the one subcontractor DART/TRC case still represents a disproportionate source of recordable injuries, when viewed from the perspective of the total work hours accumulated by Laboratory personnel relative to subcontractor personnel. The Department maintains its encouragement that the Laboratory emphasizes its efforts in reducing the safety risks encountered by subcontractors.

During the HSS ES&H assessment, one injury case was determined to have been misclassified by the Laboratory, and was subsequently corrected and reported as a DART case. It is hoped that that the scheduled on-site CAIRS training to be provided by DOE's Office of Performance Analysis (HS-32) will improve the Laboratory's understanding of work related injury classifications and criteria, and CAIRS entry protocol. Improving the quality and consistency of CAIRS entries across the complex has been identified at the DOE HQ and SC levels as an area of concern and additional oversight.

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).

The Site Office acknowledges the Laboratory's consistent and exemplary performance in this measure.

<u>Measure 5.1.3</u> – 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 Laboratory is acknowledged as having met this performance measure.

<u>Measure 5.1.4</u> – Number of environmental incidents resulting in administrative or technical permit violations: 1 administrative, 0 technical permit violations. Apply causal analysis principals to environmental incidents if one occurs in this period. Note: Administrative and technical violations are those issued by the regulatory agency.

The Site Office recognizes the efforts that produce a record of technical permit violations, and in particular for this assessment period, the efforts that went into improving the grease trap management requirements of the Hampton Roads Sanitation District's Industrial Wastewater Discharge Permit.

In the Department's 2007 end of year PEMP report, recurrent problems with timely environmental reporting was specifically identified as an area of performance warranting improvement. Problems with timely reporting were still evident in 2008, resulting very little time for TJSO review of environmental monitoring compliance data prior to submission to regulatory authorities. Performance in this area did improve during the last quarter; however, efforts will need to continue to demonstrate a sustained improvement in this area.

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

The Department has assigned an overall score of 3.4 and grade of B+ for this objective based on the following:

The Laboratory is commended for the extensive ISM awareness initiatives and related pro-active efforts performed in preparation for the HSS ES&H review. Among the variety of initiatives executed, the Laboratory was able to improve the utility of electronic work planning tools, and increase the participation by field staff in structured work planning. It is evident to the Site Office that the principles of ISM are more infused at the Laboratory than in past rating periods. This perception is further supported by the HSS ES&H review report determinations that 12 of the 14 ES&H areas evaluated were fully effective, and only two were classified as "needs improvement."

The scope of the HSS ES&H review was expanded to include an evaluation of the Laboratory's safety performance in working with engineered nanomaterials at the FEL. The HSS review team concluded that the Laboratory is effectively mitigating the potential hazards of nanomaterials through the application of engineering controls, along with development and implementation of conservative administrative controls and personal protective equipment (PPE).

As a result of the March 2008 DOE Fire Protection assessment, it was discovered the laboratory had not implemented the alternative protection scheme required by a 1991 DOE-approved exemption from full sprinkler protection in the experimental halls. Additionally, the Department expressed concern regarding the timely implementation of compensatory measures. The Fire Protection Program and Contractor Assurance System needs improvement to prevent such occurrences. The Laboratory is commended for the filling of an important Fire Protection position in the Laboratory. This action should help to enhance the Lab's Fire Protection Program.

The Laboratory is urged to evaluate its configuration control/configuration management practices as they apply to procedure development and work execution. There were multiple instances in FY 2008 that shared an apparent recurrence of poor configuration control. The PSS jumper event in October of 2008 shared this recurrent aspect of insufficient configuration control. The Laboratory needs to institute a process to evaluate what types of activities warrant rigorous configuration management controls. Once established, assessments on the corresponding programs and activities should be conducted to evaluate implementation, to promote feedback and improvement

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

The Department would like to see the Laboratory assume more of an ownership role in conducting the type of programmatic assessments that have historically been performed by the Site Office. Material Handling and Rigging is one example of such a programmatic area that should be periodically self-assessed by the Laboratory in a site-wide, cross cutting fashion.

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 acknowledges the various accomplishments, including JSA/TJSO safety focus meetings, Worker Safety Committee meetings, and numerous performance improvement initiatives.

