Jefferson Lab

September 24, 2010

Mr. Scott Mallette, Acting Site Manager
Thomas Jefferson Site Office
12000 Jefferson Avenue, Suite 14
Newport News, VA 23606

Dear Mr. Mallette,

SUBJECT: JSA FY2010 PEMP Self Evaluation Report

During FY2010, Jefferson Lab delivered forefront science and technology in support of DOE's mission and strategic goals. Scientific output was notable and communicated to the international scientific community through numerous invited talks, and in conferences, workshops and publications in professional journals. Lab management, in conjunction with TJSO, continued to address opportunities for improvement in identified areas of performance. Attention to safety remains the highest priority. Sound management practices and effective lab operations have advanced overall productivity. JSA Corporate and Board have provided oversight and assessment of the lab's science agenda, operations, performance, and provided financial support for value-added initiatives. Notable Outcomes identified and achieved in FY10 are summarized below.

Quality of Science & Technology. Several significant accomplishments highlight JLab's increased visibility as a world-leading provider of innovative scientific output. Experimental Physics successfully obtained ~3/4 of the planned data taking for a series of runs that were conducted in FY10. Experimental results have appeared in several peer reviewed publications and Lab staff and users have actively participated in hundreds of workshops and conferences throughout the U. S. and internationally, increasing the Lab's world-wide recognition. Numerous accolades were received for outstanding developments that are advancing research and development in the scientific community. Five JLab scientists were selected as APS Fellows and the Lab has filled several key leadership roles with candidates who are recognized leaders in their field. The JLab theory group published important new results from lattice QCD on the properties of exotic mesons; the observation of these mesons is a major future goal of the CEBAF 12 GeV upgrade.The SRF Institute at JLab produced new superconducting cavities with world-leading performance in accelerating gradient and Q-value. Ongoing collaborative efforts with other laboratories, universities, medical facilities, U. S. industry, and government agencies have provided opportunities for the Lab to leverage its core capabilities for emerging research directions and have resulted in the development of tools and techniques that have benefitted the Office of Science, Department of Energy and the greater scientific community.

Relevance to DOE Missions and National Needs. JLab's science and technology initiatives are enabling the Lab to advance the current and future misions of DOE and other national programs. JLab is responsible for 10 of 13 SC milestones in Hadronic Physics. The Lab has produced world-leading results in fundamental nuclear science, contributed to U. S. leadership in the international scientific and technical communities, and developed new technologies enabling important applications. These applications

include the world's highest power tunable laser (FEL), brightest source of THz light as well as lasing in the UV range, a recent accomplishment; advanced dectector and imaging technologies (human, plant and animal); production of Boron Nitride Nanotubes (BNNT) with unprecedented qualities; high performance computing; and cryogenics. Emerging areas such as accelerator driven systems related to energy production are also being explored.

Success in Constructing and Operating Research Facilities & Equipment. Progress on the Lab's state-of-the-art construction projects, the 12 GeV Upgrade and the Technology and Engineering Design Facility (TEDF), have remained within cost and schedule. The Utilities Infrastructure Modernization (UIM) Project received CD-1 approval in FY2010 and construction is scheduled to begin late fall FY2011. JLab's 6 GeV research program has operated productively throughout the ongoing construction activities. Safety statistics are on track for meeting the lab established goals, with current DART and TRC rates well below the construction industry average. Incidents and trends are being monitored and promptly addressed.

Effectiveness and Efficiency of Research Program Management. The lab performed solidly against DOE's SC research goals established for FY10. Twelve experiments were successfully conducted with just over 34 weeks of running. Several high profile experiments were conducted during this period (PREx, HAPPEx-III, PVDIS, g9 runs). Jefferson Lab is leveraging its unique capabilities in areas beyond its current research program. Advances in physics, chemistry and biology will rely on advanced accelerator facilities with the capabilities and specifications being developed at Jefferson Lab. The 12 GeV program will carry the lab into to 2020 timeframe, but already research and collaboration is going on regarding an Electron Ion Collider which could be the next nuclear physics machine. Research and Development that will advance the next generation light source is being conducted, and a program of user driven science is being explored for the FEL using current and planned capabilities from the infrared to the ultraviolet.

Leadership, Management and Operations. Completion of the 12 GeV project will expand nuclear physics research horizons and allow breakthrough programs to be launched in three key areas: the experimental investigation of the powerful force fields believed to be responsible for quark confinement; the exploration of the quark and gluon structure of the proton, the neutron, and atomic nuclei at the most basic quantum level; and the search for new physics beyond the Standard Model of nuclear and particle physics. Lab leadership identified several new strategic directions and major initiatives for future science and technology activities aligned with DOE SC goals. Just as the lab did when the original CEBAF began operations, leadership and our scientific community is looking to the science beyond 12 GeV. Building the science case for the Electron Ion Collider, working with other labs and the Office of Science in advanced accelerator technologies and cryogenics that can lower capital and operating costs for research accelerators, advanced plant imaging that can impact use of biofuels, advanced materials using boron nitride nanotubes, and research and development that will advance the next generation light source are all initiatives underway to ensure that Jefferson Lab has a productive and dynamic future. JSA Corporate, through its Board and Committees, have provided guidance and assistance in realizing the scientific potential of the Lab. The Science Council and Operations Committee have been integrally involved in assisting with future directions and initiatives.

Looking Ahead. In FY2011, JLab will continue it's outstanding 6 GeV research program in support of the DOE SC mission and strategic goals; continue it's emphasis on safety during a period of major construction; and make significant progress in implementing the Contractor Assurance System.

Please contact me if you have any questions.

Sincerely,

Joseph L. Scarcello
Chief Financial Officer &
Manager Business Operations

Attachment: FY10 JSA PEMP Self Evaluation

Cc:
Mike Dallas
Wayne Skinner
Jacqueline Bacon
Doelog

FY 2010

October 1, 2009 – September 30, 2010

Performance Evaluation
of
Jefferson Science Associates, LLC

for the
Management and Operations of the
Thomas Jefferson National Accelerator Facility (TJNAF)

Contract No. DE-AC05-06OR623177

TABLE LISTING

Table 1. FY2010 JSA Evaluation Score Calculation

S&T Performance Goal	Numerical Score	Letter Grade	Weight	Weighted Score	Total Score
1.0 Mission Accomplishment	3.96	A	40%	1.58	
2.0 Construction and Operations of User Research Facilities and Equipment	**4.04**	A	40%	**1.62**	
3.0 Science and Technology Research Project/Program Management	**3.95**	A	20%	0.79	
				Total Score	**3.99**
M&O Performance Goal	**Numerical Score**	**Letter Grade**	**Weight**	**Weighted Score**	**Total Score**
4.0 Leadership and Stewardship of the Laboratory	**3.60**	A-	20%	0.72	
5.0 Integrated Safety, Health, and Environmental Protection	3.40	B+	25%	0.85	
6.0 Business Systems	3.48	A-	20%	0.70	
7.0 Operating, Maintaining, and Renewing Facility and Infrastructure Portfolio	3.66	A-	20%	0.73	
8.0 Integrated Safeguards and Security Management and Emergency Management Systems	**3.53**	A-	15%	0.53	
				Total Score	3.53

