Fiscal Year 2009 Performance Evaluation Report
(October 1, 2008 through September 30, 2009)
of
Jefferson Science Associates, LLC.
Contract No. DE-AC05-06OR23177
Thomas Jefferson National Accelerator Facility

Thomas Jefferson Site Office
U. S. Department of Energy

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Background

The JSA contract implements the current performance-based management approach to oversight within DOE and with an emphasis on the customer-supplier partnership between DOE and the Laboratory contractors. It has also places 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 2009 JSA Performance Evaluation and Management Plan (PEMP) incorporates the Guidance for the Office of Science Laboratory Performance Appraisal Process. 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 2009 PEMP describes the primary measurement basis for DOE's evaluation of JSA's performance regarding the management and operation of Jefferson Laboratory for the period: October 1, 2008, through September 30, 2009. 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 provide a formal self-evaluation report at year-end, which includes an overall summary of performance for the performance period as well as performance ratings for each PEMP element and TJNAF overall, and a summary of key strengths and opportunities for improvement (Reference: JSA's FY 2009 Self-Assessment/Performance Evaluation Report, dated September 14, 2009); 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 2009 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 B+. The breakdown by category and performance measures shows the following ratings:

FY 2009 Evaluation Score

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

Some of the FY 2009 highlights include:

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

- The Laboratory's reported scientific results represent continued high quality productivity that is adding significantly to the knowledge of nucleon structure. The Laboratory is on track to meet all but two of its Hadron Physics Milestones.

- The Laboratory successfully started the construction of the 12 GeV CEBAF Upgrade Project, has maintained cost and schedule goals, and has successfully incorporated Recovery Act funds into project plans.

- The Laboratory continues to exceed most of its facility performance goals and to improve facility performance reliability and efficiency.

- The Laboratory continues to do an excellent job in S&T program management.

- The Laboratory management continues to develop its core competencies effectively.

- Outstanding Science Education Programs: Support to 11,658 students and 1,053 teachers.

- Significant Safety Milestone Reached: No Work-Related injuries involving Lost Work Time, Restriction of Duties, or Transfer to other duties in FY 2009 (DART 0.00). The Laboratory's TRC and DART case rates (0.39 and 0.0, respectively) were exemplary, and show a sustained level of high performance, relative to its own history, and relative to its peers.

- Effective management and execution of 120% increase in annual funding (FY08: $95M/FY09 $209M); including $86.5M in America Recovery and Reinvestment Act (ARRA) funding.

- Strong procurement support for the 12 GeV CEBAF Upgrade Project, Technology Engineering and Development Facility Project, and ARRA projects.

- Out-of-the-box Technology and Engineering Development Facility design drove transformative site campus plan concept.

Some of the challenges facing the Laboratory, JSA, and corporate partners in FY 2010 are:

- Successfully transitioning to an oversight model that relies extensively on the Contractor Assurance System (CAS) will be highly dependent upon a collective high level of communications, openness, and transparency. The Department looks forward to discussions with the Laboratory, JSA, and the corporate partners on suggestions and ideas to enhance the working relationships.

- DOE encourages the Laboratory and JSA to continue to work to ensure that self-assessments (i.e., topical areas as well as end-of-year) provide a comprehensive representation of performance, highlighting in a balanced fashion both accomplishments as well as vulnerabilities and risks, and how they are being addressed.

- DOE is concerned with JSA's ability to balance competing labor resources while meeting all 12 GeV Upgrade Project performance expectations. There have been precursors that Project performance is being impacted by labor shortfalls, which in turn will require even

greater labor resources than planned to make-up for the loss of project performance. This concern was further reinforced by the September 22-24, 2009, Office of Science Independent Project Review of the 12 GeV Upgrade Project. At the Laboratory-wide level the labor resource concern becomes more acute when SRF, TEDF, Electron Ion Collider, Facility for Rare Isotope Beams, Free Electron Laser, and JLAMPF-related activities are taken into consideration.

FY 2009 Evaluation

The Department's FY 2009 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 3.5 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-	3.6	35%	1.26
1.2 Provide Quality Leadership in Science And Technology	A-	3.7	25%	0.93
1.3 Provide and Sustain Science and Technology Outputs that Advance Program Objectives and Goals	B+	3.4	25%	0.85
1.4 Provide for Effective Delivery of Science and Technology	B+	3.4	15%	0.51
Overall Performance Goal 1.0 Score				**3.55**

NP

TJNAF has exceeded expectations in most areas of mission accomplishment and merits a grade of A-:

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

- The TJNAF S&T Review considered this year's reported scientific results represent continued high quality productivity that are adding significantly to our knowledge of nucleon structure. The Laboratory is on track to meet all but two of its Hadron Physics Milestones. The Laboratory failed to meet its 2009 Milestone in meson photoproduction.

- The Laboratory continues to develop its core competency in SRF technology that is strategically aligned with advancing the Office of Science Mission.

- The Laboratory consistently makes efficient and effective operations of CEBAF a priority and the scientific productivity continues at a high level even as the 6 GeV program begins to wind down.

- The Laboratory consistently delivers on its commitments in an effective and timely way; however, there is presently a concern over sufficient staffing that could jeopardize this in the future.

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.

HEP

TJNAF conducts research on superconducting RF accelerator cavities for the ILC and SRF program of HEP. They have a clear core competency in this area and deliver real benefits to the HEP program

WDTS

- The Science Education office at TJNAF consistently, and especially during FY 2009, managed 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 and educators are placed 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 of resources needed for an exceptional laboratory research experience be it individual support or the development of reference material to teach complicated science concepts.

The science education program has dedicated itself to providing extensive science education and uses multiples opportunities to deliver the greatest learning impact. They teach science content and method on how best to teach science through mentor intensive research, collaboration with

other students and teachers, seminars, "fun" learning, and etc. The staff is creative, dedicated, disciplined and by maintaining an interactive relationship with current and previous program participants extends the mentor relationship to promote ongoing learning.

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

The Department has assigned that a performance score of 3.6 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 of the Laboratory over the past year have been significant. These include:

- The Laboratory continues to make substantial progress towards completing the NSAC Hadronic Physics Milestone on nucleon form factors. The new data are of sufficient precision to exclude some models.

- Precise results have been obtained on the spin structure function of the neutron in the region of low momentum transfers. The new results are in good agreement with the Burckhardt – Cottingham sum rule.

- The potential identification of a new N* resonance that could exclude the di-quark binding model for the nucleon was also considered an important advance in baryon spectroscopy.

- The theory group continues to achieve at a high level. The group's research topics continue to be in close alignment with the experimental program. Accomplishment highlights this past year include advances in lattice computations of meson and baryon spectroscopy. More general parton distributions are studied, yielding information about the three-dimensional structure of hadrons. The lattice gauge effort is well-integrated with the national and international efforts via the national quantum chromodynamics (QCD) collaboration (USQCD), other collaborations, and conferences.

HEP

The Laboratory's performance in processing superconducting accelerating cavities has been outstanding. This year the lab has processed American built cavities and tested them demonstrating that the achieved gradients are well in excess of ILC requirements.

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 3.7 and grade of A- based on the evaluation of the Laboratory's performance in providing quality leadership in science and technology.

NP

The Director and his management team have focused the future scientific mission of the Laboratory on efforts that support the mission of DOE and enhance the core competencies of the Laboratory. The work of the theory group continues to have international impact, and provides strong leadership in a number of areas of nuclear physics, including hadronic structure, Lattice Quantum Chromodynamics (LQCD) calculations, hadronic modeling, excited baryon coupled-channels analysis, and perturbative QCD; it is recognized as one of the strongest laboratory nuclear theory groups in the Nation. The Superconducting RF R&D program at TJNAF is world-class and is widely viewed as the premier U.S. program in this technology. The Laboratory is aggressively pursuing the development of superconducting RF technology for the ILC and future light sources. Concerning the laboratory's effort for a future Electron-Ion Collider, the new conceptual design work is considered a valuable contribution.

HEP

The Laboratory is a worldwide leader in the development of superconducting RF accelerating cavities. In this year's HEP solicitation for research into fundamental properties of superconducting RF accelerating cavities, the lab had three funded proposals. That is more than any other laboratory.

WDTS

TJNAF 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. The Laboratory 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 3.4 and grade of B+ 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 reflective of progress made in experimental (20) and theoretical (48) efforts. In addition, the Laboratory has also generated 15 accelerator science and 17 engineering publications in peer reviewed journals – a noteworthy accomplishment. Independent peer reviewers indicate that the overall productivity of the laboratory is excellent. The Radiation Detector & Imaging Group earned an Excellence in Technology Transfer award from the Federal Laboratory Consortium for Technology Transfer for developing a life-saving compact gamma camera for the improved detection of breast cancer.