The Laboratory has been informed on a number of occasions during FY 2008 that the Site Office has not been consistently invited to off-normal event follow-up meetings. To help bring attention to this expectation, the Site Office transmitted a letter to JSA dated March 20, 2008, which stated, "*…the Site Office expects to be promptly notified of events and be invited to all fact finding sessions…*" This is a basic expectation that DOE has of its contractors. The Site Office has the responsibility of ensuring events are thoroughly analyzed, the correct causes are identified, and appropriate corrective actions are assigned. If the Site Office is not afforded the opportunity to be present in early fact-finding meetings, etc., we are not able to adequately perform that oversight role. While there have been delays in event reporting within the Lab,

timely reporting between the Laboratory and the Site Office seems to have improved toward the end of the fiscal year. Addition improvements in this area are expected, especially since a new ES&H Reporting Manager joined the Laboratory in July 2008.

Measure 5.2.3 – Implement the pressure safety requirements of 10CFR851 in accordance with the Jefferson Lab non-compliance tracking system (NTS) submittal.

The Laboratory is acknowledged for its efforts in taking this program from a ground level state and moving it toward full implementation. This effort is highlighted by the number of contributors and participants, which span the cross section of the Laboratory's workforce. It is hoped that the residual actions identified from the most recent implementation review are tracked and closed accordingly.

Measure 5.2.4 – Number of work observations on average per week and observations conducted are documented. For the purposes of this measure, observations are performed by supervisors and managers or their designee.

Overall, the Department is pleased with the increased utilization and quality of work observations entered into the electronic observation records system. Promoting safety through mentoring interactions is considered to be an important element in facilitating the Laboratory's progress toward a learning organization. Thoughtful evaluation of trends in this work activity observation data set is likewise considered vital to heading-off conditions before they manifest themselves in recordable or reportable injuries. Recent improvements in the trend analysis efforts are noted, and the Department is hopeful this aspect of the Laboratory's safety program can become a model for the complex.

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

The Department has assigned an overall score of 3.7 and grade of A- for this objective based on the following:

Measure 5.3.1 – EMS scorecard self-evaluation is Grade C or better in majority of categories (D is best grade).

The Department recognizes satisfactory achievement of this measure.

The Laboratory EMS scorecard achieved a grade C or better in all categories. Of note, senior leadership review of the EMS conducted during this reporting period resulted in no findings.

The Laboratory is on track to receive the "Gold Award" from the local Sanitation district. The award recognizes the perfect compliance record for Industrial Wastewater Management for the calendar year 2008.

The Laboratory's Quad-Core super computer, described as an Eco-Friendly Cluster Computer, won a DOE Best in Class pollution prevention award in 2008. The quad-core cluster design consumes about 20 percent less power than it would have had it been assembled with dual cores.

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 score of 3.5 and a grade of A- 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+	3.4	25%	0.85	
6.2 Provide an Efficient, Effective, and Responsive Acquisition and Property Management System(s)	A	3.8	25%	0.95	
6.3 Provide an Efficient, Effective, and Responsive Human Resources Management System	B+	3.3	20%	0.66	
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+	3.4	15%	0.51	
6.5 Demonstrate Effective Transfer of Technology and Commercialization of Intellectual Assets	A-	3.6	15%	0.54	
Overall Performance Goal 6.0 Total					3.51

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 2008. The Department has assigned an overall score of 3.4 and grade of B+ for this objective based on the following:

<u>Measure 6.1.1</u> – Effectively track costs against budgets to ensure cost performance

During the year, the Lab's CFO and Budget Office made financial information available to managers and employees on a daily basis to help them exercise control over budgets. The Laboratory continued to refine their Work Breakdown Structure (WBS) and Annual Work Planning (AWP) management tool to help manage and track costs. The Laboratory established online reports for DOE review that provide timely financial snapshots of Laboratory operations,

especially in the area of Cost of Doing Business. The continued experience with WBS and AWP will further improve the availability of the financial and operational performance information needed 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 and self assessments.

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 Lab's financial processes and results in FY 2008. The OIG performed several reviews and ORO performed their oversight reviews with no material weaknesses found. The Lab responded timely and constructively to findings and recommendations regarding their management of conference costs.

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

The JSA CFO organization maintains strong control and accountability. Financial attestation letters were submitted timely and reflected no financial management internal control weaknesses. The annual management representation letter needed to support DOE's audit of the 2008 consolidated financial statements was provided in a timely manner.

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

The Department has assigned an overall score of 3.8 and grade of A for the performance measures evaluated during this period as an accurate evaluation of JSA's FY 2008 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.

JSA's FY 2008 Procurement Balanced Score Card (BSC) was submitted on November 13, 2008, and the Laboratory received a score of 93.5 out of a possible 100 points, 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 6.2 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 2008 never exceeded a ratio of 6.1. 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 82.8% of all available procurement dollars being awarded competitively.