Table 2. FY2010 JSA Letter Grade Scale/Numeric Score Scale

Total Score	**4.3-4.1**	**4.0-3.8**	**3.7-3.5**	**3.4-3.1**	**3.0-2.8**	**2.7-2.5**	**2.4-2.1**	**2.0-1.8**	**1.7-1.1**	**1.0-0.8**	**0.7-0**
Final Grade	A+	A	A-	B+	B	B-	C+	C	C-	D	F

Table 3. Final Percentage of Performance-Based Fee Earned Determination

Overall Fee Determination	
Percent S&T Fee Earned from Table C	97%
M&O Fee Multiplier from Table C	X 100%
Overall Earned Percentage of Performance-Based Fee	97%

GOAL 1 MISSION ACCOMPLISHMENT **EXPECTED SCORE: A**

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
1.0 Efficient and Effective Mission Accomplishment					
1.1 Impact	A+	4.1	35%	1.44	
1.2 Leadership	A	4.0	25%	1.00	
1.3 Output	A	3.8	25%	0.95	
1.4 Delivery	A	3.8	15%	0.57	
Performance Goal 1.0 Total					3.96

Table 4. Goal 1.0 Performance Rating Development

Several new and and ongoing collaborations with industry and scientific institutions including NASA Johnson Space Center (JSC); the Institute of High Energy Physics (IHEP); the Institut de Recherches sur les lois Fondamentales de l'Univers at Saclay, France (IRFU); Duke University, and Dilon Technologies have produced results that are globally significant. JLab staff and users have participated in ~ 150 workshops and conferences during this performance period, serving on International Advisory Committees, Organizing committtees, and as members of scientific review panels. The Lab Director was invited to provide testimony on "Investigating the Nature of Matter, Energy, Space, and Time" before the U.S. House of Representatives Subcommittee on Energy and Environment of the House Committee on Science and Technology. FY10 Publication statistics through August 31, 2010 included 88 Journal contributions, 8 Theses, and 167 Invited Talks. Twelve proposals were received for PAC35, the primary focus experiments to be conducted in the 12 Gev era, and six conditionally approved proposals were presented at PAC36, which was a continuation of PAC35. Significant awards received in FY10 include five APS Fellows (December 2009); DOE Early Career Research Program Grant (January 2010); APS 2010 Outstanding Referee (January 2010); First Annual Award in Theoretical Physics of the Joint Institute for Nuclear Research (February 19, 2010); Old Dominion University College of Sciences Distinquished Research Award (April 2010); Institute of Physics Fellow – London (June 2010); and DOE SC Outstanding Mentor Award (June 2010). JLab received a 3-year $600K Scientific Focus Area grant from BER to develop a specialized plant imaging system; joining a very small group of laboratories undertaking this new research direction.

GOAL 2 CONSTRUCTION/OPERATION OF FACILITIES EXPECTED SCORE: A

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
2.0 Provide for Efficient and Effective Design, Fabrication, Construction and Operation of Facilities					
2.1 Provide Effective Facility Design(s)	N/A	N/A	0%	N/A	
2.2 Provide for the Effective and Efficient Construction of Facilities and/or Fabrication of Components	A+	4.1	**35%**	**1.44**	
2.3 Provide Efficient and Effective Operation of Facilities	A	4.0	**50%**	**2.00**	
2.4 Utilization of Facility to Grow and Support the Laboratory's Research Base and External User Community	A	4.0	15%	0.60	
				Performance Goal 2.0 Total	**4.04**

Table 5. Goal 2.0 Performance Rating Development

NOTABLE OUTCOME 2.3 Reduce Cost of CEBAF Operations:

JLab implemented numerous initiatives that reduced costs and controlled cost growth with the emphasis on maximizing science. Examples include negotiating low utility rates with the Commonwealth of Virginia; geothermal heating and cooling; demand reduction initiative with Dominion Power; LEED GOLD standards in all new construction; and implementing CAS which will reduce directives and requirements. These ongoing efforts to control costs and maximize scientific productivity included improving scientific capability to maximize output (enhance apparatus reliability and increase concurrent experiments); application of continuous process improvements in all facility operations (energy and cryogenics improvements and pursue leading down time causes); and modernizing business processes/management systems to find efficiencies to reinvest in science (integrate support services – matrix management and activity based planning/financial management). Significant savings realized in salary and fringe benefits, power and utilities, and infrastructure modernization and maintenance could potentially save the Lab ~ $3.5M annually.

ADDITIONAL HIGHLIGHTS:

The 12 GeV Upgrade Project made good overall progress in FY10. As of August 31st, the contingency level including management reserve is ~43% (percentage of ETC). Construction is ~24% complete. $105M of construction funds has been obligated including $4.6M of out year contractual phases. An independent project review, led by the Director of SC Office of Project Assessment (OPA), held in September, 2010 concluded that the upgrade is progressing well. Forty-nine major procurements (>$500K) are being actively worked, of which 39 have been awarded to date. Civil construction is 44% complete. Accelerator tunnel installation tasks were successfully accomplished during the scheduled Summer down, and detailed plans are in place for significant installation work during the 6-month down scheduled to start in May 2011. Cost Performance Index at the end of August was 0.94 and Schedule Performance Index was 0.97; on average, the project is less than a month behind schedule.

There were a total of 12 experiments conducted this fiscal year; three in Hall A (HAPPEX-III, PVDIS, PREx), seven in Hall B (the eg6 run group - 2 experiments, and the g9 Frost run group - 5 experiments),

and two in Hall C (HKS-HES completion and QWeak installation and commissioning). The FY10 runs were generally successful. A number of runs in Halls A and B (eg1-dvcs, eg6, HAPPEx-III, PVDIS, HKS) obtained ~3/4 of the anticipated data; PREx was limited to ~40% of planned data due to radiation damage induced problems. Finally, the commissioning of QWeak could not be fully completed due to problems with the high power cryotarget.

FY10 DOE Metric Goals for the year through September 31st include Delivered Research Hours of 4,487, Reliability of >89% and 35 weeks of Operation for the accelerator and integrated delivered beam used effectively of 80% in each of the three experimental halls. **FY10 p**erformance **results** include 4,**772** Delivered Research Hours and a reliablity of 91% (both exceeding the goals). Weeks of operation were **34.7**. The Hall Performance include**d** integrated delivered beam used effectively of **65**%, 81% and **58**% in Halls A, B, and C respectively, reflecting the problems referenced above.

