FY 2004 Performance Evaluation Report
of
Southeastern Universities Research Association, Inc. (SURA)
Contract No. DE-AC05-84ER40150

Thomas Jefferson National Accelerator Facility
Site Office (JSO)

U. S. Department of Energy

February 28, 2005

Executive Summary

The performance measures defined in Appendix B of the contract yielded an adjectival rating of "Outstanding" in five categories and a rating of "Good" in one category with an overall weighted Laboratory rating of "Outstanding." The breakdown by category and performance measures (counting peer review results as performance measures) shows the following profile:

Category	Rating
Outstanding Science & Technology	Outstanding
Corporate Citizenship	Outstanding
Quality Performance in EH&S	Good
Business & Administrative Practices	Outstanding
Responsible Institutional Management	Outstanding
Project Management	Outstanding
OVERALL RATING	Outstanding

Some of the significant achievements during FY 2004 were:

- FY 2004 Science and Technology (S&T) Peer Review rating of "Outstanding."
- The Lab's preparations to minimize damage from Hurricane Isabel and the Accelerator Division's exceptionally strong efforts to get the experimental program back online.
- Jefferson Lab's (JLab) support to the Spallation Neutron Source Project exceeded expectations.
- The successful start of construction for the CEBAF Center Addition.
- JLab's efforts to help achieve the Approval of the Mission Need (CD-O) for the 12 GeV CEBAF Upgrade Project.
- Institutional Management Peer Review rating of "Outstanding."
- The hiring of Dr. A.W. Thomas as Chief Scientist.
- The Free Electron Laser's (FEL) achievement of 10 kW and its securing of multi year funding for the program.
- The hiring a new HR Director.
- The completion of the emergency backup power study.

- The completion of the PCard Corrective Action Plan.
- JLab was awarded the highest level of funding from a competitive selection process among DOE labs for the new Teacher Academy in Physical Sciences (TAPS) program.

Some of the challenges facing the Laboratory in FY 2005 are to:

- Improve worker safety at JLab. Ensure that the principles of Integrated Safety Management (ISM) are implemented across the site. Apply the necessary cultural and organizational changes needed to achieve a safe work environment for all JLab employees and visitors.

- Move forward with the 12 GeV, CEBAF Center Addition and FEL Upgrade, with particular attention to meeting technical, cost and schedule baselines and key milestones, and utilizing the National Environmental Policy Act (NEPA) process.

- Develop a plan for a Superconducting Radio Frequency (SRF) Center of Excellence that fits into a comprehensive national accelerator R&D plan, capitalizing on the capabilities to attract world-class experts and the transfer of SRF fabrication technology to industry.

- Assess for applicability and implement DOE security initiatives, including non-classified computer (cyber) security, foreign visits and assignments, travel, and export controls.

The Laboratory has done an effective job of preparing its FY 2004 Self-Assessment under the performance-based management contract. Although the Site Office agrees with the Laboratory's Self-Assessment score of "Excellent" for Environment, Health and Safety performance solely based on the established performance metrics, the Site Office believes the Lab's overall Safety performance did not support an "Excellent" rating and reduced the rating to "Good." The Site Office based its decision on the following: (1) Safety issues identified through the Laboratory's work management and similar reviews; (2) Shortcomings in the Laboratory's Quality Assurance/Self-Assessment Program and corrective action tracking system; and (3) Safety vulnerabilities identified through Site Office assessments, walkthroughs, surveillances, etc. SURA and Jefferson Lab have begun a number of initiatives to improve safety performance at the Lab that will be detailed further in the body of the report.

The report addresses corrective actions from peer reviews and the Laboratory's internal assessments. The JSO FY 2004 Performance Evaluation of SURA is based upon a combination of Contract Performance Measures; Results of Peer Reviews; Site Office assessments, walkthroughs, and observations; and input from representatives of the Office of Science Nuclear Physics Program and others.

Background

The Department of Energy (DOE) extended its contract with the Southeastern Universities Research Association, Inc. (SURA) for the management and operation of the Thomas Jefferson National Accelerator Facility (otherwise known as Jefferson Lab) through September 30, 2005. The contract extension continued the Department's and SURA's implementation of a Performance-Based Management Contract (PBMC). This approach focuses primarily on outcomes and results as demonstrated by performance measures rather than compliance with processes and procedures.

Secretary Abraham in the memorandum, "Performance-Based Management," dated May 12, 2003, reiterated and emphasized his full commitment and encouraged Department officials to be fully and actively involved in the implementation of a results-driven, performance-based approach to management. Performance-based management includes the following guiding principles: (1) performance objectives are established in partnership with affected organizations and are directly aligned to the DOE strategic goals; (2) resource decisions and budget decisions are tied to results; (3) primary reliance is placed upon self-assessments, with "for cause" reviews conducted only as needed; and (4) results are used for management information, establishing accountability and driving long-term improvements.

Under Secretary Card in the memorandum, "Principles for Office of Science Laboratory Contracts," dated April 30, 2003, stated his expectation that Office of Science (SC) contracts be based on six principles: (1) line management accountability (through a single Federal official) for Laboratory performance with a strong focus on mission success and with authority to integrate administrative and operations requirements into program missions; (2) primary reliance on Federal, State and local laws, regulations, and national standards to establish contractor requirements and performance criteria, while minimizing the use of DOE Orders and directives as a mechanism for placing administrative and operational requirements on the contractor; (3) Laboratory contractors use of external, nationally recognized experts to carry out independent risk and vulnerability studies, validate and certify that the contractor management systems meet the applicable laws or regulations, and to verify best-in-class contactor practices; (4) Laboratory contractors adoption of contract-based, best-in-class management principles and an integrated management system, achievement of formal external certification of their management systems, and use of DOE directives in cases where there is a unique departmental function without an industrial process counterpart; (5) contractor development of a compelling vision for the 5-year duration of the contract and a work plan to accomplish it; and (6) in addition to financially-based incentives and related performance objectives and metrics, the Department will consider novel, non-financial incentives to promote improved contractor performance and accountability.