On August 4-8, 2008, a Procurement Executive Review Team (PERT) performed a review of the Laboratory's procurement system and determined that the procurement department is very well managed and that the procurement staff and managers each cover several functions and is highly skilled. In addition, the PERT team determined that the Laboratory's advance procurement planning process is strong and of particular note is the advance planning for the 12 GeV construction project. The PERT team also recognized the Procurement's Department's on-line customer survey and tracking system related to safety and performance and deemed this system as a "best practice" (Note that this was a new process that was implemented during this fiscal year that greatly improved the acquisition process). The PERT team also recognized the Department's positive commitment to customer feedback and continuous improvement.

<u>Measure 6.2.2</u> – Demonstrate efficacy of Small Business program through goal achievement and effective outreach.

The Laboratory exceeded all of their six FY 2008 contractually required socio-economic subcontracting goals and in some cases, exceeding their goals by more than 50%. JSA continued to work with both of their Mentor Protégé's companies to advance their overall growth potential and that both of these 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, and Environmental Consulting Services. In addition, the Laboratory continues to recognize outstanding small business efforts as shown in their annual "Outstanding Small Business Firm of the Year" award ceremony. On April 25, 2008, Mechanical Resources Inc. was recognized for their performance and accomplishments in support of the Laboratory.

JSA's Small Business Program Manager is a member of the Virginia Minority Supplier Development Council (VMSDC) 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 Small Businesses at DOE. As part JSA's outreach efforts, JSA operated a small business booth at the annual DOE Small Business Conference as well as the VMSDC, which once again shows JSA's strong commitment to the Department's small business program. In addition, one of the Mentor Protégé companies that attended the VMSDC trade fair and the DOE Small Business Conference and was marketed by the Laboratory's Small Business Manager. As a result of effort, JWLS Enterprises, Inc. received

a direct subcontract award form Princeton Plasma National Laboratory. In addition, JSA's Small Business Program Manager was recognized b the DOE Office of Small and Disadvantaged Business Utilization (OSDBU) for participating in the "U.S. Women's Chamber of Commerce Spotlight on the U.S. Department of Energy." Jefferson Lab was the only M&O contractor that was invited to speak at this important conference. Overall, 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 Jefferson Lab's personal property management.

The results of the Sensitive Property Inventory for FY 2008 reflected sustained acceptable levels of accuracy. The weaknesses in the Laboratory's property management system and procedures identified as a result of the contract transition inventory conducted in FY 2006 are improving. Actions taken by the Lab to strengthen the property management system, ensure appropriate emphasis on the responsibilities and accountability of all employees for protection and use of Government property, and emphasize the necessity to follow established procedures in the approved Property Management System are continuing. The following actions to improve property management have been successful in FY 2008:

1. All custodians completed the required annual validation of assigned property;

2. Modification of Security guard patrols increased visibility in sensitive areas;

3. Annual security awareness briefing, updated to reinforce employee property protection and reporting responsibilities, has been completed by all employees;

4. The process of marking new tools by the Shipping and Receiving function has been implemented; and

5. The Laboratory has maintained the more active property related internal communications implemented in FY 2007 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 conducted an Internal Audit of the Property Management System in 2008, which found no major deficiencies and generated a number of observations and recommendations regarding the system. FY 2008 property Inventory results met DOE goals. Jefferson Lab continues to emphasize the need for good housekeeping and efficient disposal of excess items,

which contributes to maintaining relatively neat conditions in the warehouse areas and accelerator site.

The Laboratory is continuing to work on the initiative to eliminate the Technical Stockroom, though plans to eliminate it by the end of FY 2008 have been adjusted. The transition to 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) has been somewhat slower than anticipated, for a variety of reasons. However, a portion of the anticipated benefits from this initiative have been realized in the form of a substantial reduction in inventory, and the transfer of resources to other property management functions.

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

The balanced scorecard approach was continued in FY 2008 by JSA to measure performance in the Human Resource area. An overall score of 3.3 and grade of B+ is assigned for this objective based on the following:

Measure 6.3.1 – Balanced Score Card Results

The Laboratory met or exceeded the target on six of eight Balance Score Card measures which covered the areas of Diversity, Compensation, Learning and Growth, Retention, and Recruitment. The two target areas missed were Diversity and one in the Learning and Growth area of project management certification. The Laboratory identified at midyear that these two areas were going to be a challenge to meet due to hiring constraints and funding shortfalls. Accomplishments completed during the year included enhancing and strengthening their online performance appraisal process based on employee and management feedback. Additionally, the HR staff supported the HSS review through identification of ES&H requirements by job classification resulting in Employee Qualification Cards that supplement training and help confirm an employee's basic knowledge and skills to perform safely in designated jobs.