The Accelerator Operations Division achieved full 6 GeV operations this year as a result of their cryomodule refurbishment program. This will have a significant impact on the scientific productivity of the remaining experiments in the 6 GeV schedule. CEBAF also achieved 91% availability as defined by DOE. This is a direct result of their commitment to identifying and correcting weaknesses in facility operations. The unexpected failure of the installed Renascence cryomodule that was a prototype for the 12 GeV Upgrade has been diagnosed and corrective action is underway. Repair and retesting of this module in situ should be a high priority for the laboratory.

HEP

TJNAF processes and tests cavities for both the ILC and SRF R&D programs. They have met expectations in this work.

WDTS

TJNAF places their interns/educators in research experiences that are within the core competencies of the laboratory. TJNAF 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 3.4 and grade of B+ based on the evaluation of the Laboratory's performance in providing effective delivery of science and technology.

NP

So far, the Laboratory has been able to effectively deliver on their commitments. However, there is an overall concern that staffing levels are inadequate to successfully carry out the completion of the 6 GeV program, maintain the 12 GeV CEBAF Upgrade schedule and satisfy Work For Others commitments and this will be a challenge for the future. The experimental halls have clearly stated that they do not have sufficient engineering and technical staff to complete the schedule of the 6 GeV experimental program. The Laboratory seems to be slow in hiring critical engineers and technicians. A staffing plan that extends through and beyond the 12 GeV Upgrade has been requested as a recommendation of the FY 2009 S&T review.

HEP

Cavity processing is on schedule and within budget.

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 3.4 and grade of B+ 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-	3.7	25%	0.93
2.3 Provide Efficient and Effective Operation of Facilities	B+	3.2	60%	1.92
2.4 Utilization of Facility to Grow and Support the Laboratory's Research Base and External Community	A-	3.6	15%	0.54
Overall Performance Goal 2.0 Score				**3.39**

NP

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

- The Laboratory successfully started the construction of the 12 GeV CEBAF Upgrade and has maintained cost and schedule goals. They have successfully incorporated Recovery Act funds into project plans.
- 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 commencing 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 3.7 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

In FY 2009, construction started after an extended delay caused by a Continuing Resolution lasting until April. The project was also appropriated an additional $65M in ARRA funds, presenting challenges to alter project plans to incorporate these advancements in the funding profile. As construction proceeded, the Laboratory's attention to ESH activities was considered excellent with substantial oversight that has resulted in excellent statistics to date. The project has also moved quickly to incorporate the influx of ARRA funds. The award of procurements has been positive in the sense that contingency and management reserve levels are excellent. Though the project schedule index is good, the Laboratory took an extensive amount of time to hire some key project individuals such as the Physics Associate Project Manager and Hall D Leader. In addition, a recent project review expressed some potential concerns regarding staffing. Though management recognizes the 12 GeV as the laboratory's highest priority, staffing has been short at times and short-term priorities appear to have impacted some schedule performance.

Objective 2.3 Provide Efficient and Effective Operation of Facilities

The Department has assigned an overall score of 3.2 and grade of B+ 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 2009 exceeded most performance goals. In particular, the reliability reached 91% with beam availability in the experimental halls of 96% (Hall A), 87% (Hall B), and 67 % (Hall C). Hall C is significantly below goal, running at about 60% due to the failure of a superconducting magnet which resulted in the cancellation of one experiment. The machine operated for 5117 hours, as opposed to the 4963 hours originally planned with the

FY 2009 Appropriation. Reliable 6.0 GeV operation has been achieved; although the machine required an exceptionally long commissioning phase this year. The past year's operation has identified some weaknesses with magnet power supplies, C50 cryomodules, RF cavity performance, vacuum systems, and electron gun reliability.

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 3.6 and grade of A- 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. 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. In 2009, the laboratory initiated, together with Old Dominion University, a Center for Accelerator Physics.

GOAL 3.0
Provide Effective and Efficient Science and Technology Program Management

The Department has assigned an overall score of 3.6 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-	3.7	40%	1.48
3.2 Provide Effective and Efficient Science and Technology Project/Program Planning and Management	A-	3.5	40%	1.40
3.3 Provide Efficient and Effective Communications and Responsiveness to Customer Needs	B+	3.4	20%	0.68
Overall Performance Goal 3.0 Score				**3.56**

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.
- The 12 GeV CEBAF Upgrade project commenced construction and is on cost and schedule.
- The Laboratory has filled two key management positions within the 12 GeV CEBAF Upgrade project.
- Laboratory management continues to develop its core competencies effectively.
- 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.

The Laboratory management will be challenged in the future to identify adequate staffing levels for all of its ongoing and planned activities. The Chief Scientist announced that he would be leaving the Laboratory and Laboratory management will need to identify an approach to replace this leadership. The Laboratory has become more engaged in the EIC development, but may be challenged in playing a substantive role given other activities competing for resources

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.
- The office 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, productive experience.
- The undergraduate and educator program are among the best in class where participants are fully supported with individual attention in content knowledge, skills training needed to ensure all deliverables are of excellent quality, and a peer to peer culture where collaboration is the key component for individual and collective accomplishment.

The education staff by example and action creates a culture among its 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 3.1 Provide Effective and Efficient Stewardship of Scientific Capabilities and Program Vision

The Department has assigned an overall score of 3.7 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 maintaining costs. Projected increases in power costs were not realized. The Laboratory commenced construction for its 12 GeV CEBAF Upgrade project, and the project is still on cost and schedule, although this is challenged by available workforce. The Laboratory has successfully integrated ARRA funds into project planning. The Laboratory successfully achieved R&D support to pursue its FEL technology for future light sources and developed its SRF cavity surface conditioning process that resulted in several prototype cavities reaching the ILC performance goal. The Laboratory has helped to organize the community in the effort to develop a technical and scientific case for the proposed EIC. It is not clear how strong of a role the laboratory itself will be able to play given competing activities. The Laboratory hosted an impressive 103 workshops, conferences, and meetings this year.

WDTS

The education staff by example and action creates a culture among its 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 3.2 Provide Effective and Efficient Science and Technology Project/Program Planning and Management

The Department has assigned an overall score of 3.50 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 2009 S&T Review found that Laboratory staff had a positive attitude and enthusiasm for the new Director. The planning process for scientific direction seems robust and inclusive of the scientific community. It is multi-dimensional and includes input from the physics community, users, and staff. The Director and his management team have focused the future scientific

mission of the Laboratory on efforts that support the mission of DOE and enhance the core competencies of the Laboratory. However, several independent reviews have identified staffing concerns that management may not be responding to adequately.

The Laboratory has met more than 25% of its energy reduction goals. It is moving toward implementing quality processes and it has initiated a project management training process to help investigators manage costs and risks.

The significant increase in funding received in FY 2009 and subsequent level and diversity of activities will present a management challenge in ensuring that the priorities of the laboratory remain intact and that commitments are met.

An independent review of the 12 GeV Upgrade project found that the Laboratory has been very effective at managing the project and capitalizing on the advance funding received this year.

WDTS

Ms. 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 regionals. The success for Science Bowl is due in large part to the camaraderie, collaboration, and foresight of the advisory board members, in particular Ms. Tyler.

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

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 communications and responsiveness.

NP

The Laboratory communications with the DOE are generally efficient and effective; however, this year there have been several lapses on funding issues. Based on reports at the S&T Review, the user research community is happy with the Laboratory's communications and responsiveness to their needs. Biweekly phone calls with NP are used effectively to bring to the Office's attention to significant activities, issues, and concerns.
Laboratory management does an exemplary job in keeping NP management informed of ongoing activities and issues, making regular face-to-face visits to discuss the status of the laboratory.

The Laboratory is responsive to the reporting requirements of the Recovery Act projects.

WDTS

TJNAF 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. TJNAF 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 grade of B+ 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	Weight
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-	30%
4.2 Provide for Responsive and Accountable Leadership throughout the Organization	B+	35%
4.3 Provide Efficient and Effective Corporate Office Support as Appropriate	B+	35%

The Laboratory has performed well during the reporting period. The Department encourages JSA to continue to work to ensure that the JSA self-assessments provide a comprehensive representation of performance, highlighting both accomplishments and vulnerabilities in a balanced fashion. Contract and PEMP reform initiatives are expected to affect the Site Office and Laboratory operations as we move into FY 2010. A close working relationship among all parties (i.e., TJSO, Office of Nuclear Physics, JLab, JSA Board, SURA, CSC, and SC-HQ) will be critical to a mutually acceptable and successful outcome.