GOAL 3 SCIENCE & TECHNOLOGY PROGRAM MANAGEMENT EXPECTED SCORE: A

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
3.0 Provide Effective and Efficient Science and Technology Program Management					
3.1 Effective and Efficient Stewardship	A	4.0	40%	1.60	
3.2 Project/Program Planning and Management	A	3.9	**35**%	1.**37**	
3.3 Communications and Responsiveness	A	3.9	**25**%	0.**98**	
				Performance Goal 3.0 Total	**3.95**

Table 6. Goal 3.0 Performance Rating Development

NOTABLE OUTCOME 3.1 Work With the Community to Develop the Case for EIC:
The vision for EIC includes JLab engagement in R&D to develop accelerator and detector technology enabling a very high luminosity, polarized EIC. The Electron-Ion Collider Advisory Committee (EICAC) met at JLab in the Fall of FY10 and initiatives discussed included the development of the Medium Energy Electron Ion Collider (MEIC) and support for Accelerator R&D. JSA provided financial support for several user workshops that were conducted during this period and significant progress has been made on the white paper that is being produced to document the physics case for an Electron Ion Collider (EIC) at JLab. Some drafts will be available during the ongoing Institute for Nuclear Theory program related to the EIC physics; a full draft is anticipated by the end of CY2010.

ADDITIONAL HIGHLIGHTS:
Accelerator Operations completed the C50 program; ten upgraded cryomodules have been installed over the past five years in order to improve the energy reach of the CEBAF accelerator. SRF group exceeded the ILC mid-term goal of 50% yield in 9-cell cavities, continuing to provide world-class data to raise the global average yield. Additional activities included: (1) processed eight in-house pre-series upgrade 7-cell cavities using the JLab BCP+EP process with 100% yield considerably above the upgrade specification; (2) produced high quality thin-film samples of niobium with bulk-like properties using an ECR based energetic deposition technique; (3) developed a novel deflecting cavity prototype for use in storage rings; and (4) qualified a 5-cell 750 MHz cavity prototype suitable for very high power FEL's. In anticipation of benefits to 12 GeV, SRF staff members took advantage of the availability of a few spare prototype SRF cavities and successfully developed a state-of-the art chemical processing protocol suitable for the CEBAF cavities. The process, which is more streamlined and controlled than the standard ILC process, has so far yielded comparable performance sought by that High Energy Physics pulsed-beam application—well beyond what is useful in CEBAF. Center for Injector Studies (CIS) group pushed to higher bias voltage; 100kV and making good progress. Inverted gun 1 recently biased to 150kV without field emission, with successful beam delivery at 130kV in support of the Qweak experiment. Inverted Gun 2 biased to 225kV and operated at 200kV, with small (nA) levels of field emission. CIS group built, commissioned, and employed the Two-Wien spin flipper in support of PRex experiment, to help cancel out the negative effects of hard-to-measure helicity correlated spot size variations. CASA group

developed electromagnetic design and particle tracking of advanced RF deflecting systems. CASA also advanced on the design and development work supporting the Electron-Ion Collider.

The Free-Electron Laser (FEL) had a very successful year. After installation of a re-furbished cryomodule with higher gradient, a 135 MeV electron beam was successfully accelerated, allowing lasing in the fundamental at wavelengths as short as 630 nanometers using the infrared wiggler. Further, there were several additional improvements and changes. The drive laser pulse length was adjusted to produce longer bunches, which substantially improved the phase stability. The M55 diagnostic was improved and re-commissioned, and there were significant results in getting the Genesis/OPC code and Medusa/OPC codes running at the Lab. These enabled lasing to be established that could be used for beam studies and user tests. The most significant achievement, however, in FY10 was the completion of the second electron beamline, intended to operate in the ultra-violet in the fundamental. This was completed after three years of assembly, installation and checkout. In the Summer, electron beam was transported through this new ultraviolet beamline for the first time and lasing was quickly established. This FEL exceeds expectations from models, with high gain and 100's of Watts of power down below 400 nm. This means that not only is it the brightest ultraviolet laser in the world, but that the harmonics operate in a new region of the spectrum for lasers at photon energies around 10 eV. This is an important region for physics and chemistry, and the FEL is hundreds of times brighter than the other accelerator-based synchrotron light sources. We thus anticipate an additional strong user demand.

GOAL 4 LEADERSHIP & STEWARDSHIP OF THE LAB EXPECTED SCORE A-

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
4.0 Provide Sound and Competent Leadership and Stewardship of the Laboratory					
4.1 Provide a Distinctive Vision for the Laboratory and an Effective Plan for Accomplishment of the Vision.	A-	3.5	**33%**	**1.16**	
4.2 Provide for Responsive and Accountable Leadership throughout the Organization	A-	3.5	**33%**	**1.16**	
4.3 Provide Efficient and Effective Corporate Support	A	3.8	34%	1.29	
				Performance Goal 4.0 Total	**3.60**

Table 7. Goal 4.0 Performance Rating Development

NOTABLE OUTCOME 4.1 Develop A Strategic Plan for Future S&T Activities:
JLab presented its 10-year strategic plan to DOE SC officials on April 1, 2010. Positive feedback was provided to the JLab team on managing its projects and being well-positioned for an outstanding scientific program well into the next decade. A final plan, incorporating DOE comments, was submitted on June 22, 2010.

NOTABLE OUTCOME 4.1 Provide a Strategy for the Lab's WFO Program which Aligns with SC, DOE, and JLab Goals:
As briefed to DOE in June 2010, our Department of Energy Laboratory Plan defined the Lab's WFO Program which aligns with SC, DOE, and JLab Goals. Three new strategic directions were identified for this performance period – ELIC, FEL INP, and JLAMP. Although JLAMP was not approved by DOE, the FEL team was encouraged to submit individual proposals in seven areas of accelerator/optics R&D associated with future light sources; opening the way for JLab to develop the NGLS baseline approach. Productive dialogue regarding BES support is underway.

NOTABLE OUTCOME 4.1 Demonstrate a Plan for Dealing with Successful /Unsuccessful Bid to Expand Navy's WFO Program:
The Navy R&D program is transitioning to industry with JLab supporting advanced R&D at a lower level of effort than in the past. However, ONR has committed to a continuing program of support for the JLab FEL group. JLab activities for FY10 involved hardware development and measurements of accelerator and FEL performance. Support was also provided for the Navy INP contractors which was program specific and focused on the design of the INP FEL. Future specific tasks will be outlined in the Statement of Work (SOW) with Boeing, the contractor who won the INP bid. Funding to a JLab/Industry CRADA will be released soon after the SOW agreement is complete.

NOTABLE OUTCOME 4.2 Define and Implement the Contractor Assurance System:
JLab is in the process of defining and implementing the Contractor Assurance System. As part of this process, ongoing dialogue has been initiated between Lab management, SURA, and the TJSO regarding

the draft CAS Program Description and details of the program. Feedback has led to the development of a final document currently under review by corporate owners. The JSA Ops Committee has been briefed on the CAS system and has received formal risk and performance reports from programmatic and administrative areas under their purview. The Board is planning a meeting dedicated to CAS implementation and assurance. A Corporate Dashboard for the JSA Board, with access also provided to the TJSO is under development and is expected to be running in time for the next JSA full Board meeting. JLab's Chief Operating Officer played a major leadership role in implementing CAS in the Office of Science.

NOTABLE OUTCOME 4.3 Fill All Key Leadership Positions in a Timely Manner:
Key leadership positions filled in FY10 include the Deputy Director for Science and Technology and the Associate Director for Theoretical and Computational Physics. Additional personnel changes include a new Deputy AD for Accelerators, a 12 GeV Project APM Physics, and a new Hall D Leader.