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 score of 3.4 and grade of B+ 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

During FY 2008 there were no material findings identified via audits. The number of planned and completed internal audits was consistent with those of the past two fiscal years. The Internal Audit position was vacant for a period of time during FY 2008 while the Laboratory reviewed other options before deciding to refill the position. While the position was vacant, the

Laboratory was able to utilize resources provided by the JSA Board of Directors to perform one of the audits.

<u>Measure 6.4.3</u> – Monitor/Maintain a Quality Improvement Plan.

TARGET: The following QA documents are to be signed by Lab management, distributed for immediate implementation, and posted on the Lab's QA group website by September 30, 2008:

- QAP 1) Control of Measuring and Test Devices (Calibration)
- QAP 2) Control of Nonconforming Products
- QAP 3) Control of Suspect/Counterfeit Items
- QAP 4) Control of User Supplied Property
- QAP 5) Record Control Procedure
- QAP 6) Material Identification and Traceability Policy and Procedure(s)
- QAP 7) Receiving Inspection and Acceptance Testing Policy and Procedure
- QAP 8) Procurement Procedure
- QAP 9) Work Controls and Processes Procedure
- QAP 10) Equipment Design Procedure (phase II), (Conduct of Engineering Manual)
- QAP 11) Training and Qualification Procedure
- QIP 1) Incorporate Outputs from Contract Requirements Management and Analysis

Overall, the Department is satisfied that the Laboratory has met this performance measure; however, the Department believes that further improvement in the area of Training and Qualification Procedures is warranted. Aspects of the Laboratory's training records system have been evaluated in a variety of assessment efforts conducted by the Department. Through those assessments, it has been identified that the central training records system lacks consistency with subordinate training records databases; furthermore, the central records do not always reflect the necessary training required for individual employees. This condition could lead to staff and their Supervisors not being alerted when requisite training is due, thereby posing a potential environmental health and safety consequence. Consolidation of the training records systems appears to be a prudent solution, as to reduce the on-going issues that seem to be plaguing the exchange of information between multiple electronic records systems. Additionally, supplemental training of Supervisors appears to be needed to ensure individual training plans are accurately and consistently reflected in the training records system.

<u>Measure 6.4.4</u> – 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 IT Steering Committee did well in meeting regularly during FY 2008 and covering areas that have significant impact to the Lab. The Site Office in an observatory capacity was privy to the challenges, debates, and strategies discussed at these meetings. In the first quarter they reviewed the goals and Annual Work Plans (AWPs) of the five major IT architecture areas. When the FY 2008 was finally passed, the budget was significantly less than the President's budget and required a prioritization and redoing of the goals. During the second quarter the

committee reviewed the AWP budget impacts and the new prioritization of IT goals. Additionally, due to the appropriation budget, the committee recommended the groups defer any integration of the FY 2007 IT External Review recommendations until FY 2009. During this same period Jefferson Lab participated in the DOE ASCR Review of Nuclear Physics Networking, completed FY 2010 OMB 53's, and made changes in core IT operations to both improve the architecture and function within the budget.

The third quarter meeting was held on July 1st because of scheduling conflicts associated with the HSS review. The committee reviewed IT accomplishments and the budget impacts on the remaining IT goals, including the plans for Scientific Computing to upgrade the tape library for Physics data storage in FY 2008 instead of FY 2009. They also discussed FY 2009 budget planning. Task forces were created to further review desktop/seat management, cell phone and cable modem policies, and Physics data archiving. During the fourth quarter the committee was informed of the successful commissioning of the new tape library for Physics data storage. They reviewed FY 2009 IT plans and expected budgets. They were also briefed on Jefferson Lab's implementation of the management of DOE OUO information, progress and rollout plans for seat management, and planned activities in the Office of Science Lab's response to recent Red Team cyber security activities.

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

An IT Independent External Review was conducted September 18-19, 2007. It included participation from CSC (Roy Hinrichs, Senior Director, Applied Technologies Division); DOE Laboratory (J. Pace VanDevender, Emeritus CIO, CTO and VP of Science, Technology and Partnerships, Sandia National Laboratories); and SURA (David Lambert, Vice President for Information Services and Chief Information). There were no major findings and the team made a number of positive comments. Due to the appropriation budget, implementation of the recommendations was deferred to FY 2009. Two of the recommendations were partially implemented in FY 2008 as the IT Division expanded the Helpdesk for the summer months as supported by the budget and technical certifications were obtained for several IT staff to formally demonstrate their credentials.