We believe leadership and stewardship effectiveness provided during the fiscal year is also reflected in great measure by Laboratory performance in the PEMP Science and Technology Goals 1-3 and the Management and Operations (M&O) Goals 5-8. The Lab has also been an active contributor in the Office of Science initiatives, such as sharing best business practices and working to provide more effective support to the SC mission through the Laboratory's Mission Readiness effort.

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 Carry Out Those Plans

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

The Laboratory's vision and plan are well thought out and reflect an aggressive, yet realistic path forward in sync with the Department's and SC's strategic objectives and plans. The Laboratory actively participated in strategic planning processes with other SC Laboratory which helped to illustrate strong communications with other SC Laboratory, and support of SC-corporate initiatives and challenges. JSA continues to effectively utilize the JSA Initiatives Fund and other means to support the Department's and Laboratory's missions.

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

The Laboratory continues to have a well-defined vision for the future. The Laboratory submitted its annual plan to the Office of Science which was well received by SC leadership. The Laboratory's Annual plan addresses scientific questions of national priority to DOE. Jefferson Laboratory has provided outstanding support to the budget process. The Laboratory's leadership worked with the DOE NP and the national science community to keep regional and national decision-makers aware of Jefferson Laboratory's contribution to the DOE science mission. The Laboratory maintains excellent relations with the Commonwealth of Virginia and other key stakeholders.

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

The Laboratory presented to DOE a well thought out long range plan in April, 2009. The Laboratory received positive feedback as a result of this presentation.

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

The corporate owner continued to provide opportunities to showcase Jefferson Laboratory technologies at its workshops and symposia.

Jefferson Laboratory is formalizing and strengthening vital collaborations with academe and users through the development of 12 GeV collaboration MOUs and formal construction effort

MOUs. There were approximately 26 MOU/MOAs signed in FY 2009 (which represents a five fold dramatic increase from year), including 17 joint faculties and seven bridge appointments are in place. The Laboratory is also working with Old Dominion University in establishing the Center for Accelerator Excellence.

Jefferson Laboratory participated in a $777M federal effort to accelerate scientific breakthroughs. The FEL will be used by researchers to study the behavior of materials relevant to novel energy production, and energy storage, distribution and utilization.

The Laboratory management has done an effective job in communicating the needs of the Laboratory to high level government officials including the Deputy Secretary of Energy, and state and local elected officials.

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

The Laboratory is commended for its exceptional efforts to raise public awareness of the importance of the Jefferson Laboratory to the local, regional, state, and national community stakeholders.

Science Education metrics continue to be outstanding. Science Education metrics for FY 2009 include interactions with 11,658 students and 1,053 teachers. Education staff provided strong support for DOE's National Science Bowl in Washington, DC April 30-May 4, 2009, where 67 high school teams and 36 middle school teams competed for the national titles: 1) Jefferson Laboratory is represented on the Science Advisory Board for the National Science Bowl; 2) Provided technical support in the planning and administration for the middle school academic competition; and 3) Conducted a physical science workshop for the 36 coaches of middle school teams.

Jefferson Laboratory hosted the Second Annual Science Teacher Night on April 15th. This annual event supports upper elementary and middle school physical science teachers. Thirty-five 6th and 8th grade JSAT teachers shared activities and materials with the 100 teachers in attendance.

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

The Laboratory was proactive in implementing the strategy to address the cost of doing business. The Cost of Doing Business section of the "Financial" tab on the Jefferson Laboratory Insight has been enhanced by providing a real-time automated tool for Jefferson Laboratory managers to track and report cost of doing business information.

Objective 4.2 Provide for Responsive and Accountable Leadership throughout the Organization

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

<u>Measure 4.2.1</u> – 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; facilitates corporate reach back; and provides entrée to vital, external resources for support of science and the programs of the Laboratory.

JSA Board engagement with a breath of Laboratory activities is recognized. The JSA Board and its Committees continue to provide responsible leadership and hold the Laboratory accountable for performance. The JSA Board met semi-annually to review reports from its committee chairs and receive updates on opportunities at the Laboratory, financial status of JSA, the Laboratory's science program, 12 GeV Upgrade Project, FEL and SRF technology and plan for the future, PEMP results, FY 2009 budget (omnibus) and stimulus funding, and EH&S performance. These meetings also provided a good opportunity for the TJSO Management to join the board to have a free flowing exchange on expectations for site offices and contractors, and Laboratory/contractor performance and challenges.

The JSA Programs Committee provides active oversight of critical JSA programs such as Initiatives Fund Program, SURA Residence Facility, completion of the 6-GeV program, the FEL and with the Users Group board chair on its activities and concerns.

<u>Measure 4.2.2</u> – Laboratory Leadership is Committed to Effective Contract Management.

Implementation Plans were completed and extensions approved for selected plans.

Additional evidence of effective contract management is noted in the Laboratory's management of ~$87M in unanticipated ARRA funding. In addition to placing these funds under contract, the Laboratory implemented processes and procedures to track and report on ARRA funds in accordance with DOE guidance.

The Laboratory has also successfully managed dramatically increased project and construction activity. Safety statistics indicate that for the first time in the Laboratory's history there were no work-related injuries involving lost work time, restriction of duties, or transfer to other duties during the entire FY 2009 (DART Rate = 0.00). Additional information on FY 2009 safety statistics is located in Goal 5.

<u>Measure 4.2.3</u> – Laboratory Leadership established clear roles, responsibilities, authority, and accountability (R2A2) and identifies and ensures resolution of issues that can impact the overall performance of the Laboratory.

The Laboratory completed the FY 2009 Annual Work Plan for the likely budget scenario. This was a sizable effort which required updating over 300 Work Plans. The Laboratory also

continued to make progress in the certification of staff members in the Laboratory's Project Management Qualification certification program.

Laboratory management has successfully provided effective leadership during another continuing resolution that lasted for several months. Strict financial management processes and tools were implemented through the WBS and AWP system to effectively manage resources and still meet the goals and objectives outlined for the fiscal year. The AWP facilitated the timely identification of budget impacts on workscope and deliverables and allowed for prioritization to ensure critical work was budgeted under the new funding constraints.

Laboratory leadership contributed to another successful S&T Review and many positive comments were made regarding JLab staff. It was noted that the Laboratory continues its efforts to develop a management system that will enhance the operation of the Laboratory and provide public access to the WBS Laboratory management system.

DOE is concerned with JSA's ability to balance competing labor resources while meeting all 12 GeV Upgrade Project performance expectations. There have been precursors, such as the Project's overall Schedule Performance Index dropped from 1.00 in October 2008 to 0.97 in September 2009, and numerous major (>$500K) procurement subcontract awards behind schedule (e.g., CHL 4.5K coldbox award was at least 3 months late, and Hall B torus and solenoid magnets awards are at least six to seven months late). These precursors indicate that Project performance is being impacted by labor shortfalls, which in turn will require even greater labor resources than planned to make up for the loss of project performance. This concern was further reinforced by the September 22-24, 2009, Office of Science Independent Project Review (IPR) of the 12 GeV Upgrade Project. The IPR final report stated, "A number of indicators point to timely availability of labor resources as potentially the highest risk to the 12 GeV schedule. Root causes of labor shortfalls that affected the 12 GeV project in FY 2009 if uncorrected will pose significant risk to the project baseline schedule."

Objective 4.3 Provide Efficient and Effective Corporate Office Support as Appropriate

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

The Laboratory has received corporate support during FY 2009, particularly in the areas of science programs, operations, safety and risk, technology transfer and commercialization, and intellectual property matters.

The JSA Program Committee continued in the process of selecting activities to fund from the JSA Initiatives Fund to further the Laboratory's missions. The committee evaluated 28 proposals with 24 being selected for funding during this reporting period. One of the compelling aspects of the initiatives fund is that the majority of the projects approved returns more value to the Laboratory than the dollars invested. A significant portion of the funds from the Initiatives Fund are combined with other sources funding to support projects that may otherwise not be implemented or projects with goals that may otherwise not be achievable. Over half of the

twenty-four FY 2009 project awards involved other source funding. Initiative Fund support, in many cases, provides the catalyst for larger project or continued activity in support of the basis project purpose. Examples of innovative funding are provided below:

- Project Handheld Gamma Camera for Cancer Surgery ($41K Initiatives Fund; Other in-kind contributions include facilities and meeting organization)

- Project Woman in Physics initiative Workshop ($6K Initiatives Fund; Other funds: $24K)

- Project Jefferson Laboratory Science Activities for Teachers ($33K Initiatives Fund; Other funds: $24K)

- Project Graduate Fellowship Program ($110K Initiatives Fund; Other funds: $76K)

Following the review of 17 applications, JSA awarded eight graduate fellowships for research related to the science program at the Laboratory for the 2009-2010 academic year.