The SURA contract for management of the Jefferson Lab and DOE's contract management are aligned with the principles outlined above. Specifically, Clause H.32 of the PBMC requires: (1) DOE to utilize a performance based management system for Laboratory oversight; (2) the contractor to conduct an on-going self-assessment in accordance with the performance metrics in Appendix B (See Attachment 1 for a copy of SURA's Fiscal Year (FY) Self-Assessment); and (3) DOE to perform a written assessment of the contractor's performance based on the DOE appraisal program and DOE's evaluation of the contractor's self-assessment.

Included in Appendix B of the PBMC are the negotiated Performance Metrics that were used to evaluate SURA's performance in FY 2004. The negotiated FY 2004 Jefferson Lab Performance Metrics are built around a set of "key indicators," which track the six critical categories or areas of performance: Outstanding Science and Technology (S&T); Corporate Citizenship; Quality Performance in Environment, Health and Safety (EH&S); Business and Administrative Practices; Responsible Institutional Management; and Project Management. The Appendix B evaluation plan also includes a set of "secondary indicators," which monitor the Laboratory's performance in a more detailed way and extend the validity of each of the key indicators.

As a means of incorporating the results of the contractor's self-assessment along with other inputs in the overall evaluation of SURA's performance, DOE and SURA agreed that the Department would develop an independent Annual Evaluation/Overlay Performance Report. This report is intended to capture the highlights of the DOE Site Office observations/reviews, results of DOE appraisals, as well as other important information (including mitigating factors or events that may be outside the control of the contractor) that would balance the overall performance assessment for the year.

FY 1996 was the first Contractor Self-Assessment and Contracting Officer's Overlay Performance Evaluation Report following successful implementation of the PBMC. Subsequent evaluation reports were prepared for FY 1997 through FY 2003. The following is the DOE evaluation summary for FY 2004 for each of the six performance categories.

1.0 Outstanding Science & Technology (625 Points)
1.1 Science Technology Peer Review (355 points)

Based on the results of the August 2004 Science and Technology Peer Review, the 2004 SC On-site Review, feedback from users and the sponsoring Program Offices, and direct observations, the Site Office agrees with the overall rating of "Outstanding" for the S&T Peer Review category.

Science and Technology (S&T) is the most heavily weighted category of the Laboratory's performance measurement plan because it addresses the primary elements of the Laboratory's mission. The Department of Energy's role is to assure that the Laboratory's S&T program is consistent with the Department's mission and strategic plan, and that it reflects the interests and needs of the scientific community.

The primary goals of the Jefferson Laboratory are to carry out a high quality nuclear physics experimental program and to plan and execute other related S&T programs. Related programs revolve around the application of the Laboratory's core competency in superconducting radio frequency (SRF) technology for particle acceleration. These programs include the Free Electron Laser (FEL) program; and critical support role in the development and construction of the SRF cavities for the Spallation Neutron Source (SNS) Project. Jefferson Laboratory is also playing an important role in the construction of a large parallel-processor computing facility for performing lattice quantum chromo dynamics (LQCD) computations important for nuclear physics research.

The primary facility at the site is the Continuous Electron Beam Accelerator Facility (CEBAF), which produces a high current, highly polarized beam with a 100% duty factor. The accelerator performance has achieved sustained beam peak energy of 6 GeV. The development of a reliable, high current, highly polarized electron source makes this facility unique in the world with regard to high current polarized beams.

The Department, SURA, and the Laboratory have agreed that the most appropriate method of appraising the S&T program is to annually convene a panel of recognized scientists and technical experts to review the primary program elements. The DOE Office of Science Jefferson Lab Program Manager, Division of Nuclear Physics, and senior scientists from other laboratories and universities conducted a review of the Laboratory's scientific program. The committee heard presentations on activities of the scientific and technical programs, the Program Advisory Committee (PAC), and the Users' Group. The committee also toured the facility. The committee evaluated the Laboratory's performance in the following subcategories:

- Experimental Research
- Theoretical Research
- Accelerator Operations
- Management
- EH&S
- Future Facility Upgrades, R&D
- Work for Others
- Facility Staff and Scientific Community

The results of the review are documented in the "Department of Energy Office of Nuclear Physics Report on the Science and Technology Review of the Thomas Jefferson National Accelerator Facility," dated August 2004. This Site Office Annual Evaluation supplements the committee comments with comments based on participation in and observation of internal activities such as the Program Advisory Committee (PAC) meetings, technical review meetings for the experimental halls, SNS Project meetings and Semiannual Project Reviews, FEL technical reviews and meetings, and facility walkthroughs and general awareness activities.

The Peer Review panel members found that the research conducted at the Laboratory to be of high quality in furthering the understanding of the basic quark structure of matter. The Laboratory has a good balance of experimental and theoretical programs. The panel concluded that the research program is doing an excellent job of addressing the relevant scientific questions identified by the Nuclear Science Advisory Committee and the Laboratory's research has attracted significant attention that extends beyond the nuclear physics community. The panel commented that the addition to the Theory Group of a new Chief Scientist and two phenomenologists should strengthen the Laboratory's research efforts. The ability of the Laboratory to quickly shift its experimental priorities to address the question of the existence of possible pentaquark states was impressive, given the complexity of the experimental schedule. The Theory Group proposes to build a lattice-QCD facility that would make TJNAF a world center for hadronic lattice QCD studies and this effort is encouraged by the Department.

The Accelerator Division was commended for its performance in meeting or exceeding operational goals, in spite of having to recover from Hurricane Isabel. The Laboratory continues to provide and improve high accelerator and experimental hall availability, and multiplicity. In 2004 the 12 GeV Upgrade project has received Mission Need Approval (CD-0) and the Laboratory is assembling the organization necessary to proceed to the next phase of the project. The Jefferson Laboratory has done an outstanding job in producing SNS cryomodules and refrigeration systems. The cryomodules have exceeded performance expectations and the remaining work is projected to finish ahead of schedule in early 2005. The SRF facility at TJNAF constitutes the largest assembling, testing and qualification of SRF cavities capability worldwide. Capitalizing on these capabilities, the SRF Institute has proposed a Center of Excellence in SRF technology.

The upgraded FEL has achieved an outstanding goal of reaching the 10kW design goal with a high expectation of securing multi year funding for the program. In addition, the FEL secured additional work through the Work For Others Program during FY 2004.