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

The Department has assigned an overall score of 3.6 and grade of A- for the performance measures evaluated during this period as an accurate evaluation of JSA's FY 2008 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.

<u>Measure 6.5.1</u> – 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.

In FY 2007, JSA successfully executed twenty-one (21) invention disclosures and awarded nine patents related directly to Jefferson Lab's core competencies. The invention disclosures were as follows: ID #1229 – Small Portable/Mobile PET Imager for Intensive Care Unit and Other Bed-side Clinical Applications; ID# 1230 – Method and In-Situ apparatus to Dynamically Image Radiotherapy Beams; ID #1231 – Positron Emission Tomography and Optical Tissue Sample Imager; ID #1232 – comcept for Gamma Imaging Modules for SPECT and PET using Silicon Photomultipliers; ID #1233 – A Method of Management of Coherent-Synchrotron-Radiation-Driven Degradation of Beam Quality During Bunch Length Compression; ID #1234 – Beam Energy Absorber, converter and Heat Exchanger with Moving Core: Method and Apparatus; ID #1235 – Concept of a Compact Mobile Dedicated High Resolution PET Brain Imager; ID#1236 – High-Resolution Single Photon Planar and SPECT Imaging of Brain and Next Employing Two Co-registered Opposed Gamma Imaging Heads; ID #1237 – Remote Vacuum/Pressure Sealing Method/Mechanism for Critical Isolated Systems; ID #1238 – Dedicated Mobile High Resolution Prostate PET Imager with an Insertable Tranrectal Probe; ID #1239 – High Resolution PET Breast Imager with Improved Detection Efficiency for Lesions Placed Close to the Chest-Wall; ID # 1240 – Mobile/Portable Cardiac PET; ID #1241 – A Superconducting Connection between Adjacent Superconducting RF Cavities and Auxiliary Cavity Components; ID #1242 – Coaxial Coupling Scheem for Fundamental and Higher Order Modes in Superconducting Cavities; ID #1243 – Low Leakage Charge Integrating Amplifer for Precision Low Current Monitoring; ID #1244 – Compact, safe and MRI-compatible hand-held non-imaging and imaging intraoperative beta and/or gamma probes based on Silicon Photomultipliers; ID #1245 – Deflecting/Crabbing Electromagnetic Structure for Particle Beam; ID #1246 – A Single Lens Laser Beam Shaper Converting Gaussian Beam to Super-Gaussian Beam for Suppression of Uniformity Destruction Inducted by Diffraction Effect; ID #1247 – Device and Method for Environmental Radiation Monitoring with Self-compensation of Natural Background Variations; ID #1248 – Device for the Large-scale Synthesis of High-quality Boron Nitride Naotubes; and ID #1249 – Method for Image Reconstruction of Moving Radionuclide Source Distributions.

The patents awarded were as follows: #7,278,280 B1 – Helium Process Cycle; #7,279,882 B1 – Method and Apparatus for Measuring Properties of Particle Beams using Thermo-resistive Material Properties; #7,315,141 B1 – Method for the Production of Wideband THz Radiation; #7,319,315 B1 – Voltage Verification Unit; #7,332,722 B1- Simultaneous Multi-headed Imager Geometry Calibration Method; #7340,937 B1 – Method for determining Hydrogen Mobility as a Function of Temperature in Superconducting Niobium Cavities; #7,345,435 B1 – Superstructure for High current Applications in Superconducting Linear Accelerators; #7,409,834 B1 – Helium Process Cycle; and #7,412,407 B1 – Method for Electronically Publishing a Single Organization's Requirements in an Electronic Publication. 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.

In FY 2008, JSA successfully executed a non-exclusive fifteen-year license agreement with Omley Industries for the rights to its RF Feedback Technology. There are now two licenses for this technology: ACCEL and Omley. In addition, the Laboratory has been negotiating two other potential licenses that were anticipated to be completed by the end of FY 2008, but the Laboratory has allowed multiple companies to compete for the technology in order to be fair to all interested offerors. In addition, the Breast Specific Gamma Imaging (BSGI) machine developed by the Laboratory was recently used at a Portland, Oregon hospital to discover a slow-growing cancerous tumor that had gone undetected by mammograms. The BSGI machine was manufactured by Dilon Technologies who licensed its high-resolution gamma imaging technology from the Laboratory. The patented imaging technology was developed by the Laboratory's Radiation Detector and Medical Imaging Group and continues to receive positive media attention. 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.