Governance Responsibilities: During July and August, the JSA Board, its Committees, and owners continued to provide efficient and effective value-added support for the Lab including responsible leadership and accountability for Lab performance

- Corporate review is underway for the proposed CAS program description. The Board and owners, through the Board Liaison, has provided input for the governance responsibilities related to the CAS program for JLab. Review and approval by the owners is anticipated early FY2011. This supports the Board's resolution acknowledging its responsibility to have a governance structure to enable reasonable assurance that its management systems are executed and implemented effectively and efficiently through CAS.
- The Operations Committee and the Safety & Risk Management Committee met to review operational status of the Lab with particular attention to the risk analyses in the areas of: major program activities, facility and logistics, environment, safety, health and quality, budget, acquisition management, human resources, cyber security, and technology transfer. The committees discussed its governance responsibilities and the progress made by the Lab on CAS program implementation. Particular attention was paid to the Lab's safety performance. The TJSO met with the committees to share information and concerns and discuss the Lab's operational and performance status.
- During July and August, and all previous months, the Lab Director provided monthly reports to the Board apprising of current Lab status, plans, and any potential issues. Most importantly, the Director has direct access to members of the Board at all times and stays in close contact with the Board Vice-Chairs on any potential issues that warrant corporate or Board attention. The corporate owners hold monthly teleconference meetings with senior laboratory management to discuss Lab matters.
- During the year SURA's Chief of Strategic Services met with the TJSO to discuss board, committee, and corporate activities; JSA Initiatives Fund Program status; and relations and outreach activities. These regular meetings afford the opportunity for the TJSO and the JSA owners to keep apprised of performance of the Lab on its contract.
- JSA corporate attended the facility operations review, heard the Lab's presentations addressing the status of the Lab's operations in support of its mission including resources in place and planned to optimize its program, capital investments, and level of operations and productivity. JSA corporate

received the initial report of the committee and is working with the Lab to address findings and observations.

- The Technology Transfer Enhancement Program team, comprised of members from both SURA and CSC corporate along with JLab staff members, continues its agenda initiated in October including: creating new training materials and training groups across the Lab, providing online applications for CRADA's, WFO's and MOU's, and exploring the use of an external system for intellectual property. The Team plans to issue a Request for Information for marketing support in September.
- The JSA Science Council met June 25, 2010 and received reports on the key areas of the Jefferson Lab science program.

Initiatives Fund Program: JSA owners, SURA and CSC, continued the JSA Initiatives Fund to support programs, initiatives, and activities that further the scientific outreach, and promote the science, education and technology missions of Jefferson Lab in ways that complement its basic and applied research focus. Initiatives Fund awards are for those projects that benefit the Lab user community and that leverage commitments of others. The Initiatives Fund Program is managed and administered by the SURA Office of Strategic Services for the JSA Programs Committee.

- The JSA Programs Committee chair appointed an evaluation committee including Programs Committee members, user representatives, JLab Deputy for Science, and the SURA Chief of Strategic Services, to serve with her to evaluate 31 proposals received in response to the call for proposal issued in June. An evaluation will also be conducted of five Initiatives Fund projects which have been supported historically by the owners. Recommendations for award will be made in late October with award notices planned for early November.
- As agreed upon with the TJSO, a year-end report will be provided by October 31 with details regarding the FY2010 Initiatives Fund Program, including several projects which were implemented in July and August. Eighteen of the 41 projects in the current year program will be carried over the fiscal year (FY2011 completion dates). A complete accounting will be provided to the TJSO with the annual program report.

Relations Activities: As part of its contractual commitments during this period, SURA continued to provide for a relations and outreach program that supports science in general and the Lab and its mission in particular.

- JSA corporate joined the Lab to thank former Newport News Mayor Joe Frank for his significant contributions to the Lab and to science and education in general during his decades of public service. The City's support, both monetary and in-kind, has contributed to the current strong presence and reputation of the Lab in the region.
- The JSA President/JLab Director met with Newport News Mayor McKinley Price providing him background information about the Lab and its relationship with the City, a relationship which he expressed much interest in continuing. The Mayor participated in the TEDF groundbreaking, giving his first address to the Lab, and noting the importance of the science and technology missions of the Lab to the local economy and pledging his continued support.
- The JSA owners joined the Lab for the groundbreaking for the Technology and Engineering Development Facility, delivering JSA's appreciation for the support from the federal (DOE), state

and local communities which played significant roles in bringing to fruition this key component of the Lab infrastructure that will align with the Lab's science program and technical expertise.

- JSA Corporate joined the Lab for a briefing with the Federal Reserve Bank of Richmond to familiarize them with the Lab, its science and technology programs, and particularly its impact and effect on the economy of the local and regional communities. JLab was among several local organizations and business visited by the Federal Reserve Bank including Northrop Grumman, Canon, NASA, and William and Mary's Virginia Institute of Marine Science.
- Members of the Relations and Outreach Committee and SURA's lobbyists will be discussing in September the relations strategy following the congressional mark-ups of the FY2011 appropriations bill which is below the President's budget request for the Office of Science. Omnibus planning is underway to address the impact of the likely continuing resolution for a period of time in the new fiscal year.
- SURA continued its active involvement with the Task Force on American Innovation urging reauthorization of the America Competes legislation first enacted in 2007, which provided a blueprint for increasing federal commitment to basic research, strengthening STEM education, and fostering a business environment to drive innovation. These initiatives were the outcome of recommendations of the National Academies panel's Rising Above the Gathering Storm, a report that pointed to the need for a coordinated federal effort to bolster U.S. competitiveness in a global economy.

Applied Insight and Skillport: As part of its contractual commitment, CSC continued to provide a suite of technology tools and business management processes that integrate lab management data and provide ongoing insight into lab performance through a secure web-based portal and for a distance learning program for Lab-related topics.

- The corporate owner, CSC, provided 225 seats in its Skillport program, of which 203 have been used to date. Skillport training modules, including nine on-line courses and an Integration class, have been incorporated into the Lab's Project Management & Integrated Planning Qualification Training Program. Thus far, 45 staff members have completed the program and eleven staff members are currently enrolled.
- The corporate owner, CSC, continued to provide the Insight platform which is effectively working as the dashboard to the Lab's data warehouse and serves as the backbone for information sharing. The Relevant information is continually posted to Insight, enhancing communications internally, and with DOE, users, and external parties interested in doing business with the Lab.

Other Owner Contributions

- The corporate owner, CSC, cyber security team conducted off-site and on-site penetration testing of the JLab web servers and other servers and networks, evaluating potential compromises to the JLab system. The owner will participate in a sensitive information review of the system in September.
- The corporate owner, CSC, is working with the Internal Auditor to render an independent assessment satisfying the requirements of auditing standards. An independent assessment is underway to review JLab's internal audit's self assessment, scheduled for completion by the end of the calendar year.