1.2 Reliable Experimental and Accelerator Operations (200 Points)

JSO concurs with the overall rating of "Outstanding" for the Reliable Experimental and Accelerator Operations area in FY 2004, the Laboratory is commended for its efforts.

The Laboratory's performance providing reliable experimental and accelerator operations for the most part, exceeded expectations. Performance measures for this area focus on five quantitative metrics:

- Delivered Physics Research Operations (100 points);
- Accelerator Downtime (40 points);
- Experimental Equipment Availability (20 points);
- Effectiveness of the Scheduling Process (20 points); and
- Overall Operations Effectiveness (20 points).

Quantitative evaluation of the five indicators for this area resulted in 199.5 points awarded out of a possible 200 points, with an overall rating of "Outstanding" for FY 2004. In addition to the quantitative results, the following are several areas worth mentioning in relation to the FY 2004 performance:

- Accelerator downtime was predicted to be ≤15%; however, tenacious effort by Accelerator Operations was successful in achieving a downtime of 12%. Factors contributing to this level of downtime were associated with initiatives to improve and stretch accelerator capabilities.

- The Laboratory did an excellent job of securing the site in preparation for Hurricane Isabel. Physical impact from the hurricane was minimal and the recovery effort was very well organized. As a result of the lessons learned from the event, Jefferson Lab has implemented a number of measures to further strengthen the site electric power supply reliability as well as other facility emergency preparation efforts to provide temporary infrastructure support to accelerator operations during recovery operations.

- The Laboratory has done an outstanding job of working with the users to overcome the challenges of providing the special beam parameters required by the G0 experiment.

- The experience gained from the installation and operation of cryomodule "SL21" has significantly contributed to improving the performance of the next generation of cryomodules for the 12 GeV Upgrade Project.

- Hall A septum magnet problems were illustrative of challenges that are inherent with pursuing ever-greater operational capabilities. Procurement of high quality superconducting magnets has been particularly challenging because the demand for these components is so small that vendors do not appear to be retaining the expertise needed to provide quality products.

- Integrating the utilization of the Center for Advanced Studies of Accelerators (CASA) in addressing improvements to accelerator operations is notable.

Challenges in FY 2005 include addressing the emergency power supply issue, improving accelerator availability and the effective implementation of the Accelerator Facility Long-Range Development Plan.

The Laboratory is faced with another very challenging experiment schedule for FY 2005. The concurrent running of the G0 and hypernuclear experiments will once again stretch the limits of operational capabilities for both the accelerator and the halls. The Laboratory must strike an

appropriate balance in consultation with the Nuclear Physics Program Office between scheduling excellent experiments that can be readily accommodated and extraordinary experiments that stretch accelerator performance limits.

1.3 Production of Scientific and Technical Manpower (70 Points)

Performance measures for this area focus on Jefferson Lab education and training efforts to provide for our nation's future scientific/technical work force. The Site Office and the Laboratory's performance assessment once again resulted in an "Outstanding" rating for FY 2004. As expected, the significant drop-off in number of advanced degrees awarded by minority institutions that occurred last year, did not continue into this year and it appears that there are a very large number of students currently "in the pipeline."

This high quality program encourages students' continued involvement in Jefferson Lab activities thereby providing an excellent opportunity for the students' growth, a substantial contribution to the Laboratory's output and potential future benefit to the entire scientific community. Site Office casual discussions with students that occur during facility walkthroughs and at Laboratory special events have indicated that their experiences at Jefferson Lab are very positive. This is first hand confirmation of what the quantitative measures indicate.

Efforts not directly contributing to the performance measure scores also continue to go well. Student seminars on subjects where the Laboratory has unique expertise continue to generate significant interest. Monthly lunch seminars held throughout the year conducted by undergraduate and graduate students have also continued to be popular with the students. This is an excellent opportunity for students to develop their presentation skills and network as well as share information and ideas. The continued participation in this activity illustrates how much students feel this is a beneficial experience. Providing a comfortable environment in the Residence Facility for graduate student meetings, access to computer terminals and recreational activities also significantly contributes to the quality of the students' experiences at Jefferson Lab. Activities to welcome and integrate new students into the student community are also commendable.

The Site Office concurs with the overall rating of "Outstanding" for the Production of Scientific and Technical Manpower performance measures based on the performance towards the goals set for this area and the continued positive feedback from the diverse student community at the Laboratory. The measures for this area provide a reasonable assessment of overall performance and they should be maintained for FY 2005. Efforts to continually improve this very important program are highly endorsed.

2. Corporate Citizenship (75 Points)

This performance category measures the degree to which the Laboratory's mission-related competencies serve the public and national interest and is divided into the following two sections: (1) Public Outreach and Improved Scientific Literacy, and (2) Technology Transfer.

Public Outreach and Improved Scientific Literacy (35 Points)

Based on performance data, results of independent reviews and Site Office assessments, an overall rating of "Outstanding" is merited for this performance category. The Laboratory is commended for its "best-in-class" educational outreach program.

The Laboratory has special assets and capabilities that can add value to the public beyond its defined scientific research mission, specifically in the areas of improved scientific literacy and education. At the same time, as a publicly funded institution, Jefferson Lab has a particular obligation to be a "good neighbor" in the community as it conducts business and to keep the public informed on the operational aspects of the Laboratory and plans for the future. Furthermore, the Laboratory must actively solicit and take into account the views of the community in carrying out its activities. This performance category measures the extent to which the Laboratory is successful in addressing these opportunities and obligations.

SURA and Jefferson Lab have long recognized the importance of reaching out to the many diverse elements of the public for the purpose of education and discussing the value of scientific research generally and on the particular significance of the research being conducted at Jefferson Lab. Again, in FY 2004, the Laboratory conducted an effective public outreach program to inform and educate the public, and to solicit its support for stronger scientific research programs at all levels. This program included facility tours for the public, and industry and government officials; talks by Laboratory managers and staff to civic, community and professional organizations; exhibits and participation in public events; participation in the State Fair; and effective use of the print media. In addition, an exciting Education web page provides a popular and valuable resource for students and teachers alike. The Jefferson Lab Education web page continues to be a valuable resource for teachers and students.