For the FY 2008 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 4.8 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 an overall score of 3.6 and grade of A- based on results 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-	3.5	40%	1.40	
7.2 Provide Planning for and Acquire the Facilities and Infrastructure Required to support Future Laboratory Programs	A-	3.7	60%	2.22	
Overall Performance Goal 7.0 Total					3.62

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 score of 3.5 and grade of A- for this objective. The score for this objective was based on results achieved for the four measures established to determine performance on this objective. Comments are contained within the individual objectives that follow:

Measure 7.1.1 – Asset Condition Index (ACI)

The Department has determined that the performance on this measure although slightly below the target is mitigated by actions the Contractor is taking to significantly reduce deferred maintenance in the future. The performance on this measure was 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 total ACI was 94.9%. The target for this measure was greater or equal to 95%.

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

The Department has determined that the performance on this measure exceeds expectations. The performance on this measure was determined based on the Facility Information Management Systems (FIMS) data validation completed in February 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. This exceeded the target expectation of accuracy of data with at least a 90% statistical certainty that the data contains no more than a 10% error rate.

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

The Department has determined that performance on this measure exceeds expectations. The performance on this measure was determined based on the Contractor achieving an MII of slightly over the 2% goal and a significant reduction in deferred maintenance (~ 5%). The PEMP provides for an increase in the rating on this measure if maintenance activities, recapitalization and acquisition of facilities and infrastructure are performed efficiently. Since the contractor was able to achieve an MII above 2% while also significantly reducing deferred maintenance, this exceeded the target expectations.

Measure 7.1.4 – An update to the Ten Year Site Plan is developed and approved by DOE that adequately addresses the site's contribution to meeting the Agency wide goals of the Secretarial Transformational Energy Action Management (TEAM) initiative and the goals set forth in Executive Order 13423.

The Department has determined that performance on this measure meets expectations. The key deliverable for this measure was development of a draft Executable Plan to support the TEAM initiative and goals of Executive Order 13423. The draft Executable Plan was coordinated with the Department and submitted prior to the target date. It reasonably addresses the goals established by Executive Order 13423.

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

The Department has assigned an overall score of 3.7 and grade of A- for this objective. The score for this objective was based on results achieved for the five measures established to determine performance on this objective. The evaluation of the measures and comments on how the measures were considered in the objective score 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 determined that performance on this measure exceeds expectations. The performance on this measure was determined based on the Contractor taking a leading role in developing a new method for ensuring the mission readiness of facilities and enhancing the format of the Ten Year Site Plan information. Significant initiative was demonstrated in support of developing a plan to implement the mission readiness approach to facilities and infrastructure maintenance.

Measure 7.2.2 – Cost and schedule performance on all GPP projects and maintenance projects greater than or equal to $100K (for construction phase of projects only).

The Department has determined that performance on this measure exceeds expectations. The performance on this measure was determined based on Cost Performance and Schedule Performance exceeding the established targets. The Cost Performance is determined 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. The Schedule Performance is determined 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.

Measure 7.2.3 – GPP planning and execution are well coordinated to ensure effective utilization of resources.

The Department has determined that performance on this measure meets expectations. The performance on this measure was determined based on the Contractor coordinating project planning and providing information on project status in accordance with the TJSO GPP Management Process. Based on the quality of the Contractor's deliverables, performance on this measure met the established target expectations.

Measure 7.2.4 – Demonstrate effective project management and leadership for the Technology and Engineering Development Facility (TEDF) project.

The Department has determined that performance on this measure exceeds expectations. The performance on this measure was determined based on the Contractor accelerating receipt of CD-1 to support receipt of Project Engineering and Development funding in FY 2009. In addition the Architectural Engineering subcontract was awarded to position the project well for a smooth transition from conceptual design to preliminary and final design.

Measure 7.2.5 – Develop a strategy for increasing investment in infrastructure, which minimizes increases to the cost of doing business.

The Department has determined that performance on this measure exceeds expectations. The performance on this measure was determined based on the Contractor taking initiative to develop a more comprehensive strategy that will help with multiple initiatives being undertaken by SC to reduce the cost of doing business and improve management processes. In addition the Contractor was proactive in preparing a new modernization project proposal for infrastructure improvements that would increase energy efficiency and reduce maintenance costs thereby further reducing the cost of doing business.