- The corporate owner, SURA, continued to make available the 42-room Residence Facility, owned, managed and operated by SURA, for on-site accommodations for Lab researchers, guests, collaborators, and vendors. The Facility is operated on a break-even basis, with SURA subsidizing the operations in order to maintain an affordable and competitive rate schedule that is well below the GSA per diem for lodging. During this period, in addition to researchers and JLab meeting participants, students in the HUGS (Hampton University), REU (Old Dominion University), and SULI (DOE) education programs used the Residence Facility during their participation at the Lab.

ADDITIONAL HIGHLIGHTS:

JLab's Open House was successfully conducted on May 1, 2010, with an estimated 7,000 visitors in attendance including local citizens and groups from local, regional, and international (high school exchange students from Russia) schools and universities. More than 20 outside organizations presented exhibits or demonstrations, a record high for outside participation that enhanced programming and attracted a new audience to the event.

FY10 Science Education highlights through August 31st include interactions with 11,435 students (35,777 hours) and 2,390 teachers (9,369 hours). Science Education successfully organized and hosted the Virginia Regional Science Bowls in February and March with 170 middle and high school students, 60 teachers, and ~200 family members in attendance. Six Science Series lectures were conducted in this period. Educational outreach activities included hosting the 3rd Annual JSA/JLab Teachers' Night for Middle School Science Teachers on April 21st which had more than 150 teachers in attendance. The Science Education group was honored with the "Community Partnership" award from the Virginia Association of Science Teachers (VAST), Inc., in recognition for their work organizing the VAST Professional Development Institute Conferences.

GOAL 5 INTEGRATED SAFETY, HEALTH, AND ENVIRONMENTAL PROTECTION
EXPECTED SCORE B+

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
5.0 Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health, and Environmental Protection					
5.1 Provide a Work Environment that Protects Workers and the Environment	B+	3.4	20%	0.68	
5.2 Provide Efficient and Effective Implementation of Integrated Safety, Health and Environment Management	B+	3.4	70%	2.38	
5.3 Provide Efficient and Effective Waste Management, Minimization, and Pollution Prevention	B+	3.4	10%	0.34	
Performance Goal 5.0 Total					3.40

Table 8. Goal 5.0 Performance Rating Development

Notable Outcome 5A Workplace, Health and Safety Trends:
The Laboratory has experienced more TRC and DART cases this fiscal year compared to last; however, this increase is related to some degree to the added risk and labor-hours from the dramatic expansion in construction activities. Each case was thoroughly investigated and lessons learned were shared with all JLab departments. The Associate Director – ESH&Q conducted an analysis of all recordable injuries that occurred from October 1, 2008 to March 31, 2010. All managers and supervisors received this analysis to use in "tool box" or other safety meetings; it was posted on the ESH&Q website as well. The Laboratory Director discussed these trends and actions necessary to improve workplace safety and awareness during the September 7, 2010 All-Hands-meeting. The Director emphasized that every manager and supervisor is ultimately responsible for the safety of his/her employees.

A healthy trend of continuing to report events, issues, and incidents continued in FY10. In the first 11 months, 36 injuries and 22 Notable Events were reported to Medical Services; seventeen of the Notable Events were also reported to DOE through the CAIRS/ORPS database. All were investigated and the Notable Events were subjected to a causal analysis to determine the causal factors and appropriate corrective actions. Sixteen Unreviewed Safety Issues were identified, all of which were investigated and resolved. Over 800 inspections were performed by the Safety Wardens and over 1100 Safety Observations of work being performed were conducted, including 374 observations of subcontracted work activities.

All of the data resulting from these activities were subjected to analysis for trends that required management attention and action. The trends were also discussed with employees in various settings, such as MCC and FEL morning meetings, committee meetings, Safety Warden Meetings, staff meetings, etc. Examples of improvement actions taken as a result of trending activities include:

- Reviewing/revising the Accelerator Safety Envelope to improve clarity,
- Performance of personal protective equipment (PPE) inspections of work areas to assure PPE requirements are identified and posted,
- Streamlining of safety data to allow for improved trending,
- Development of hand safety training, in some cases tailored to the organization, and
- Revitalization of the Safety Observation training through revision of STOP training, including development of a refresher training and training for contract employees

There were a number of events involving striking underground utilities while conducting excavation activities over the last 12 months. As part of the quarterly trending exercise, these events were examined in total and determined that they warranted reporting in the ORPS database as a recurring issue. A causal analysis was performed and corrective actions identified. The corrective actions tied to this recurrent ORPS have been classified in the JLab CATS system as external (DOE) commitments, which require TJSO approval for closure of these findings in CATS. Additional documentation can be found in the ISMS Effectiveness Review submitted to TJSO on August 6, 2010. (https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-31269/MSA%20Report%20-%20-%202010%20ISMS%20Effectiveness%20Review.pdf).

Notable Outcome 5B Safety and Health (S&H) Performance:
There has been an approximate ten-fold increase in the amount of construction during the fiscal year, affecting virtually all Lab operations. At any time up to five major construction projects were underway at the facility. The Lab instituted monitored subcontractors performance for the purpose of detecting trends and mitigating recurrence. Furthermore, the Laboratory has taken steps to better train and orient the influx of construction contractors, while also improving the safety skills of SOTR's and ES&H staff through periodic training on construction safety topics. All performed well, consistent with ISMS principles and core functions. As a result, only two recordable injuries were reported by subcontractor employees in FY10, one of which was a DART case. This translates to a TRC rate of ~1.8 and a DART case rate of ~0.9. The construction industry averages as reported by the Bureau of Labor Statistics are 4.7 and 2.5, respectively. Additional documentation can be found in the ISMS Effectiveness Review submitted to TJSO on August 6, 2010.

Notable Outcome 5C Develop a Risk-Based Assessment Identification Process and Begin Implementation in FY10:
The Risk-Based Assessment planning process was developed and tested on ESH&Q topics when developing the FY10 Integrated Assessment schedule. This will help assure that the assessment resources are devoted to the areas of the greatest risk to the Laboratory. Those ESH&Q topics identified as "High" risk are placed on a 3-year assessment cycle. Ten ES&H topics were determined to be "high" hazard. The "High" risk topics that received some form of assessment this year include: chemical safety, electrical safety, material handling, and pressure systems. The list was reviewed again in June 2010 in preparation for developing the FY2011 assessment schedule. This process is being expanded to incorporate other JLab business systems for the FY2011 schedule.

As discussed in the ISMS Effectiveness Review submitted to TJSO in early August, it appears that a number of Jefferson Lab internal Management Self Assessment (MSAs) took a long time to finalize the report (2-3 months). There is no timeline established in the MSA procedure, however receiving the information in a timely fashion would be beneficial to the ISMS. This is an area of improvement in FY11.

Additional documentation can be found in the ISMS Effectiveness Review submitted to TJSO on August 6, 2010.

Notable Outcome 5D Demonstrate that ES&H vulnerabilities are addressed through the Lab's Issues Management Process:
Issues entered into CATS with an assigned Significance Level of 4 require an effectiveness review of associated corrective actions. There were no issues of this magnitude reported in FY10. Significance Level 3 issues require independent verification of completion; there were seven such issues reported in FY10. Two of the issues resulted from injuries, one resulted from a struck utility, and four resulted from employee-identified issues. All have been addressed by the appropriate line manager. Those issues whose corrective actions have been completed were subjected to independent verification of the actions by the QA/CI Department. Other Effectiveness Reviews conducted this fiscal year includes the ISMS program, the trending analysis program, and three reviews of the corrective action plans associated with the 2008 DOE-HSS Assessment. There is one more Effectiveness Review scheduled in September 2010.