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 Science Council provided recommendations on a broad comprehensive strategy for the future of photon science at Jefferson Laboratory that addressed the experimental potential of the FEL.

The Corporate owner continued to provide access to the CSC "Learning Place" through the Skillport portal. Incorporated into the Laboratory's training and professional development programs, during the FY 2009, 446 courses were completed by 75 individuals. Thirty-five Laboratory employees have earned Project Management Qualification and the Laboratory procurement staff has taken almost 60 Skillport courses as part of the professional development. The Corporate owner continued to make available the 42-room SURA Residence Facility, owned, managed, and operated by the owner, for onsite accommodations for Laboratory researchers, guests, collaborators, and vendors.

Measure 4.3.2 – The JSA Board proactively pursues opportunities that strengthen and facilitate Laboratory 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 continued its outreach efforts with non-DOE funding sources. The 6th annual *SURA Terahertz Applications Symposium* provided opportunities to showcase the Laboratory's terahertz technology and provided a venue for interactions with experts from academe, government, and industry that may potentially develop into programs and collaborations in the field.

The Corporate owners continued to support the Laboratory's technology transfer and commercialization function, participating in the Laboratory's monthly TRC meetings, advising on intellectual property maintenance and issues, facilitating intellectual property review, and servicing the IP database and invention disclosure systems.

The Science Council requested the Laboratory to develop a broad comprehensive strategy for the future of photon science at the Laboratory. As a result of the oversight and monitoring by members of the Council, the Laboratory developed a strategy to solidify the immediate future through a proposal to establish photon science at the Laboratory. This proposal resulted in BES funding of $900K in FY 2009 funding (approx. $3.0M total), the first time that the Laboratory has received BES funding for work at the FEL.

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

Laboratory management has performed an effective job in communicating the needs of the Laboratory to DOE officials, as well as other federal, state, and local elected officials. JSA continued to strengthen relationships with the Laboratory's non-DOE funding sources, including relations building with various Commonwealth of Virginia legislative and executive offices. JSA received positive results from the corporate owner's long term relationship and outreach program. Concentrated efforts with the state legislature which included meetings with the state legislators and finance committee members were thus far successful in retaining the $6 million funds for the 12 GeV Upgrade Project in spite of the state's severe budget shortfall.

The Laboratory received $86.5M in American Recovery and Reinvestment Act funding. The corporate owner's work with the Task force for the Future of American Innovation, the Energy Science coalition, the Alliance for Science and Technology Research in America, and regular meetings with congressional leaders and other senior government staff were supportive of Recovery Act and Department/Science mission.

JSA continued to do an excellent job in managing the $500,000 annual Initiatives Fund to support programs, initiatives, and activities that strengthen the Laboratory's scientific outreach is excellent.

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

The Department has assigned an overall grade of A- for this performance goal. The rationale for the Department's position is furnished within each applicable sub-element.

Goal Performance Rating Summary

Objective	Letter Grade	Weight
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	20%
5.2 Provide Efficient and Effective Implementation of Integrated Safety, Health and Environment Management	B+	70%
5.3 Provide Efficient and Effective Waste Management, Minimization, and Pollution Prevention	A-	10%

While sustaining a number of its standing, exemplary practices such as the pre-Scheduled Accelerator Down (SAD) planning sessions, and post-SAD lessons learned briefings, the Laboratory was also able to manage timely closure of HSS CAP deliverables that were due this fiscal year (FY), promote the collection of worker injury reporting, and lay the ground work for an employee training requirements platform that uses an automated Job Hazard Analysis questionnaire. The Department recognizes these and many other actions that were evident during the rating period which demonstrated sustained safety performance in programs that worked, and undertaking new initiatives to address contemporary challenges. The Laboratory's recent development of a risk-based assessment planning tool is considered by the Department to be an instrumental step toward assigning assessment resources and addressing issues that have the most potential to impact worker safety (as well as other functional areas), and influence the Laboratory's mission.

These successes notwithstanding, performance opportunities for improvement have been identified by the Department and should be systematically addressed by the Laboratory. Addressing these shortcomings is vital to the Laboratory's ability to attain the level of Contractor Assurance System performance expected by the Department.

The Department has identified concerns on timely event reporting and post-event follow-up on multiple occasions. The Laboratory's most recent response to these concerns dismissed the matter as an isolated instance, citing that a single event should not constitute justification for the Department's concern. The Department maintains that numerous examples of inconsistent event reporting have occurred, or otherwise where reporting requirements were not adequately met. It will only be through maintaining adequate records on event reporting and improving general event reporting requirements that performance in this area is likely to improve. It is hopeful that

the Laboratory's completion of corrective actions to address HSS Finding D-4 will also help the Laboratory improve some of the shortcoming acknowledged by the Department.

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

The Department has assigned an overall 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. DART cases and man-hours will include all JLab staff, Users, and subcontractors, regardless of company size. TARGET: DART Rate = 0.25.

The Laboratory's high level of performance in safeguarding workers, as measured through recordable injury cases (TRC < 0.43), and lost or restricted workday cases (DART = 0.0), is commendable. This accomplishment is accentuated by the Laboratory's ability to sustain such performance over multiple rating periods, and how such performance compares to its peers. Attaining such performance is likely attributed to the Laboratory's ability to track and react to events and conditions that reside below the recordable injury thresholds and progressive improvements in work planning tools. To fulfill the ISM function of "continuous improvement", the Laboratory will be challenged to sustain its track record on keeping recordable injuries low, particularly with the numerous construction projects in FY 2010 and the out-years. Success in this regard will likely depend upon the Laboratory's ability to evaluate new and creative ways to promote worker and subcontractor accountability for their own safety, and continue to exploit data management systems that integrate hazard awareness and hazard controls in the work planning phase.

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). TRC cases and man-hours will include all JLab staff, Users, and subcontractors, regardless of company size. TARGET: TRCR Rate = 0.65.

It is also noteworthy that the Laboratory hosted on-site training during the rating period to help ensure that the staff responsible for classifying and reporting injuries and events is aware of the contract requirement. Of equal importance, this training also afforded hands-on experience in conducting query and sort routines within the DOE ORPS and CAIRS systems, thereby improving the Laboratory's ability to recognize trends. It is important that the Laboratory take advantage of the utility in such records systems, otherwise these data reservoirs serve only as a black box in which information is entered and not leveraged.

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

The Department has assigned an overall grade of B+ for this objective based upon overall performance and the following:

Measure 5.2.1 – Utilize and contribute to the DOE Lessons Learned database.

While the utilization of lessons learned information in work planning still has room for maturation, there are clear indications that progress is being made to address the challenges of linking different electronic systems to this end. The Laboratory's contributions to the DOE-wide Lessons Learned/Operating Experience database has greatly surpassed the PEMP benchmarks, and the recent volume of Lessons Learned submissions to DOE's Lessons Learned database (nine items) rivals that of most large, multi-program sites. Jefferson Laboratory's representation within DOE's Operating Experience community is likewise remarkable, and demonstrates leadership among it peers. Jefferson Laboratory has become a reliable source of information for the group, often initiating questions and relevant discussions which would otherwise go unaddressed. Jeannie Boyle of HS-32, who serves as the focal point for the DOE Lessons Learned system and facilitates exchanges among the OPEX Coordinator community, has repeatedly voiced appreciation for Jefferson Laboratory's contributions, and often directs inquiries from other program offices to consult with the Jefferson Laboratory OPEX Coordinator for ideas and examples of OPEX best practice. This is a source of great credit to the Laboratory, and is fully appreciated by the Department.

Measure 5.2.2 – Number of work observations on average per week and observations conducted are documented.

Sustained use of the Safety Observation System is evident, and a review of select entries indicates the forum is largely serving its intended purpose of using peer interaction to foster improved safety awareness; however, the purpose and utility of the Safety Observation system appears to be recognized by some Divisions, and less so by others. Numerous examples were found in the Safety Observation System of brief, but thoughtful evaluation of work activities, whereas some groups seem to treat this as a check the box exercise, offering no appreciation for what types of work was being evaluated or how the corresponding hazards were being managed.