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 score of 3.5 and grade of A- 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. Comments are contained within the individual objectives that follow:

Goal Performance Rating Summary

Objectives	Letter Grade	Numerical Score	Weight	Weighted Score	Overall Score
8.1 Provide an Efficient and Effective Emergency Management System	B+	3.2	30%	0.96	
8.2 Provide an Efficient and Effective System for Cyber-Security	A-	3.7	50%	1.85	
8.3 Provide an Efficient and Effective System for the Protection of Special Nuclear Materials, Classified Matter, and Property	A-	3.5	10%	0.35	
8.4 Provide an Efficient and Effective System for the Protection of Classified and Sensitive Information	A-	3.5	10%	0.35	
Overall Performance Goal 8.0 Total					3.51

Objective 8.1 Provide an Efficient and Effective Emergency Management System

The Department has assigned an overall score of 3.2 and grade of B+ 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 FY 2008. 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 recognizes significant improvement in this measure for the second half of the performance period. The Laboratory conducted four planned activities for the year, in accordance with the 2008 Emergency Readiness Assurance Plan. Mid-year feedback was given concerning lack of timely after action reports for the first two activities. It is apparent that the ESH&Q Associate Director and the Chief Operating Officer together made a concerted effort to turn around the format for the table top hurricane exercise and future activities. This resulted in improved participation from all staff involved in the exercise, identification of corrective actions, and a timely after action critique and report.

Objective 8.2 Provide an Effective and Efficient System from Cyber Security

The Department has assigned an overall score of 3.7 and grade of A- 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. This is for system level (root) compromises or incidents where Jefferson Lab.org nodes were used to carry out cyber attacks on other locations on the Internet. CSI = RC+0.5 (CA)

Despite an increased complexity of malicious attempts on TJNAF systems, the Laboratory attained a performance outcome of no root-level compromises during this rating period. Cyber security is a constantly changing target, and the sophistication of attack methods required shifts in protection measures, and the results are clearly reflected in this metric. Management's decision to reallocate resources away from key IT functions to the cyber security program, and minimize the overall impact, was commendable. The Lab Chief Information Officer's involvement in NLCIO activities provided key insight on DOE policy/strategy which was beneficial to the Laboratory.

The Laboratory was also recognized by Undersecretary of Science, Dr. Ray Orbach, on the DOE Accreditation and Full Authority to Operate status that was awarded to the cyber program this fiscal year. Most importantly there is no evidence to indicate that cyber security is negatively impacting the production of science at the Laboratory.

<u>Measure 8.2.2</u> – Ensure less than 5% of scanned machines are flagged by the SANS system as having severe vulnerability.

The average percentage of systems during FY 2008 with "critical" (SANS Top20) vulnerabilities identified by the vulnerability scanning program was 4.0%. Management's decision to reallocate resources was very evident as a contributing factor in the steady improvement over the year. The use of a Helpdesk team member and a Cyber Security Analyst to address the identified vulnerabilities, and the 3rd quarter replacement of the commercial product used to manage the Lab's vulnerability scanning, proved to be quite powerful. The software package combined with a locally developed application enhanced the reporting capability of this metric. The new application reports true daily figures and has fewer false positives; the former application was reporting stale information from systems that were no longer on line. Additionally, as part of the remediation process, IT Division staff reconfigured stand-alone systems as centrally managed systems. This has allowed for faster deployment of security patches and better configuration management. These two activities result in a faster and more efficient response to new vulnerabilities. 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.

Through the Site Office Operation Awareness program, continuous monitoring was conducted, and a trend analysis identified concern with the pace of remediation for identified scanning vulnerabilities. During a walkthrough on November 28, the Site Office identified a 7.8% average percentage result in the second quarter, and aggressively increased surveillance of this metric. The Laboratory responded impressively, as the rate in the fourth quarter was reduced to 0.1%, besting the target by a factor of five.

<u>Measure 8.2.3</u> – Average number of working days to remediate (reconfigure, repair, patch, mitigate, or classify as false positive) those systems identified by alarms from the automated system filtering and notification process including the intrusion detection system.

The average number of working days to remediate systems identified by alarms from automated system log filtering and notification process including the intrusion detection system has consistently decreased during this performance period from three days in the first quarter to 0.9 days at year end. As mentioned in the previous measure, this figure reflects the reallocation of Helpdesk and Cyber Security staff. On a monthly basis, the Site Office validated these stats through a mixture of walkthroughs and interviews. Vulnerability remediation and the reconfiguration of many stand-alone systems to centrally managed systems have helped reduce the number of alarms and contributed to the ability to address alarms faster and more efficiently. There was continued in-place patch-delivery under current procedures with no compromises resulting from untimely patch distribution.