Notable Outcome 5E Strengthen the Environmental Management System (EMS):
Jefferson Lab clarified its criteria for defining Significant Aspect (SA), resulting in the reduction of the number of SAs from more than 90 to five. From this point, the EMS Committee identified four lab-wide EMS Objectives and 22 EMS Targets (improvement actions). Seventeen targets are completed thus far, others are on track to be completed this FY.

The Erosion and Sediment Control (E&SC) aspects of Stormwater Pollution Prevention have been strengthened this year. Two ESH&Q staff received training in the Virginia E&SC standards. These staff teamed with the Facilities Management staff to conduct construction site walkthroughs and to share their observations. The observations are provided to the SOTRs and are tracked at each sites SWPP log in the field. The ESH&Q personnel confirm action has been taken in response to their observations during a subsequent walkthrough.

A few events occurred in FY10 that resulted in interactions with environmental regulators. In one instance the 12 GeV project had an unauthorized discharge of groundwater to the storm water channel on 12 GeV site. This was corrected and reported in compliance with the lab's stormwater permit. In the second a warning letter was received by DEQ regarding missed sampling of 1 monitoring well which had been damaged due to construction. Both events were rigorously investigated through the Lab's Notable Event process. Causal factors were identified and corrective action put in place to prevent recurrence. Due to the quick notification to the regulators and implementation the relationship with regulators is believed to be strong. When it was discovered that a subcontractor was conducting work close to a wetland, the work was immediately halted while the event was investigated and the Corps of Engineers was contacted. The Lab conducted a wetland delineation, which determined that the work was outside the wetland. The Corps concurred and work was restarted. During this period, JLab received the FY09 DOE SC "Noteworthy Practices" in Environmental Stewardship Award and the FY09 DOE SC Best in Class Environmental Sustainability Award.

GOAL 6 BUSINESS SYSTEMS **EXPECTED SCORE A-**

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
6.0 Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of the Laboratory Mission(s)					
6.1 Provide an Efficient, Effective, and Responsive Financial Management System(s)	B+	3.4	**15%**	**0.51**	
6.2 Provide an Efficient, Effective, and Responsive Acquisition Management System	B+	3.4	15%	0.51	
6.3 Provide an Efficient, Effective, and Responsive Property Management System	B+	3.4	15%	0.51	
6.4 Provide an Efficient, Effective, and Responsive Human Resources Management System	B+	3.4	**15%**	**0.51**	
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+	3.4	**25%**	**0.85**	
6.6 Demonstrate Effective Transfer of Technology and Commercialization of Intellectual Assets	A	3.9	15%	0.59	
				Performance Goal 6.0 Total	3.48

Table 9. Goal 6.0 Performance Rating Development

Notable Outcome 6A Effective Financial Management System:
There were no material findings or reportable conditions as result of any internal or external audits, or reviews conducted during the year. All planned A-123 reviews of internal controls were completed with no material findings or reportable conditions; assurance letters to the DOE were submitted on time with no material findings or reportable conditions to report. Finance, Budget, and Payroll functions were efficient, effective and responsive to internal and external customer requirements. Further, JSA successfully completed all planned and ad hoc budget calls presented during the year as well as all ARRA reporting to ONP and to Recovery. Gov has been timely and accurate.

Notable Outcome 6B Procurement Balanced Scorecard = 89%:
The Procurement Balanced Scorecard total through August 31, 2010 is 89%. Challenges experienced on our total score were in Corporate Citizenship (small business goal performance), specifically HubZone and Service-Disabled achievements (details provided in Notable Outcome 6C); Average Cycle Time for Awards (procurement cycle time for procurements) >$100,000, and Cost Efficiency of Purchase Operations (purchasing efficiency).The Lab's purchasing cost/efficiency of $.019 compares favorably

with DOE/NNSA benchmarks, which is currently on the low end of the goal and will normalize when the influx of ARRA and SLI project dollars subsides. Performance in these three areas have been affected by the large influx of dollars and requirements from ARRA as well as SLI projects, which is expected to continue into FY11. Procurement continues to outreach to small business in efforts to attain the goals and efficiency of purchasing operations.

Notable Outcome 6C Achieve All Small Business Goals:
Through **September 30**, 2010, the Small Business Program goals have been exceeded in the categories of Small Business (Goal 36%, Actual **49.3**%), Small Woman Owned (Goal 5%, Actual **9.2**%), and Disadvantaged (Goal 5%, Actual **7.8** %); however, JSA is not currently meeting the goals for Service Disabled (Goal 3%, Actual **1.1** %) and HubZone (Goal 3%, Actual **1.1**%). Despite best efforts in Small Business Outreach efforts, the influx of ARRA and SLI dollars for complex procurement of services and equipment and A&E and specialty construction projects have presented a significant challenge to our Small Business Program. The trend through August on performance against Small Business Goals is expected to continue through FY 10 and into FY 11 until the procurement in support of these projects begin to normalize. JSA is currently processing a new mentor protégé agreement in FY11 with a small disadvantaged business firm to provide contract labor personnel for JLab and to develop an online timesheet reporting system for contract personnel.

Notable Outcome 6D Property Balanced Scorecard ≥ 93:
The Property Balanced Scorecard total through August 31, 2010 is 94.1%. Most elements of the balanced scorecard have been exceeded thus far in FY10 as noted by the following results: Internal Customer Satisfaction (Goal ≥ 80%, Actual 100%); Equipment Inventory (Goal 98%, Actual 99.81%); Sensitive Property Inventory (Goal 98%, Actual 99.78%); High Risk Property Inventory (Goal 100%, Actual 100%); Annual Inventory of Stockroom Items (Goal 1% variance, Actual 0.011%); Sensitive/High Risk Property Recorded in Database within 15 days (Sensitive Property Goal 98%, High Risk Property Goal 100%, Actual 59%); Accountable Equipment Recorded within 30 days (Goal 98%, Actual 100%); Motor Vehicle Utilization Standards (Goal 94%, Actual 95.2%); Property Utilization – Non Motor Vehicle Asset utilization (100% of acquisition cost recorded); Review and Improve Property Management System (corrective action plan developed for two processes, scheduled items will be completed); Property Disposal Effectiveness (Goal 90% of 5-year average, Actual 111%); and Property Disposal – Sale of Excess Property (Goal 90% within 60 days, Actual 75%). The low percentage achieved for Sensitive/High Risk Property recorded within 15 days is due to the sensitive nature of the property received; farm computers were stored in a secure area and property tags were installed and entered into the property system when the computers were unboxed and installed in computer racks in the computer center. The equipment was maintained in a secure area and installation was delayed, therefore the property could not be entered within the 15 day timeframe.