While the overall objective of this measure was not fixated on quotas, minimal levels of performance were established to help gauge participation. There are still instances of duplicate entries which artificially add to the total number of observations being logged in the system. With duplicates taken into consideration, performance benchmarks are marginal for at least one Division, even after special dispensation was factored into this performance measure.

A random sample of entries in the Safety Observation System identified a Stop Work condition initiated by a Jefferson Laboratory employee for subcontractor work. The unsafe act was identified after work activities had been initiated, and described Lock-out/Tag-out non-compliance in the midst of an open, energized electrical panel. While the field intervention taken by the observer was prudent, Stop Work events such as this are clearly outside the intended scope of the Safety Observation System, as defined in the protocol document that accompanies the on-line portal to the Safety Observation System. Stop Work events are to be processed using the instruction in Chapter 3330 of the Laboratory's ES&H Manual, and would trigger actions such as causal analysis review, corrective action plans, and screening for DOE Occurrence Reporting. Based on this instance, it is recommended the Laboratory consider refreshing the awareness of personnel using the Safety Observation System, so they understand its scope and limitations; furthermore, it is recommended that personnel screening these entries be sensitized

to look for events and actions that warrant additional hazard mitigation and reporting consideration.

Measure 5.2.3 – Generate corrective action plans from assessment and events.

There's room for improvement in the partnership and coordination with Site Office relative to causal analysis reviews and corrective action plan development. Of the four ES&H assessments conducted by the Department during the fiscal year, invitation, and hence attendance by TJSO occurred in only one of the Laboratory's causal analysis reviews. At least one instance arose during the fiscal year that warranted the Site Office to reject the Laboratory's initial CAP, as the plan lacked adequate interim control measures, and contained unsupportable suspense dates to close some actions. Sharing draft CAPs with the Site Office before the official submission prevents the inefficiency associated with rejection letters and resubmission, and contributes to a close JLab-TJSO working relationship.

During the fiscal year, the Site Office provided direction to the Laboratory that closure concurrence will be necessary for P-1 and P-2 findings issued to the Laboratory by the Site Office. This action was taken due to isolated, but repeat instances when the Laboratory prematurely closed-out actions, or changed the terms of closure. There have been occasional instances where the closure of CATS findings by the Laboratory is not supported by objective evidence. The Site Office will continue to monitor the Laboratory's performance on closing corrective actions in a manner commensurate with the significance of the issue.

The Site Office is appreciative of the efforts being made to automate notifications when corrective actions are ready for our closure verification. It is important that feedback be provided to the Site Office on the closure verification process to ensure our mutual interests are being met.

Measure 5.2.4 – Implement Corrective Action Plan (CAP) in response to findings identified in the June 2008 HS ES&H inspection review.

The Laboratory has done a very good job turning around its initial performance in managing closure of HSS action items. Early in the fiscal year, submission of some corrective action evidence was made without factoring-in sufficient time for Site Office comment resolution before the HSS action item deadline. Since that time, the Laboratory has managed a transparent schedule to ensure internal and external reviews are completed well in advance of the submission deadline. The past several submissions have been a month or more in advance of the due dates and the engagement between Laboratory and Site Office counterparts has been excellent.

Measure 5.2.5 – Develop and execute action plans in response to Opportunities for Improvement (OFI) identified in the June 2008 HS ES&H inspection review.

For the most part the Laboratory has aligned OFI closure evidence with the compulsory deliverables identified the formal HSS Corrective Action Plan, which has been evaluated within measure 5.2.4.

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

The Department has assigned an overall grade of A- for this objective based upon overall performance and 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 the majority of categories. The grades were validated by TJSO to be related to efficient and effective waste management, minimization, and pollution prevention in at least five of the scorecard categories.

An EMS Validation audit conducted in the third quarter resulted in two findings, but found no major non-conformances. This allowed TJSO to declare the EMS as fully implemented ahead of the June 30, 2009, deadline. An aggressive corrective action plan is in place to address the findings.

The Department acknowledges that the timing of submissions related to environmental reporting have significantly improved. This has allowed thorough Site Office review and timely submission of permit-required reporting to regulatory authorities.

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 2009.

Of note, the Laboratory received two DOE Office of Science Best in Class pollution prevention awards in 2009.

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 grade of B+ 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	Weight
6.1 Provide an Efficient, Effective, and Responsive Financial Management System(s)	A-	20%
6.2 Provide an Efficient, Effective, and Responsive Acquisition Management System	A-	15%
6.3 Provide an Efficient, Effective, and Responsive Property Management System	B+	15%
6.4 Provide an Efficient, Effective, and Responsive Human Resources Management System	B+	20%
6.5 Provide Efficient, Effective, and Responsive Management Systems for Internal Audit and Oversight; Quality; Information Management; and Other Administrative Support Services as Appropriate	B+	15%
6.6 Demonstrate Effective Transfer of Technology and Commercialization of Intellectual Assets	B+	15%

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 2009. The Department has assigned an overall grade of A- for this objective based upon overall performance and the following:

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

The lengthy continuing resolution due to the presidential election and the subsequent release of American Recovery and Reinvestment Act (ARRA) funding under the new administration presented challenges for the Laboratory's CFO organization. The Laboratory's total budget went from approximately $107M in FY 2008 to approximately $225M in FY 2009. The Laboratory performed well in insuring that costs and commitments did not exceed available Laboratory funding, and that regular accounting and budget reports were accurate and timely throughout the year. During the long continuing resolution, the Laboratory was particularly cost conscience, even delaying implementation of the annual compensation increase plan till after midyear when FY 2009 funding levels became known. The Laboratory responded positively to ARRA information requests and as a result received ARRA funding in excess of $86 million.

The Laboratory also responded professionally and timely to data calls and ad hoc reporting requirements throughout the year. Cost of Doing Business meetings with the Site Office to review the analysis of the cost drivers of Laboratory overhead spending are held twice a year, and help further operational efficiencies.

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.

All required documentation, reports, and assurance statements to date have been provided in a timely manner. Reviews of the Laboratory's financial processes in FY 2009 did not reveal any material weaknesses. The Laboratory responded timely and constructively to findings and recommendations regarding their management of conference costs; worked closely with DOE to implement changes to its time charging policy to ensure compliance with the proper accounting of uncompensated overtime; increased usage of electronic funds transfer with its vendors; and, strengthened their internal timesheet submission process.

During the performance period, the Laboratory was timely in reporting the quarterly financial property report of fixed-assets and Construction Work In-Process to coincide with DOE's quarterly financial statement reporting; submitted the Heritage Assets and Stewardship Land footnote disclosure information timely; submitted complete and timely postretirement benefits other than pension information; provided accurate and timely monthly Cost Management reports for tracking and reporting cost performance in compliance with the JSA contract; provided a timely year-end environmental, safety, and health estimate; and supported ORO's efforts to update its environmental liabilities by providing updates of facility information in the Active Facilities Data Collection System.

Since the Laboratory is a recipient of ARRA funds, the Laboratory's financial systems and methodology were reviewed to insure they were consistent with ARRA requirements. The Laboratory responded timely to the DOE requests for an analysis of changes to the Cost Accounting Standards Disclosure Statement necessary for compliance with DOE Headquarters guidance regarding site/facility operating contractor indirect charges applied to ARRA funds. The Laboratory also conducted a timely review of the adequacy of its cost accrual procedures to ensure the accuracy of ARRA project costs.

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

The CFO organization maintained a strong control and accountability of funds processes. The Laboratory met the FY 2009 Office of Management and Budget Circular A-123, Appendix A requirements. 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 2009 consolidated financial statements was provided in a timely manner.

Objective 6.2 Provide an Efficient, Effective, and Responsive Acquisition Management System

The Department has assigned an overall grade of A- for the acquisition management program based upon overall performance and the following:

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

The FY 2009 Procurement Balanced Score Card (BSC) total score as of the end of this fiscal year was 95 points out of a possible 100 points, which utilizes DOE's 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 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 90% of all Laboratory procurement dollars being awarded competitively.