Also in the area of science education, the Laboratory continued to place special emphasis on its K-12 program and particularly on the Becoming Enthusiastic About Math and Science (BEAMS) program. These programs target "at risk" young students with activities that are designed to educate them and stimulate their interest in science and math, and the Laboratory has served more than 16,000 students this year and provided in-service activities to more than 2,300 teachers. As an overall outside metric that documents the success of the BEAMS program, the students that attended the BEAMS program during their 6th, 7th, and 8th grade years improved their Virginia Standards of Learning Test Scores in the areas of science and math. The Laboratory has also designed and implemented excellent in-service programs to further develop teacher capabilities to instruct math and science in the classroom. The Laboratory continues to implement its educational "Teacher Academy for Physical Sciences" program for science teachers. During the summer of 2003, 16 middle school science teachers participated in a four-week basic refresher course in physics taught by physics professionals including staff scientists. In addition, members of the Laboratory staff continue to be engaged in various regional business and educational partnerships.

Beyond its significant involvement with the public in science education, the Laboratory has worked cooperatively with regional, state and local groups, and elected officials on economic development issues, educational improvement initiatives and community improvement

opportunities. The Laboratory Director, the Chief Technology Officer and a number of other managers and staff represent Jefferson Lab on important government and community councils and boards. They provide open channels of communication to allow the public to raise questions and resolve issues. The Laboratory is widely recognized for its excellent contributions to the work of these bodies.

The Laboratory continued to be sensitive to its Department of Energy relationship and consistently gave appropriate credit and recognition to the Department and the Office of Science in press releases and in other public forums. The Laboratory Public Information Officer meets regularly with the Site Office regarding upcoming media efforts and coordinates significant events with the DOE Public Information Office. Customer feedback data from members of the public demonstrated high levels of satisfaction with their interactions with the Laboratory.

Technology Transfer (40 Points)

This performance category measures the degree to which key technologies related to Jefferson Lab's primary scientific mission are disseminated to industry. Performance is measured by the amount of non-DOE investments into Jefferson Lab initiatives, intellectual property generation and the level of customer satisfaction. Based on the results of the key indicator and the secondary indicators, Jefferson Lab achieved an "Outstanding" rating for FY 2004.

Without any direct funding for technology transfer provided by DOE in FY 2004, Jefferson Lab continued to have an active and beneficial technology transfer program based on collaborative efforts with other partners. The total amount of "funds-in" to Jefferson Lab because of technology transfer activities was $10,264,877 or about 12% of the Laboratory's operating budget. The Laboratory accomplished several noteworthy objectives/milestones during the fiscal year in the area of technology transfer:

- Free Electron Laser (FEL) Program. Under a broad collaboration, the Department of Energy and SURA are partnering with the Department of the Defense, the Commonwealth of Virginia and the Laser Processing Consortium to design, construct, commission, and operate an infrared Free Electron Laser. This facility will support Department of Defense efforts to investigate the potential utility of high-energy laser devices and provide valuable information to Jefferson Lab and the industrial partners regarding potential industry applications of intense laser light. Construction of the initial facility was successfully completed on September 30, 1997.

  In FY 2004, the Laboratory successfully completed and commissioned the infrared FEL Upgrade project with the achievement of its goal of 10,000 watts of continuous wave power. In addition, the Laboratory continued to make excellent progress on the 1-kilowatt ultraviolet upgrade project with the Air Force Research Laboratory. This UV upgrade project is scheduled to be completed in FY 2005. The Laboratory also began construction of a terahertz (THz) beamline to the FEL facility for the U.S. Department of the Army. This project will be operational in early 2005 and the U.S. Army is investigating the application of a high power THz imaging for land mine detection. Excellent progress is being made on this project as well.

The Laboratory continues to play a key role in successfully managing this program by: (1) continuing to operate, test and upgrade the FEL facility for the U.S. Department of the Navy and the U.S. Department of the Air Force; (2) adding a terahertz (THz) beam line to the FEL facility for the U.S. Department of the Army; (3) continuing to work with federal, state and local governments for support; (4) maintaining excellent working relationships with the U.S. Department of the Navy, U.S. Department of the Air Force, U.S. Department of the Army, and Office of Science; (5) utilizing the Jefferson Lab Industrial Advisory Board, the Laser Processing Consortium and the Maritime Technical Advisory Committee (MTAC) to conduct technical and business planning for the FEL project; (6) developing and implementing a "user program" for the FEL facility; (7) working on many fronts to obtain funding for operating the FEL; and (8) working with the Site Office and Office of Nuclear Physics to accommodate potential future Department of Defense plans for the development of high energy lasers in support of national defense and homeland security initiatives/requirements.

- Advanced Technology and Economic Development. The Laboratory continues to be an active member in various community organizations concerned with advanced technology and economic development, such as the Hampton Roads Partnership (Executive/Technology Committees), Greater Peninsula NOW, Peninsula Alliance for Economic Development (Board of Directors), City of Newport News Applied Research Center University Consortium, Jefferson Center for Research and Technology Committee, Virginia Microelectronic Consortium, Jefferson Center for Research and Technology Marketing Committee, Hampton Roads Research Partnership Committee, Peninsula Alliance for Economic Development (Board of Directors), Hampton Roads Technology Council (Board of Directors), Cooperating Hampton Roads Organizations for Minorities in Engineering, Newport News Chamber of Commerce Business and Education Council, the Peninsula Chamber of Commerce, the Virginia Research and Technology Advisory Commission, and the Newport News Economic Development Authority.

  Another major achievement that has continued is the Laboratory's partnership with state and local governments, and academia. Jefferson Lab has successfully partnered with the City of Newport News, the Commonwealth of Virginia and various universities to launch an applied research park around Jefferson Lab and to build the Applied Research Center (ARC) building adjacent to the Laboratory site. The long term relationship dates back to May 4, 1998, when the ARC building was dedicated by the City of Newport News and tenants from Christopher Newport University, the College of William and Mary, Old Dominion University, Norfolk State University, and Jefferson Lab moved into the building. The ARC building houses researchers interested in exploring technologies related to Jefferson Lab's research. In addition, the ARC universities led by ODU competed and won a grant from the National Science Foundation (NSF) to establish a Center for Lasers and Advanced Manufacturing in the ARC building.