Notable Outcome 6E Enhance Workforce Diversity:
Throughout this performance period, there were many HR and Lab-wide initiatives that demonstrated our commitment to a more inclusive and diverse work force. Among the most notable was attendance at 14 job and virtual career fairs that involved college/universities as well as Veterans Affairs and Virginia Employment Commission events. These events have provided JSA with the opportunity to create visibility and improve marketing outreach with prospective female and minority employees.

Additionally, the Lab has created a Diversity Web Page and embraced social networking to assist with recruiting a more diverse population by using Face Book and Twitter as well as live chats with a recruiter.

During the fiscal year, JLab partnered with Thomas Nelson Community College (TNCC) through their Science Technology Engineering and Math (STEM) program to provide internships for two students, including one female. As a result, one student has asked to return as an intern during the upcoming school year. Additional outreach activities included the Student Co-Op Program which enrolled three undergraduate engineering students--two females and one minority. The Lab also created the JSA Research Assistantship Program with SURA Universities which provides opportunities for undergraduate minority students pursuing degrees in Physics to work on projects that are part of the JLab research program. One minority male student from George Washington University was awarded this opportunity in the summer of 2010. Such activities are providing the Lab with a future pipeline of possible talent in the out years.

JLab has also been active in the national effort to increase female representation in science and engineering. In the Fall JSA hosted the first Jefferson Lab Women in Science & Engineering (JWISE) Workshop. This event included a variety of speakers on a range of topics facing women & minorities in today's workplace and just recently, the Director received a report with recommendations from workshop committee participants. HR, the Director and management are considering the implementation of many of these recommendations during the coming fiscal year. During the third quarter, CSC, one of JSA's corporate partners, held a meeting with JLab staff members to share diversity best practices. A healthy exchange of ideas occurred and this partnership will continue to be leveraged going forward. A Mentor Training Program was established in the Spring and presented to the mentors/supervisors of our Co-Op and intern students. The Program will be broadened in the upcoming fiscal year to provide mentorships to employees throughout the Lab. Finally, the Lab has joined two other labs in sending five employees to the University of Chicago's Strategic Laboratory Leadership Program; this first cohort included two women. The actions highlighted throughout this summary represent a first step in a long-term and continuous diversity effort.

Notable Outcome 6F Demonstrate Adequacy and Effectiveness of the Internal Audit Program:
The Internal Audit program is being effectively managed in that audits are being performed in accordance with the approved Audit Plan. No material findings or reportable conditions were noted in FY10 to date. For the FY10 OMB Circular A-123 internal controls assessment, the evaluation of Entity Controls was submitted on time by June 1, 2010. The testing of key controls commenced in June 2010 and was completed July 16, 2010. Internal Audit work on A-123 reviews supported the timely issuance of its FY10 Assurance of Internal Controls on July 30, 2010 to TJSO. At the request of QA Management, Internal Auditor served as the lead auditor on the assessment team for the effectiveness review for corrective actions taken in conjunction with one of the findings identified in the HSS review. Internal Audit has completed one joint review and is currently working on a second joint review, as requested by ORO in support of ARRA activities.

Notable Outcome 6F Demonstrate Adequacy and Effectiveness of Risk Management/Information Technology:
During this performance period, quarterly customer surveys were conducted to determine how the Core and Business System provided by the IT Division impacted their goals. All the surveys concluded that these systems met the needs of the Lab and no major gaps identified. There were many IT initiatives

implemented that contributed to the overall productivity and efficiencies of the Lab. Significant enhancements were made to the CATS system in response to HSS findings. To improve Lab efficiencies and productivity, new IT applications were developed and deployed for training and conducting salary reviews. Furthermore, a beta version of a CRADA/WFO workflow application to support Technology Transfer processes has been developed and is being tested. All these activities have contributed to the performance of other Divisions and Departments and aided them in achieving or exceeding their goals for the year.

Notable Outcome 6G Implement and Maintain an effective Quality Assurance Program:
The QA/CI Department was reorganized this year and a new department manager was named. He has been working with JLab staff as well as TJSO to identify outstanding issues & concerns in regards to JLab's QA program. Procedures such as the Risk-Based Assessments and Vendor Evaluation received a higher level of management attention to assure they were vetted by the affected organizations and quickly finalized.

Although the timeliness of some ES&H assessments needs improvement, as mentioned in Measure 5.2, improvements are being noted in the quality of the assessments. The line organizations have been critical in their analysis of the program being assessed.

Based upon identified results indicating a need for improved configuration management was identified. A team has been established to study the issue and provide recommendations. Laboratory line management accepted their responsibility in this area by charging the Deputy Engineering Manager with developing a path forward in response to the recommendations. Implementation will continue in FY11.

The Issues Management database tool, CATS, indicated that all Issues Management goals were being met. Over 99% of the actions entered into CATS for tracking were closed on or ahead of schedule. A significant number of improvement actions were identified and implemented in FY11. These include:

- Employee Job Task Analysis which allows supervisors to identify training needs based upon the hazards to which the employee will be exposed
- Streamlining of ES&H data which allows for improved trending capability
- Blanket order agreement for contract staff to help assure contract employees are quickly inculcated into Jefferson lab culture
- Calibration of tools/instruments through a central vendor
- ES&H Manual improvement actions which resulted in clarity of requirements and prioritization of revisions
- Work Stop and Restart clarification
- Vendor evaluation and selection process improvement which tailors requirements to the hazards associated with the project,
- SRF manufacturing process improvement

Notable Outcome 6H Technology Transfer Activities and Intellectual Property Stewardship:
JSA anticipates exceeding the metrics for this notable outcome. The 3-year average goal of 1 for Licenses was met early with one awarded during the first quarter in October 2009 and another completed in the fourth quarter, which will exceed the goal for this fiscal year. The Lab is also on track to exceed the 3-year average for Patents. During fourth quarter, we completed five additional patents which will bring the

total Patents for the year to six. The 3-year average goal of 17 for Invention Disclosures is also expected to be exceeded. Year to date seven disclosures were completed and there are **eighteen** that were completed by the end of September; for a total complete of twenty-**five**. We have developed and are working to achieve objectives set forth in JSA's Technology Enhancement Plan to further enhance Technology Transfer objectives. Work completed during the period as outlined in the plan includes: Technology Transfer Web Page enhancements based on user inputs to be more responsive to inventors, training on the new Inteum intellectual property management system, and the establishment of a partnership with iBridge to market new technologies and development of an RFI announcement to acquire assistance in IP marketing. We also recently hosted the DOE's Technology Transfer Coordinator, Dr. Karina Edmonds to introduce her to JLab, our Technology Transfer activities and to collaborate on methods to advance our Technology Transfer program.