During this rating period, the Procurement Department has processed 15 large solicitations for 12 GeV and awarded major construction subcontracts for Hall D ($14.2M) and CHL extension ($1.5M) as well as additional procurements related to the ARRA funding. The Procurement Department has also developed a system to track and report on ARRA funding as required by DOE's guidance. During this period, there has been a complete update of the P-Card training program and a new reporting system of monthly bank statements that will enable P-Card Holders to receive monthly bank statements with one working day instead of five working days experienced under the old system. The Procurement Department has also implemented a new secure web-based system to electronically transmit executed subcontracts to vendors in lieu of sending hard copies of the subcontracts and attachments. They have also completely upgraded their Subcontracting Officer Training Representative (SOTR) training program and intend to roll out the new training requirements in FY 2010.

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

The Laboratory exceeded the Women-owned, Disadvantaged and Service Disabled goals, and missed the Small Business and HubZone goals by ½% each. FY 2009 was a challenging year given the unanticipated impact of the ARRA funding as well as the start of the 12 GeV Upgrade Project. Overall, the Laboratory has done an outstanding job in striving to meet these goals while balancing DOE requirements related to ARRA funding and 12 GeV Project

responsibilities. The Laboratory continues to work with Mentor Protégé companies to advance their overall growth potential, and both of these Mentor Protégé agreements were approved by DOE. 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 22, 2009, D.G.S. Painting, Inc. was recognized for their performance and accomplishments in support of the Laboratory.

The Laboratory'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 supports the development of guidance for Small Businesses at DOE. As part of its outreach efforts, the Laboratory operated a small business booth at the annual DOE Small Business Conference as well as the VMSDC, which once again shows JLab's strong commitment to the Department's small business program. In addition, the Small Business Manager held a vendor outreach session (one-on-one match making) at the DOE Small Business Conference. Overall, the Laboratory 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 DOE direct prime contracts with small businesses. This arrangement continues to be successfully implemented due to the high level of communication, coordination, and cooperation between the Laboratory and the Site Office staffs and management.

Objective 6.3 Provide an Efficient, Effective, and Responsive Property Management System(s)

The Department has assigned an overall grade of B+ for the property management program based upon overall performance and the following:

<u>Measure 6.3.1</u> – Demonstrate efficacy of the property system through outstanding results on annual performance measures that cover critical aspects of Jefferson Laboratory's personal property management.

The results of the Sensitive Property Inventory for FY 2009 indicated an acceptable level of accuracy. The previously noted improvements in the Laboratory's property management system and procedures and correction of weaknesses identified as a result of the contract transition inventory conducted in FY 2006 continue, though at a slower rate. Actions taken by the Laboratory 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 also continue. A major indicator of the success of these efforts is a significant reduction in property reported as Lost, Damaged, or Destroyed (LDD). The number

of LDD reported property items dropped from a total of 39 items in 2007 to 12 items in 2009. As the Laboratory continues to emphasize individual responsibility it is anticipated that this level of accountability will at a minimum remain stable for 2010. Also, DOE performed a Procurement Management Review (PMR) of the Site Office in July 2009, which of necessity included some examination of the Laboratory's Property Management system and its operation. No major problems were noted and the reviewers indicated the level and quality of communication between the Site Office and Contractor were commendable. Property Balanced Scorecard results for this reporting period include 100% for External Customer Satisfaction (FY 2009 Goal ≥ 80%); 100% for Property Assignment Accuracy – Equipment/Sensitive (FY 2009 Goal≥ 98%); and 99.99% for Accuracy of Property Acquired with P-Card (FY 2009 Goal ≥ 98%). The following actions to improve property management have been successful in FY 2009:

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

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

3. The Laboratory has maintained the property related internal communications to generate and sustain heightened employee awareness of property protection, use, and reporting responsibilities, though at a slower rate, issuing an average of one property management notice or news item every 4 to 6 weeks.

FY 2009 Property Inventory results met DOE goals. Jefferson Laboratory continues to emphasize the need for good housekeeping and efficient disposal of excess items, which contributes to maintaining quality conditions in the warehouse areas and on the accelerator site. The initiative to eliminate the Technical Stockroom was found to be impractical to implement. The small business subcontract award planned to provide on-site and on-line (e-commerce) availability of technical requirements with quick turn-around delivery (i.e., "just-in-time" support) was not feasible, due to limited usability by Laboratory employees. Despite this, some benefits have been realized in the form of a substantial reduction in inventory, the transfer of resources to other property management functions, and reorganization of the stockroom to increase efficiency and realign its functional relevance.

Objective 6.4 Provide an Efficient, Effective, and Responsive Human Resources Management System

The balanced scorecard approach was continued in FY 2009 to measure performance in the Human Resource area. An overall grade of B+ is assigned for this objective based upon overall performance and the following:

<u>Measure 6.4.1</u> – Balanced Score Card Results.

The Balanced Score Card measures covered the areas of Diversity, Learning and Growth, Retention, and Recruitment. The Laboratory met expectations in six of the seven measures, missing the one on diversity. This area continues to be a challenge for the Lab.

Other positive HR-related initiatives undertaken outside of the defined measures included: activities which should improve recruiting and retention (initiating Virginia Tech Extern Program; partnering with the Governor's Academy for Innovation, Technology and Engineering; and establishing a Co-Op program); improving internal business processes (i.e., Employee Concerns Program); and, transitioning the workforce to a 401(K) retirement plan. DOE performed an assessment of the updated Employee Concerns Program and gave a favorable opinion of the Laboratory's use of the EthicsPoint reporting tool.

An assessment by the Site Office was conducted of the adequacy & implementation of the Lab's policies and procedures for identifying, evaluating, and resolving organizational conflicts of interest (OCI). Overall, the Lab, with a few exceptions, has established adequate employee standards of conduct, and OCI policies and procedures. The Lab's implementation and enforcement of their policies have been inconsistent and needs some management attention to ensure all employees are aware of policies and their responsibilities.

Objective 6.5 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 grade of B+ for this objective based upon overall performance and the following:

<u>Measure 6.5.1</u> – Oversight through Internal Audit—Internal audits completed in accordance with annual audit plan.

With limited resources, the JSA Internal Audit Office provided quality auditing services and met associated requirements in an outstanding and timely manner. Internal Audit not only completed all audits on its FY 2009 audit plan, but also added two ARRA-related audits during the last quarter of the performance period. JSA Internal Audit was very supportive of DOE's ARRA oversight initiative by participating in an unplanned joint review of the budget execution process related to ARRA-funded activities. Internal Audit also started a second unplanned ARRA-related audit (subcontracting) in FY 2009 and as such, clearly demonstrated a proactive approach to auditing high-risk areas. Internal Audit included ARRA-related audits in its FY 2010 audit plan as requested, and submitted the audit plan on time and in accordance with established criteria. Internal Audit was timely in responding to multiple requests regarding DOE Office of Inspector General and/or Government Accountability Office audits.

For FY 2010 there will be a continued emphasis on audit and oversight of ARRA-related activities. In addition, DOE is launching a new internal control database (Financial Management Assurance) which will require additional monitoring and testing. As a result, it is recommended that JSA evaluate its staffing levels within the Internal Audit Office to ensure adequate resource levels (or supplemented by corporate support) are maintained to ensure proper coverage of these activities.

Measure 6.5.2 – Monitor/Maintain a Quality Improvement Plan.

The Department is satisfied with the Laboratory's level of performance in meeting the expectations identified in this measure. The Department believes that the Laboratory's completion of the Quality Assurance procedures and QA improvement initiatives were properly prioritized with their importance. The Department appreciates the coordination and assistance provided prior to, and during TJSO assessment of the Laboratory's Quality Assurance Program, and is expectant that the corrective action commitments resulting from that assessment are adequately tracked to closure with objective evidence. It is of interest to the Department that the development and implementation of the Conduct of Engineering Manual be given adequate managerial support to meet the revised completion date in FY 2010.

Measure 6.5.3 – Deliver an integrated efficient and effective Information Technology Architecture that supports the mission of the Laboratory and benchmarks favorably with respect with other DOE Laboratory, research universities and commercial industry best practices.

The following activities occurred during this performance period:

Activity – *Development of an IT Strategic Plan Driven by Laboratory Priorities Tied to AWP Process*: IT plans have been organized by Laboratory priority and included in the Baseline Improvement Activities (BIA); unfunded IT priorities are now being tracked as part of the AWP process.

Activity – *Obtain Certifications for Those Who Work On/With Specific Systems*: The IT staff received certifications from SANS, VMware, and Red Hat.

Activity – *Scientific Computing*: The Laboratory updated farm usage reports and plans for the next LQCD cluster and farm upgrade based on the newly anticipated budgets for FY 2009/2010. The data in the old silo was successfully migrated to the new silo with a resultant significant cost savings for tapes. The Laboratory was awarded a $5M ARRA LQCD project based in large part on the demonstrated capabilities of the Laboratory.