  As it relates to the Department's lease for office and Laboratory space in the ARC building, the Laboratory and the Site Office successfully negotiated a "one-of-a-kind" agreement with the city Economic Development Authority (EDA) to provide EH&S advisory services and operation and maintenance services to the EDA on a cost reimbursement basis. Under this

agreement, the Laboratory advises the EDA and the EDA applies Jefferson Lab EH&S standards in the ARC building, which provides a "seamless" site EH&S working environment. This arrangement gives the Laboratory effective oversight of activities in the ARC building without the cost or liability of being the building owner or manager. This agreement allows the DOE and the Laboratory to continue its partnership with the City, the Commonwealth of Virginia and local universities, which has been a contributing factor to the success of the Laboratory. This was the seventh year for the Laboratory to provide these services for the EDA and the Laboratory has successfully performed these "unique" services while maintaining effective oversight of activities in the ARC building. The city, the Commonwealth of Virginia, local ARC universities, and the Laboratory are to be commended for their partnerships and for making the ARC a success.

- Intellectual Property Generation. In FY 2004, the Laboratory exceeded its intellectual property performance goal, successfully executed eleven patent applications and was awarded ten patents that relate directly to Jefferson Lab's core competencies. An excellent example of transferring Laboratory technology to the private sector for commercialization is the Laboratory's collaboration with Dilon Technologies medical imaging equipment. Under a license awarded to Dilon Technologies, the Laboratory transferred the gamma camera technology "know-how" and relevant technical information for conversion into a commercial product that will be used as a medical device for use in scintimammography procedures for breast cancer detection. In FY 2004, the enterprise entered the startup production and sales phase. Furthermore, the Laboratory is working with the Oak Ridge National Laboratory (ORNL) and Johns Hopkins University to develop instrumentation that will allow bio-medical researchers to study small animals with nuclear medicine imaging techniques while they are awake and unrestrained. The Laboratory has also initiated a partnership with the University of Florida and the University of South Florida to develop a next generation medical imaging device. The partnership will be launched in early FY 2005 and funded through the U.S. Department of the Army. In addition, the Laboratory continues to participate in DOE's Small Business Innovative Research (SBIR) Program with three active partnerships, and there were three active Cooperative Research and Development Agreements (CRADAs) in FY 2004.

Based on performance data, results of independent reviews, and Site Office assessments, an overall rating of "Outstanding" is merited for this performance category.

3. Environment, Health and Safety (150 Points)

The performance measures for this category are intended to provide an overall assessment of the Laboratory's Environment, Health and Safety Program. In FY 2004, there are three "key indicators" that broadly measure the Laboratory's performance and seven "secondary indicators" that provide more detailed validity of the "key indicators." Based solely on the established performance metrics, the Site Office would agree with the Laboratory's Self-Assessment score of "Excellent" for Environment, Health and Safety performance; however, the Site Office

believes the Lab's overall Safety performance, as discussed below, did not support an "Excellent" rating in this very important area. Accordingly, the Site Office lowered the summary rating to "Good" for this category.

For FY 2004 the Office of Science benchmarked its laboratories using U.S. Department of Labor statistics for research firms (SIC classification 873). The benchmarking used the Total Recordable Case (TRC) rate and Days Away, Restricted or Transferred (DART) rate for the top 25% of the firms as the metric. These two "key indicators" were allocated 50 possible points each. Environmental exceedences was the third "key indicator" and assigned 20 possible points.

As documented in the Lab's Self-Assessment, the TRC rate compared unfavorably with the SC goal for FY 2004 yielding a score of "Good;" the DART rate yielded a score of "Outstanding." The Laboratory experienced several reportable occurrences and injuries/accidents during FY 2004. One recurring aspect of several FY 2004 incidents was a failure of workers to promptly report injuries. Jefferson Lab has taken actions to address this issue and to alter safety behavior by encouraging prompt reporting to directly benefit injured employees, as well as potentially reducing the DART and TRC rates.

Sustained Laboratory attention will be needed to ensure that the principles of Integrated Safety Management are implemented across the site to promote a safe work environment and safe work practices. The Site Office notes that SURA and the Laboratory Director have made improving the safety performance at the Laboratory a higher priority and has sought assistance from within the organization as well from recognized safety experts. It does concern the Site Office that it was a number of months before discernable action had been taken on the FY 2004 improvement team reports and recommendations. The Laboratory's independent Work Management Review identified a number of noteworthy Laboratory practices. It also identified a number of opportunities for improvement, including: (1) uncertainty on who really constituted line management; (2) uncertainty in roles and responsibilities; (3) weaknesses in line self-assessment program; (4) line self-assessment and independent assessment deficiencies and corrective action plans are not substantive and are not formally tracked; and (5) issue follow-through and tracking system deficiencies.

Notable shortcomings identified through Site Office assessments, walkthroughs, surveillances, etc., requiring Laboratory attention include Site Office concerns or Lab self-identified concerns:

- Implementation of Integrated Safety Management (ISM) principles across the site. The need exists to identify initiatives for improving the Laboratory's safety performance and to develop a path forward. Use every safety incident or "near miss" as an opportunity and learning experience by considering what could have happened and what could be done better with the objective of "zero incidents."

- Diverse operating practices exist between and within the Lab's three divisions. Where work conditions and hazards are not fundamentally different, common operational safety practices should be established and enforced.

- The timeliness of the disposition and closeout of safety related actions need improvement, ensuring that input from safety related review teams is addressed in an expedited fashion. This is particularly true for the FY 2004 safety improvement team report recommendations.

- The Quality Assurance/Self-Assessment program should be reviewed to ensure that the Program is meeting the needs of the Laboratory and DOE. The Site Office believes the Lab's Line self-assessments have generally lost focus on safety concerns and have been dominated with details on operational throughput and efficiency. Meaningful self-assessments are inherently difficult because of the closeness of the reviewer to the subject, such that some reviewers may be predisposed to believe that disclosure of safety concerns may be construed by external parties as a sign of poor hazard management. The potential conflict of interest concern was likewise identified in the 2004 Material Handling Safety Improvement Team report. Staff and line managers need to have the confidence to openly identify their perceived safety challenges and vulnerabilities to help bring about continuous improvement. This is a key element of the ISM process.