GOAL 7 FACILITY AND INFRASTRUCTURE **EXPECTED SCORE A-**

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
7.0 Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs					
7.1 Manage Facilities and Infrastructure in an Efficient and Effective Manner that Optimizes Usage and Minimizes Life Cycle Costs, and Ensures Site Capability Meet Mission Needs	A-	3.6	40%	1.44	
7.2 Provide Planning for and Acquire the Facilities and Infrastructure Required to Support Continuation and Growth of Laboratory Missions and Programs	A-	3.7	60%	2.22	
				Performance Goal 7.0 Total	3.66

Table 10. Goal 7.0 Performance Rating Development

Notable Outcome 7A Successfully Implement Mission Readiness:
The Mission Readiness Program peer review was conducted in September 2010. The review was extremely successful resulting in 13 identified strengths by the Peer review team. The Mission Readiness Program is fully implemented. Additional highlights include developing a JLab 2020+ Land Use Plan; developing a database to manage space request and 12 GeV facilities work requests; and reconfiguring the existing space and leasing additional to support the 12 GeV program.

Notable Outcome 7B Implement Fire Protection Program CAP:
The FY2010 CAP for 2008 Fire Protection Program Assessment was successfully implemented during this fiscal year. An experimental hall dome sprinkler Equivalency request was submitted to the Site Office for approval and a comprehensive fire protection program self assessment was conducted during this period. JLab completed a fire hazard analysis for the accelerator tunnel and experimental halls, and a separate fire hazard analysis for the FEL facility. The City of Newport News emergency services (fire, emergency medical and police) radios have been tested to provide unrestricted communication capability in the accelerator enclosure at the completion of the Sprint cell phone antenna and repeater system installation, removing a significant obstacle for effective emergency services response to accelerator tunnel emergencies.

Notable Outcome 7C Demonstrate Effective Technical, Schedule, and Cost Management for TEDF and Projects ≥ $1M:
The TEDF Project completed CD-3A and 3B during this performance period and construction is currently underway. JLab has worked closely with customers to meet the mission need and successfully implemented disruption avoidance meetings to improve work coordination. There was also a successful

major power outage to relocate the electrical power feed to the campus and during this time the chilled water lines to CEBAF center were also relocated. The south wall of the Test Lab was also removed during this outage and a new temporary wall installed. The new accelerator entrance is nearing completion and is anticipated to open the first week in October. The project as of the August update is 13% complete with a CPI of 1.05 and a SPI of 1.01 At CD-3B the project was approved to purchase the entire project as designed including the approved alternates identified on the contract documents.

The Utilities Infrastructure Modernization (UIM) project has completed documentation for CD-1 and multiple GPP and ARRA GPP projects were successfully completed in FY10 despite the effects of severe wet weather. The Lab took advantage of favorable bids and has been able to add $848,000 of additional project scope and capability for JLab. Scope added includes $282,000 for Metering; $300,000 for General Purpose Building Mezzanine and increased capacity LCW system for the magnet test area and high power test stands; and $266,000 for an additional 3,000 square feet for the Experimental Staging Building.

GOAL 8 INTEGRATED SAFEGUARDS & SECURITY MANAGEMENT AND EMERGENCY MANAGEMENT SYSTEMS EXPECTED SCORE A-

ELEMENT	Letter Grade	Numerical Score	Objective Weight	Total Points	Total Points
8.0 Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM)					
8.1 Provide an Efficient and Effective Emergency Management System	B+	3.4	**25**%	**0.85**	
8.2 Provide an Efficient and Effective System for Cyber-Security	A-	3.6	50%	1.80	
8.3 Provide an Efficient and Effective System for the Protection of Special Nuclear Materials, Classified Matter, and Property	A-	3.5	10%	0.35	
8.4 Provide an Efficient and Effective System for the Protection of Classified and Sensitive Information	A-	3.5	**15**%	0.**53**	
				Performance Goal 8.0 Total	**3.53**

Table 11. Goal 8.0 Performance Rating Development

Notable Outcome 8A Demonstrate an Effective Emergency Management System:
Jefferson Lab has demonstrated its emergency management capabilities through its preparation activities in response to Hurricane Earl. The Emergency Management Team monitored the situation, made decisions in a timely manner, and communicated them to the Lab population quickly.

A Management Self Assessment conducted in FY10 identified a number of actions needed to improve the administration of the program. These were confirmed by a DOE-ORO assessment and corrective actions have been entered into CATS. Although a draft report has not yet been received, Jefferson Lab reviewed the findings/observations report at the close-out briefing of the DOE-ORO assessment and took action as appropriate. For example, it was pointed out that there were 30-minute SCBA escape packs maintained in Building 58, although training is no longer required for employees. Furthermore, one employee stated they would use the SCBA to enter the work area. As a result, the SCBAs were secured until the ESH&Q staff and the Production Cavity Group Lead met to examine the situation. As a result, training will be revised, implemented, and quarterly drills will be held with the staff so that they become comfortable wearing the equipment should they need it.

The Technical Basis Document (TBD) demonstrating the Lab's classification as a Base Program was under review throughout the year. A final set of comments have been received from TJSO and the Lab is addressing them. A revised TBD is expected to be submitted to TJSO in the first quarter of FY11.

Notable Outcome 8B: Complete all Certification Steps – Authority to Operate.
During this performance period JSA developed a plan and timeline for the Certification and Accreditation (C&A) process. However, there have been outside dependencies on the timeline that JSA has had to manage during this performance period. Throughout the entire process, the Site Office was kept apprised of all issues and changes to the timeline. The first challenge was dealing with delays in the release of the new Program Cyber Security Plan (PCSP) from SC. To help manage the impacts of the delay on the C&A process, JSA worked with SC to help them develop the new PCSP. This allowed JSA to position the Lab such that it was aware of the contents and changes to the PCSP before its release and changes to the C&A process could be addressed early.

As part of the C&A process and contractor assurance, JSA had CSC conducted a white hat to evaluate the Lab's cyber security posture. The white hat found no major findings and the few vulnerabilities that were identified with Lab's systems were corrected. HSS was approached and scheduled for conducting the ST&E, but recent events have required HSS to delay their visit and thus extend the timeline of the Lab's C&A process. The Site Office was kept up to date with this delay and an extension to the existing ATO was requested by the Lab and granted.

Notable Outcome 8C: Demonstrate Strong Protection of Sensitive Information.
There were no reportable events involving loss of the Lab's Business Sensitive/Personnel Sensitive information during this performance period. There were no root compromises on managed systems and attacks from JLab on external systems. Additionally, the percentage of Lab managed systems identified as having severe vulnerabilities was routinely below 1% and effectively managed the widely publicized vulnerabilities associated with Adobe products and deployed updated versions of Adobe software once they became available.

JSA made many IT enhancements to enhance the Lab's cyber security posture. Among them is the deployment of Virtual Private Network (VPN) access for remote access to sensitive enclaves. Additionally, JSA improved the security of the Lab's wireless network, expanded Network Asset Management and system registration to the wireless networks and instituted offsite backups for critical business data.

ADDITIONAL HIGHLIGHT:
During this period, the Lab provided efficient and effective systems for the protection of special nuclear materials, classified matter and property by actively participating in several DOE Safeguards and Security workshops and continuing their ongoing interactions with the FBI (Norfolk), Homeland Security, local police and fire departments for security planning. The COO was invited to serve as a member of the SC Safeguards and Security Advisory Committee for a two year term as a special consultant and several JSA subject matter specialists were offered and accepted partnership in the Tidewater National Security Group which shares information with the FBI Norfolk Field Intelligence Group.