Activity – *Management Information Systems*: The Laboratory launched and completed a project to update the identification and evaluation of systems that store and transfer PII.

Activity – *Computing Network Infrastructure*: This workgroup did well providing the IT Steering Committee with reports on email migration impacts and staffing plans based on expected funding. Status updates were also given to the committee on Voice over IP evaluations, wireless network enhancements projects, and planned upgrades to the CAD environment.

Activity – *Pager Service Provider Cutoff Issues*: New pager vendor was unable to deliver adequate service on time. Through a series of intense negotiations and analysis, the Laboratory was able to provide pager reception without interruption of service.

Objective 6.6 Demonstrate Effective Transfer of Technology and Commercialization of Intellectual Assets

The Department has assigned an overall grade of B+ for the technology transfer program based upon overall performance and as discussed below. This performance objective measures the degree to which key technologies related to Jefferson Laboratory's primary scientific mission are disseminated to industry. Performance takes into account the amount of intellectual property generation and the level of customer satisfaction. Several Work For Others/Cooperative Research and Development Agreements were entered into this fiscal year.

Measure 6.6.1 – The proper stewardship of intellectual assets and Laboratory owned or originated technology as measured by Invention Disclosures and Patent Applications. Intellectual Property Stewardship as indicated by the annual number of Invention Disclosures and/or Patents awarded.

Nine (9) invention disclosures were executed and four (4) patents awarded related directly to Jefferson Laboratory'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# 1250 – The Use of High Power Lasers with Targeted Energies to Provide Efficient Release of Naturally Occurring Oils and Tars; ID #1251 – Active Collimator for High Energy Photon Detection and Imaging; ID #1252 – UHV Copper Gasket Removal Tool; ID #1253 – Fast Growth of Long Boron Nitride Nanotubes and Yarns; ID #1254 – Highly Conductive Alumina Metallization; ID#1255 – High Performance Ingot Niobium Electrodes for DC Guns; ID #1256 – Apparatus and Process for Passivating SRF Cavity; ID #1257 – Cryopumped Electron Guns; ID #1258 – Unbalanced Field RF Gun; and, ID # 1259 – Dynamical Magnetic Shield Against High Axial Magnetic Fields.

The patents awarded were as follows: #7,444,009 B1 – Method to Improve Cancerous Lesion Detection Sensitivity in a Dedicated Dual-Head Scintimammography system; #7,472,052 B2 – Cryogenic Vacuum RF Feedthrough Device; #7,499,476 B1 – Compact Two-Beam Push-Pull Free Electron Laser; and, #7,540,502 B1- Serpentine Metal Gasket.

This is a significant accomplishment as it relates to the overall annual goals.

Measure 6.6.2 – The market impacts created/generated as a result of technology transfer and deployment activities as measured by licenses and/or options agreements executed.

The Laboratory continues to have an effective technology transfer program. As of the end of August, two (2) licenses were executed, including a Joint Ownership Agreement with Hampton University to license jointly held technology to Dilon Technologies, Inc. As a result of this agreement, a follow-on license agreement was successfully negotiated with Dilon Technology, Inc. The Laboratory has completed negotiations with Communication and Power Industries, Inc for a non-exclusive license for a RF Feedthrough Device. In addition, negotiations on several other agreements should be completed in FY 2010.

Measure 6.6.3 – Contributions to the transfer of Laboratory originated knowledge and technology as measured by customer assessments.

As of the end of August, the Laboratory received a 3.8 out of a 5.0 score from the Laboratory's technology transfer customers. The Survey was forwarded to fourteen (14) customers and due to the acceleration of the Laboratory Self-Assessment Report, the Laboratory only received four (4) responses. The Laboratory anticipates additional responses to the Survey and to meet or exceed the requirement of an "Excellent" rating. In addition to the scores, the responders provided comments to support the "Excellent" rating and have also provided comments for the Laboratory to focus on.

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

The Department has assigned an overall 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	Weight
7.1 Manage Facilities and Infrastructure in an Efficient and Effective Manner that Optimizes Usage and Minimizes Life Cycle Costs, and Ensures Site Capability to Meet Mission Needs.	A-	40%
7.2 Provide Planning for and Acquire the Facilities and Infrastructure Required to Support Continuation and Growth of Laboratory Missions and Programs.	A-	60%

Objective 7.1 Manage Facilities and Infrastructure in an Efficient and Effective Manner that Optimizes Usage and Minimizes Life Cycle Costs, and Ensures Site Capability to Meet Mission Needs

The Department has assigned an overall grade of A- for this objective. The score for this objective was based on results achieved for the three measures established to determine performance on this objective as well as other Laboratory performance information. The evaluation of the measures and comments on how the measures were considered in the objective score follow.

Measure 7.1.1 – Extent efficiency and effectiveness is demonstrated for recapitalization and acquisition of required facilities and infrastructure to support Laboratory programs and performance of maintenance.

The Department has determined that the performance on this measure is exceeding expectations. Implementation activities for mission readiness by the contractor are proceeding on schedule. The contractor's staff is actively participating in peer reviews of other Laboratory to gain first hand understanding of mission readiness implementation issues and to benefit from lessons learned at other facilities. A gap analysis and plan for closing gaps have been developed and in general contractor planning for the JLab mission readiness peer review is well advanced.

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 April 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. In addition, the contractor was commended during the validation for development of a Facilities Information Center (FIC) as a best management practice. The FCI greatly facilitated a flawless validation.

Measure 7.1.3 – Extent Contractor implements the DOE Order 430.2B TJNAF Executable Plan and supports the TEAM initiative.

The Department has determined that performance on this measure is exceeding expectations. In addition to meeting the goals established in the Executable Plan, the contractor completed energy audits of all buildings, sustainability reviews of building larger than 1,000 square feet, and successfully completed a Demand Power Reduction Program test.

Objective 7.2 Provide Planning for and Acquire the Facilities and Infrastructure Required to Support Continuation and Growth of Laboratory Missions and Programs

The Department has assigned an overall 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 as well as other Laboratory performance information. The evaluation of the measures and comments on how the measures were considered in the objective score follow.

Measure 7.2.1 – The Infrastructure portion of the Annual Laboratory 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 is exceeding expectations. The performance on this measure was determined based on the Contractor's continuing

implementation of an improved long-range vision for the Jefferson Laboratory campus and infrastructure backbone. Significant initiative has been demonstrated in support of implementing the Mission Readiness approach to facilities and infrastructure maintenance. In addition, CD-0 (Approve Mission Need) was attained for the Utilities Infrastructure Modernization Project.

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 and applying agreed to change control procedures).

The Department has determined that performance on this measure is exceeding 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 is exceeding 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 is exceeding the established target expectations. In addition, the contractor demonstrated initiative to establish aggressive project schedules for the ARRA funded projects to be fully supportive of the intent of the program to stimulate the economy in the near term.

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 is exceeding expectations. The performance on this measure was determined based on the Contractor demonstrating initiative to accelerate the project schedule upon receipt of an improved funding profile and engaging in a progressive design concept that is transformative for modernization of the overall site plan. The TEDF design concept provides a point of arrival and preferred workspace for the enabling programs that are key to advancement of superconducting accelerator technologies. The TEDF design and site plan will revolutionize site work flow. A central corridor is created for pedestrian traffic with vehicular traffic and deliveries moved to the perimeter of the site. This fosters a congenial campus environment for collaborative and efficient scientific interaction and sets the Laboratory on a path for modern campus use and design of future facilities. In addition, the contractor is pursuing a CM/GC subcontract which will reduce overall risk to the project by establishing early coordination between the design subcontractor and the entity that will be responsible for executing construction.

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 grade of B+ resulting from an evaluation of overall performance as well as the performance measures established for 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	Weight
8.1 Provide an Efficient and Effective Emergency Management System	B+	30%
8.2 Provide an Efficient and Effective System for Cyber-Security	A-	50%
8.3 Provide an Efficient and Effective System for the Protection of Special Nuclear Materials, Classified Matter, and Property	B+	10%
8.4 Provide an Efficient and Effective System for the Protection of Classified and Sensitive Information	B+	10%

Objective 8.1 Provide an Efficient and Effective Emergency Management System

The Department has assigned an overall grade of B+ for this objective based upon overall performance and the following:

Measure 8.1.1 – Hazard survey supports designation of base program per DOE Order 151.1C.