- An integrated corrective action tracking systems has not been established despite the Lab's commitment on January 31, 2003, to follow the recommendations in the 2002 Review of the Jefferson Lab ISM. The Site Office believes the Lab should place additional priority on this commitment. Multiple tracking systems are a likely hurdle to sharing information and evaluating conditions across divisional boundaries. Divisional preferences in tracking systems should be a secondary consideration to the priority in establishing an integrated corporate system.

There were no environmental exceedences for the fiscal year, so the third "key indicator" yielded a score of "Outstanding." In addition, the Laboratory won the Hampton Roads Sanitation District's Gold Award in 2004 for having no administrative or technical violations for their Industrial Wastewater Permit requirements.

All "secondary indicators" were scored "Outstanding" or "Excellent" in accordance with the established metric criteria. The Radiation Control Peer Review took place during August 30 - September 1, 2004, with an overall performance rating of "Outstanding." The Review Team was chaired by the Stanford Linear Accelerator Center Radiological Control Manager. The members of the Review team were most impressed with the overall depth of the radiation control program as well as the knowledge and commitment to the program demonstrated by the Radiation Control staff. The Team had one significant concern in that the Radiation Control Group resources supporting the Laboratory are currently challenged and may not be able to provide essential support as the science mission of the Laboratory as it continues to expand. The Team also recognized several noteworthy practices and provided a few recommendations for further refinement and improvements to the program. These recommendations should be given appropriate consideration for implementation during FY 2005.

The Environmental Management System (EMS) is a new requirement that was placed in the contract earlier this year. Several Laboratory staff members have worked very hard to develop this system and bring teams together to address the requirements needed to complete the FY 2004 EMS requirements, and are to be commended. The Laboratory should continue to place

the proper emphasis on EMS so that the Laboratory EMS can be certified before the end of CY 2005.

As directed by Congress, the U.S. Nuclear Regulatory Commission (NRC) and Occupational Safety and Health Administration (OSHA) conducted external reviews of the Laboratory in July and August 2003, respectively, as a prelude to possible transition to external regulation for the ten Office of Science laboratories. No significant program deficiencies were noted during the reviews. The reviews went well principally because of the coordination between the Laboratory, Site Office and the external reviewers. The Laboratory is commended for closing out ninety-eight percent of the OSHA findings to date with a schedule for addressing all of the findings well in advance of the August 2005 target date.

4.0 Quality of Business and Administrative Practices (100 Points)

This performance category measures the degree to which the Laboratory is maintaining effective and efficient business and administrative practices. Performance is measured by a peer review of the Laboratory's administrative and business systems (which is the key indicator and is valued at 70% of the overall points) and several secondary indicators that provide more detailed validation of the key indicator. The secondary indicators are grouped in the following functional areas: facilities management, property management and protection, financial management, procurement, human resources and services, and cyber security. Based on the results of the Administrative Peer Review (the key indicator) and the secondary indicators, Jefferson Lab achieved an "Outstanding" rating in FY 2004.

Peer Review

The FY 2004 SURA sponsored Administrative Peer Review was conducted at Jefferson Lab on May 5-7, 2004, by a panel that included representatives from other SC laboratories, DOE/SC, academia, the user community, and private industry. As in FY 2003, the FY 2004 Administrative Peer Review scoring point distribution method was revised to better match the Laboratory's new organization: the Administrative Services Division, the Office of Chief Financial Officer (CFO) and the Office of Chief Information Officer (CIO). Ms. Judith Penry (Chief Financial Officer, Oak Ridge Office) and Ms. Julie Erickson (Deputy Director, Pacific Northwest Site Office) were the DOE representatives. The Site Office participated in and observed the entire review. The purpose of the panel was to review each major element of the Laboratory's business, administrative and support systems to determine if it is pursuing high quality standards while being cost effective. In addition, the panel was to identify areas that warrant special attention for targeted improvement and/or special recognition. In arriving at an overall rating, the panel: (1) listened to extensive presentations by and interacted with Department Heads; (2) interviewed key members of the Laboratory and the DOE Site Office; and (3) reviewed supporting documentation including audit reports, appraisals and performance metrics.

Overall, the Panel rated the Laboratory's Administrative structure as an "Outstanding" and concluded that: (1) The three administrative support organizations reviewed are operating in a

highly effective manner; (2) Staffing for each of those organizations is lean but adequate with one exception: the Office of the Chief Information Officer; (3) The staff are highly motivated and professional and the leadership of those three organizations is well qualified and effective; and (4) Each of these organizations has developed strategic organizational goals that support the overall mission of the Laboratory and these strategies are being implemented in a conscious and effective manner.

The Site Office agrees with the overall rating of "Outstanding" and the recommendations resulting from the Administrative Peer Review as an accurate evaluation of the Laboratory's FY 2004 performance in the area of business management. The peer review approach involved experts with diverse backgrounds and broad perspective of views and "best management practices." This approach produced a valuable assessment of Jefferson Lab's performance in the business management area and will be continued in FY 2005 as a means of evaluating the Laboratory's performance. All of the recommendations from the FY 2003 Administrative Peer Review have been closed or a satisfactory rationale for deferring action was provided, and the FY 2004 Review uncovered no significant problems. However, the Panel did make several "long range" type recommendations to the Laboratory.

In addition to the Administrative Peer Review and the performance metrics, the Site Office monitors the Laboratory's performance on a day-to-day basis and utilizes matrix support from SC Headquarters (HQ) and ORO on an "as needed" basis. Based on the information provided in the technical assist visits/reviews as well as the information provided in the Administrative Peer Review Report, the performance-based metrics and DOE's ongoing operational awareness, the Site Office has determined that the Laboratory's business functions are being properly managed and that there are adequate business management systems in place to protect the Government's interests.

Secondary Indicators

Specific performance highlights and areas for improvement by each functional category are discussed below:

- Facilities Management. In FY 2004, the performance measures for this category focused on performing condition assessments, implementing planned projects, and comparing asset condition against the established goals in DOE O 430.1B, "Real Property Asset Management" (RPAM). The challenges in this area are formidable requiring both good planning and flexibility to meet the needs of a growing facility under tight budget constraints. Because of aging facilities across the DOE complex combined with severe funding constraints for capital projects, facilities management is one of the most important concerns within the Department. There were three measures ("secondary indicators") used to assess performance in this area for FY 2004. Based on these performance measures, the Laboratory's achievements in facility management resulted in an overall weighted rating of "Outstanding."