The Site Office has and will continue to closely monitor this program through its operational awareness activities. Vast improvements have been made by the Laboratory to enhance the reporting process of these statistics. Particularly noteworthy is the Site Office strengthened the target expectation from the last performance period, and through comprehensive efforts, this enhanced target was exceeded this year by a factor of five. This is very impressive and is an indication that the performance measures exhibit the intended outcome-improved performance.

The Computer Center Manager's process of realigning priorities has proven to most beneficial and his cyber staff has responded well.

<u>Measure 8.2.4</u> – Requirement: Effectively manage cyber security enhancements projects in the areas of authentication, encryption, network (audit, registration, dynamic configuration, VPN, etc.), and security training. In the first month of the fiscal year, and with quarterly updates, determine the new requirements scope and schedule in agreement with the TJSO.

The Site Office verified the following Cyber Security enhancements conducted during the reporting period: Enhanced Boundary Controls of the Scientific Computing Enclave completed November 15, 2007; FEL Sensitive Network Segmentation completed December 15, 2007; Physical Security Upgrades in Data Centers completed August 1, 2008; Review and Update PIAs completed May 1, 2008; Implement Position Categorization System completed August 1, 2008; and Enhance Boundary Controls of the Experimental Physics Enclave completed July 1, 2008. The date for Physical Security Upgrades in Data Centers was originally scheduled for completion May 2008, but was extended to August 2008 due to resource limitations and was completed. Progress continued on Extended Internal Network Monitoring Capabilities. Extended Deployment of 2-Factor Authentication to Selected Workstations, Off-Site Storage Needed for Critical Operational Data, Laptop Encryption System, and 2-Factor Authentication and Laptop Encryption for FEL Sensitive Machines as scheduled. These projects had previously been deferred to FY 2009 due to the Appropriation Budget. The IT Division has worked to minimize the impact of the current budget by distributing the impacts and keeping the Site Office and user community informed. There were no surprises to the DAA regarding progress on projects.

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

The Department has assigned an overall score of 3.5 and grade of A- 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:

<u>Measure 8.3.1</u> – Maintain an effective Security Program.

The Department has determined that the performance on this measure exceeds expectations. The performance on this measure was determined based on the Contractor maintaining excellent communication and support channels with threat reduction officials at DOE Headquarters (e.g., CI), FBI Norfolk, and the Newport News Police Department. In addition the Contract showed initiative to obtain the necessary approvals that enable electronic request of a deemed export license for foreign nationals working on sensitive export controlled technology. This process facilitates less burdensome and expedited Export Control review and approval actions.

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

The Department has determined that the performance on this measure exceeds expectations. The performance on this measure was determined based on the Contractor providing high quality self assessment documentation for a Security Risk Assessment and Contract Requirements Definition Report. In addition the external Security Survey validated the effectiveness and efficiency of the Contractor's Security Program.

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

The Department has assigned an overall score of 3.5 and grade of A- for this objective resulting from the performance measures as an accurate evaluation of the Laboratory's performance in the protection of sensitive information performance based on the following:

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

Most important is the fact there were no compromises of Business Sensitive and Personnel Sensitive information during this rating period. All cyber security incidents were reported to the Site Office and CIAC, and certified via requisite monthly "null reports." In addition, high praise was given from the HQ CI (Counter Intelligence) group on the Lab's performance to DOE's Incident Handling group. Particularly noteworthy is the level of detail and the diligence to report occurrences/suspicions which weren't required by reporting guidelines. Information sharing of this type is valuable to the SC/DOE cyber community. The Lab hosted a Network Security Monitoring Workshop, providing one of the few opportunities within the year, to assemble security analysts in one location for information exchange.

In November and December the FEL staff that have access to sensitive information were provided supplemental security training and provided a secure workspaces. Their shared sensitive files were moved to a secure area on the file server with restricted access. A separate FEL VLAN was set up with additional network boundary controls for the purpose of restricting accessing to and working with FEL sensitive information. New procedures were put in place with DAA approval for transferring sensitive RADCON information from the Lab to DOE. RADCON staff with access to sensitive information was issued 2-factor authentication technologies for accessing computers with access to sensitive information. The Access Control List for the Web Server Network was updated so no outbound traffic is allowed, and the IT Division identified and moved approximately 100 desktops to managed desktop network segments. While not directly effecting the Business-Admin, Core or FEL enclaves, this was part of the Lab's defense in depth strategy for layers of protection that enhance the protection of the more sensitive networks. While progress has been made, the threat is quickly increasing with sensitive information, and the Laboratory is advised to be positioned for impending guidance in this area.