Although some EPHA issues need to be worked through, the hazard survey does support a TJNAF designation of base program. The Department appreciates the hard work and analysis put into this technical basis document.

Measure 8.1.2 – After action critiques are conducted to identify improvements to the Emergency Management Program.

The Department commends the Laboratory for documenting after-action critiques and loading the resulting recommendations into the Laboratory issues management system. It is essential that this fundamental expectation continues.

The Site Office appreciates the acknowledgement regarding the need for including the Site Office in the after-action critique of the hurricane table exercise. The Site Office is looking forward to improved partnering in this area in FY 2010.

Objective 8.2 Provide an Effective and Efficient System for Cyber Security

The Department has assigned an overall grade of A- for this objective based upon overall performance and on the following measures:

Measure 8.2.1 – The Cyber Security Incidents (CSI) is the number of appropriately reported incidents in which Jefferson Lab computers were compromised or were used to attach other systems. These are to include all system-level Root Compromises (RC) of centrally managed systems or incidents where JLab.org nodes were used to carry out Cyber Attacks (CA) on other locations on the Internet. The equation represents a measure of the performance level of the overall cyber security program. CSI = RC + .05(CA)

The Laboratory attained a performance outcome of no root-level compromises during this rating period. There was evidence of an increase in both volume and complexity of probes/attempts on the TJNAF network; however, these attacks, such as social engineering, were not successful. Cyber security is a constantly moving target, and the sophistication of attack methods require agility to adapt as the threat model is powerful and deadly. The Site Office validated that the Guest network, a wireless network, has seen an increasing number of signals, and those on that network can now be locked down by MAC address. The registration process allows tracking of IP addresses and this can be done at ARC, VARC, CC, Test Lab, EEL (office spaces), county house, and the FEL.

Most important to note is there is no evidence to indicate that cyber security is negatively impacting the production of science at the Laboratory. There were no incidents in which staff (including scientists) or users were denied access to data or computing capabilities. Malicious attacks which are successful, have the potential to waste tremendous amounts of man hours (e.g., forensic and technical troubleshooting), and the loss of critical computing time for users. This can significantly contribute to an escalation in costs and thus requires proactive strategy to avoid such impacts. Meetings and discussions throughout the year revealed positive feedback from JLab Physics representatives. The status of the Laboratory's cyber program is reflected in this overall comprehensive metric.

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

The Site Office verified the average percentage of systems during FY 2009 with "critical" (SANS Top 20) vulnerabilities identified by the vulnerability scanning program was an impressive .09%. The use of a commercial product (NESSUS) used to manage the Laboratory's vulnerability scanning, proved to be quite powerful as its capabilities were fully utilized this performance period. The software package combined with a very well written locally-developed application enhanced the reporting capability of this metric. The Site Office observed that the new application reports true daily figures and has fewer false positives than the former application (VAM).

It was noted that there are now more static IPs, and the cyber team is more in tune with the history of the IP at any point in time as they know about MAC addresses where the previous utility did not. Daily top-twenty scanning of all systems except specifically excluded machines, and also deep scans of all systems except specifically excluded machines has worked quite well.

Complex software is requiring more time for customization and script writing, and given the limited staff, it could be an increasing challenge to allocate time to critical development.

Measure 8.2.3 – 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 log 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 was consistently maintained below target during this performance period. The Site Office verified 2.7 days during Q1, 3.04 days during Q2, 1.48 days during Q3, and ~2.6 days during Q4. On a monthly basis, the Site Office validated these stats through a mixture of walkthroughs, screen observations, reports, and interviews.

One good process that was observed is that a cyber specialist is forced to look at every alert and categorize it. A critical item to note is that the Laboratory is seeing all data coming in and out of the Laboratory. There was continued in-place patch-delivery under current procedures with no compromises resulting from untimely patch distribution.

Measure 8.2.4 – Effectively manage cyber security enhancement 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 completion of the following Cyber Security enhancements conducted during the reporting period: Extension of Internal Monitoring, Extended deployment of 2-Factor to Selected Workstations, Laptop Encryption System, 2-Factor Authentication and Laptop encryption for FEL sensitive machines, and Additional Intrusion Detection installed on the TJSO Subnet. The Laptop Encryption System, was completed eight months ahead of schedule and the 2-Factor Authentication and Laptop Encryption for FEL Sensitive Machines, was completed four months ahead of schedule.

The sharing of near real-time intrusion detection information via Argonne's Federated Model for Cyber Security is commendable plus. The Laboratory is also aggressively deploying virtual machine technology that will enhance manageability and reduce power consumption respectively. There were no surprises to the DAA regarding progress on these 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 grade of B+ for this objective based upon overall performance and the following:

Measure 8.3.1 – Maintain an effective Security Program.

The Department has determined that the performance on this measure meets 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 and hosted several visits during this performance period including: Alex Turner, FBI Norfolk Special Agent-in-Charge and his senior staff (toured Laboratory locations that could potentially involve sensitive ITAR controlled technology); senior counterintelligence agents from the HQ DOE Office of Intelligence, Naval Criminal Investigative Service, and Navy Intelligence; and tour and meetings with DOE Office of the Inspector General Technology Crimes Section. Additionally the contractor updated its Exporter Registration according to the Arms Export Control Act and International Traffic in Arms Regulations (ITAR Part 122) and conducted a Security Risk Assessment on the Technology Engineering and Development Facility.

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

The Department has determined that the performance on this measure meets expectations. The performance on this measure was determined based on the Contractor completing an internal security requirements review according to the new DOE Office of Science Format Guide for Site Security Plans, a review of the new Safeguards and Security Budget Reference definitions and JSA's contract security requirements and a biennial Safeguards & Security Self-Assessment. Additionally the Contractor received a composite rating of Satisfactory on the 2008 Safeguards and Security Survey Report.

Measure 8.3.3 – Implement corrective actions to address noted deficiencies identified in FY 2008 Security Review.

The Department has determined that the performance on this measure meets expectations. The performance on this measure was determined based on the Contractor implementing corrective actions to address noted deficiencies identified in the FY 2008 Security Review. All corrective actions were completed ahead of the scheduled due date.

Measure 8.3.4 – Control and maintain nuclear materials in accordance with approved Laboratory processes and activities.

The Department has determined that the performance on this measure meets expectations. The performance on this measure was determined based on the Contractor achieving 100% compliance with the approved TJNAF Materials Control and Accountability Program. Additionally chapter 8 of the TJNAF Site Security Plan on Nuclear Materials Control and Accountability was updated and approved by DOE TJSO Manager.

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

The Department has assigned an overall grade of B+ for this objective based upon overall performance and the following:

Measure 8.4.1 – Effectively operate a sensitive information system for the Laboratory's Business Sensitive and Personnel Sensitive information that meets existing and new requirements.

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." During this performance period, the Laboratory completed deployment of the laptop encryption system and deployment of the 2-factor authentication for users working with or accessing sensitive information. With these deployments, the Laboratory completed the FY 2009 plan ahead of schedule. During the third quarter, the Laboratory completed a survey of business systems and updated identification of systems containing PII; this was an update to the survey done as part of the C&A process.

The following activities were conducted to meet reporting and mitigation of IT and information security events: 1) Monthly summary reports to CIRC (and the Site Office) to certify comprehensive reporting; 2) Daily interaction with CIRC operations utilizing the Cyber Operations secure chat server, 3) Various security patches deployed to address CIRC Bulletin notices on vulnerabilities; and 4) use of the Federated Model to exchange firewall block lists with other DOE Laboratories as part of mitigation activities.

Measure 8.4.2 – Meet requirements for reporting and mitigation of IT and information security events.

The IT Division deployed various security patches to address CIRC Bulletin notices on vulnerabilities and made preparations for the expected Conficker worm attack on April 1, 2009. The Laboratory also met the required reporting on preparations made and the status of the Conficker work at the facility. Other Laboratory examples of reporting and mitigation of IT and information security dealt with reporting a case of "infection" by the Sony tracking Trojan (not considered a root compromise), working daily with CIRC operations via the Cyber Ops secure chat server, making monthly summary reports to DOE – Cyber Incidents Response Capability (CIRC) to certify comprehensive reporting. Additional activities performed include updating network scanning, ID signatures, and checking anti-virus definitions deployed on desktops. All preceding events were reported to the Site Office in concert with CIRC.

Measure 8.4.3 – Commitment to strong protection of sensitive information is appropriately demonstrated.

During this period there were no reportable events involving the loss of the Laboratory's Business Sensitive and Personnel Sensitive Information.