  The Site Office agrees with the Facilities Management accomplishments identified in the self-assessment document. In particular, the Facilities Management staff should be

recognized for their outstanding effort towards performing condition assessments as planned on a more aggressive schedule than is required by RPAM. This process which identifies maintenance needs and utilization issues is a key element of a healthy facilities management program. It provides the foundation for planning to optimize the life cycle costs of mission essential facilities and infrastructure. The emphasis on safety and diligence towards satisfying the ever changing and increasing requirements of the Facilities Information Management System (FIMS) are also commended. Although not mentioned in the self-assessment, the Lab has also done well at budgeting for maintenance activities as indicated by a Maintenance Investment Index (MII) of 3% as compared to the SC goal for 2%.

The Site Office concurs with the overall rating of "Outstanding" for the Facilities Management performance measures based on the overall performance towards the goals set for this area. These measures establish a challenging mix of goals that emphasize assessment, planning, and implementation for a healthy life cycle approach to facilities management and they should be continued for FY 2005. Additional challenges for FY 2005 will be to continue facility maintenance expenditures that sustain at least a 2% MII and balancing capital renewal projects to achieve an overall 4% Facility Investment Index even with increasing funding constraints.

- Property Management and Protection. The Site Office concurs in the overall rating of "Outstanding" which resulted from the satisfactory achievement of the FY 2003 performance goals and agrees that the measures are an accurate evaluation of the Laboratory's performance in property management and protection. It is noted that sensitive inventories continued at the improved rating of "Outstanding." The Capital Inventory rating fell to "Good" (98.9%) in 2003 and, while this is not a major concern at this time, appropriate ongoing emphasis should be applied to the FY 2005 Capital Inventory to assure that this is not a trend. DOE's ongoing operational awareness and SURA's objective performance results support the overall rating of "Outstanding."

  Facility walkthroughs and site observations further demonstrate that Jefferson Lab continues to strive toward an appropriate level of property accountability and protection. Property inventories conducted in FY 2004 indicated an accurate accountability rate exceeding 99% in all applicable categories. Personal property protection responsibilities were strengthened in the Lab-wide Security Awareness briefing, which is required for each employee. Other noteworthy accomplishments include: (1) Business Service Department assuming responsibility for the Property Management function and the hiring of a dedicated Lab Property Officer; (2) continued efforts to dispose of excess items and improve housekeeping, particularly in the warehouse areas and on the accelerator site; (3) increased emphasis on vehicle and equipment management under the Facilities Management Division; (4) a 60% reduction in the ratio of approving officials to P-Card holders and a 22% reduction in the number of P-Cards; (5) updating and formalization of policies and procedures, relating to Subcontractor and Precious Metals; and (6) continued support of corporate citizenship by making donations to schools through the Computers for Learning program. The Laboratory should also be noted for continuing to provide professional certification and training opportunities to property personnel. The reporting of Annual Property Balanced Scorecard

Self- Assessment and other reports have improved significantly in both quality and timeliness.

Improvement continues in the area of the accelerator stores, particularly the reduction in open accessibility. DOE recognizes and supports the incorporation of the Technical Stockroom function into the Administrative area. With the implementation of a "virtual stockroom" operation, the goal is to maintain the minimum required shelf inventory for items not easily obtained through internet or "just-in-time" procurements. The FY 2004 Stockroom inventory results, which incorporated lower threshold limits, were 99.9 % which is considered "Outstanding." However, Stockroom performance should continue to be closely monitored as a normal course of business with a continuing emphasis on efficiencies of operations and best business practices. The Laboratory is encouraged to continue to emphasize reduction of equipment in storage, stockroom inventory and excess property, and to pursue "corporate" use of Laboratory stores and reutilization of property.

SC conducted an onsite P-Card/Property review during September 2003. All issues raised have been addressed in FY 2004 with the exception of Lab fabricated equipment which is ongoing. Additionally, SURA conducted an internal audit of Property Management Systems which addressed similar findings. While there were no major issues, significant strides were made toward incorporating concerns into property operations during FY 2004.

- Financial Management. The Site Office agrees with the overall rating of "Outstanding" resulting from the performance measures as an accurate evaluation of the Laboratory's FY 2004 financial management performance. Among other things, this assessment of the Laboratory's day-to-day financial management activities is based on the results of assessments and annual transaction-testing audits.

  Of particular note this Fiscal Year, agreement was reached concerning the unallowable expenses identified in IG Audit Report No. IG-0629 (OR-04-009). Working with the Oak Ridge Operations Office financial personnel and the Contracting Officer, the SURA corporate office negotiated the necessary corrective steps to resolve the unallowable expenses identified for FY 2000 through FY 2002, and developed a supportable methodology for allocating Central Office Expenses (COE) for FY 2003 forward. All matters of the audit and subsequent lawsuit filed were addressed and resolved. Additionally, the FY 2005 COE has been negotiated and is in place for FY 2005.

  The Laboratory continues to adhere to financial plan controls and has an effective system of closely monitoring expenditures against approved funding levels. The accuracy and timeliness of the 533M Cost Report was excellent and the FY 2005 budget submission was properly detailed and addressed the needs of the Lab. The Lab's financial personnel continue to maintain positive working relationships with and be responsive to the Site Office, Oak Ridge Operations Office and Headquarters. The Lab's senior management personnel demonstrate support of the CFO organization through their encouragement of cost and budget awareness throughout the organization.

The Administrative Peer Review noted that the current staff in the CFO organization has considerable experience in the financial management of the Lab. The recommendations of the Administrative Peer Review are germane; notably, that the CFO Organization should give consideration to the expansion of the self-assessment process and the use of performance metrics beyond those identified in the Contract Appendix B. To continue looking for ways to be a value-creating, customer-focused partner in the Lab's business results, other performance metrics should be developed to measure financial performance. The Institutional Management Review Committee noted in their review that control of available resources was effective in meeting the scientific mission. They stated the use of long range strategic planning and use of third party financing has helped with institutional needs such as cooling tower modifications. However, they also did note that Activity Based Costing (ABC) is not apparent in the Nuclear Physics programs. The CFO is encouraged to work with the operational elements to implement ABC. The ability of managers to see how costs are utilized in support of activities or processes should help in the financial decision making process and the allocation of overhead costs.

As noted in the FY 2003 report, an area of continued focus should be preparations for integrating the Laboratory's financial systems into the DOE's financial management system. The Standard Accounting and Reporting System (STARS), a financial management system that will be the foundation for linking budget formulation, budget execution, financial accounting, financial reporting, cost accounting, and performance measurement, is scheduled for implementation by Oak Ridge in April 2005. This financial system will continue to move M&O contractors to become integrated. Continued dialogue by the Laboratory, Site Office, Oak Ridge Operations Office, and Headquarters will be necessary to develop and implement a path forward

- Procurement. The Site Office agrees with the overall rating of "Outstanding" resulting from the performance measures as an accurate evaluation of the Laboratory's FY 2004 procurement performance. The Business Services Department continues to have a high level of customer satisfaction within the Laboratory and their efforts has resulted in reducing the average procurement cycle time to 3.65 days. The use of P-cards and e-commerce appears to be well controlled. The procurement managers have an average of 20+ years of experience and are dedicated to supporting the mission of the Laboratory. The successful transition of property management into the Business Services Department appears to have gone very smoothly with little to no interruption in the service level provided.

  Jefferson Lab continues to support the Department's socio-economic objectives and goals. Their dedicated efforts exceeded the FY 2004 contractually required socio-economic subcontracting goals and the Laboratory received two "Corporate Cups" from the Virginia Minority Supplier Development Council (VMSDC) for outstanding outreach activities with minority businesses. In addition, the Laboratory's Small Business Manager is the Vice Chair of the Tidewater Regional area of the VMSDC, which once again shows the Laboratory's strong commitment to the Department's small business program.

  Jefferson Laboratory's "Small/Disadvantaged Subcontractor of the Year" award continues to be greatly appreciated by the proud recipients and demonstrates, once again, the Laboratory's

strong support of DOE's socio-economic objectives. The Laboratory continues to do an outstanding job of balancing achievement of socio-economic goals while maintaining subcontracting competition and transitioning toward commercial procurement practices. Recent examples include: implementation of an on-line "Vendor Portal" database that provides the Laboratory with important information on Laboratory vendors; implementation of an online system to enable online processing of domestic and international express mail request (that resulted in a ½ FTE savings); a 26% increase in the number of vendors participating in the Laboratory's "just-in-time" e-commerce system; and, an overall reduction of the number of purchase cards at the Laboratory (as well as an overall reduction of approving officials).

- Human Resources Management. The Site Office concurs in the overall rating of "Outstanding" as an accurate evaluation of the Laboratory's performance in Human Resources and Services. This rating is further supported by the FY 2004 Administrative Peer Review. The Laboratory senior management continues to demonstrate a strong commitment to a compensation program that is competitive with other DOE laboratories and provides a complete range of employee benefits at a reasonable cost. Compensation positions were aligned with market and annual increases in premium costs were below market. The FY 2004 Salary Increase Fund proposal and required salary actions were noted as being reasonable, and well documented and presented. The Laboratory continues to improve its overall training program through the enhancement of web-based training. The Laboratory implements an effective Affirmative Action Program and continues to expand its interface with local Historically Black Colleges and Universities and other Minority Educational Institutions. All Diversity Commitments were met and a strong focus should continue in identifying minority recruiting sources and increasing representation in protected classes.

  The Laboratory hired a Director of Human Resources who reported in May 2004 to fill a noted vacancy.

  Recent indications suggest that an increased emphasis should be placed on the timely addressing and successful closure to all employee concerns and grievances. A deficiency in this area would be considered a serious weakness.

- Security. The Laboratory personnel responsible for both physical and cyber security are doing an admirable job. In summary, the "Outstanding" rating achieved in the cyber category is an accurate evaluation of the Laboratory's FY 2004 performance.

  During the period February 24-26, 2004, a representative from the Oak Ridge Operations Office conducted a Security Survey to assess the Laboratory's Security Program. The Security Program at the Laboratory comprises a broad area of responsibility that includes export control, material control and accountability, people, physical, and cyber security.

  The Survey did not find any areas of concern and the Security Program received the highest rating of "Satisfactory" in all applicable topical areas and a "Satisfactory" composite rating.

The Oak Ridge representative noted several innovations that could possibly be implemented at other DOE facilities such as: the key locker process whereby keys are electronically made available by a password; use of portable guard shacks during security level changes to keep the security officers out of inclement weather; and, an excellent security awareness briefing that is both interesting and informative. All Jefferson Lab staff received the annual integrated security management awareness briefings. The Laboratory responded quickly to all DOE requests, often on short notice, for changes to the Laboratory's security posture as necessitated by changes in Homeland Security advisories and DOE HQ direction. A Foreign Visit and Assignments (FV&A) Program was established during the year in response to increased worldwide terrorism and will be incorporated into the DOE/SURA contract during FY 2005.

The Site Office will continue to work with the Security Manager and Laboratory management to determine appropriate actions to address evolving policies and requirements while maintaining a level of security appropriate for the facility considering the national and local threat evaluation.

With regard to cyber security operations, the operations are well managed and there were no root-level compromises and no instances where Jefferson Lab was used to attack other systems during FY 2004. In May 2004, the Office of Independent Oversight and Assurance Cyber Division (OA), performed an assessment and found a small, but strong cyber security team that has implemented an effective firewall against Internet-borne attacks. The Computer Center and Business Services teams have established positive aspects on which to build a strong and efficient program. The assessment also noted the Accelerator staff established good configuration practices and management of network resources under their control. As the threat model has changed from the perimeter to the inside, there is a heightened concern for inside vulnerabilities within DOE. The assessment team did find several weaknesses that could potentially allow information and system harm from the inside. The Laboratory applied immediate corrective action during the time of the inspection, and instituted several major changes after the end of the onsite inspection. The Laboratory's posture has been significantly strengthened since the time of the OA reviews, and a corrective plan has been reviewed and accepted by both the Site Office and OA. The Laboratory will be challenged to balance implementation of these corrective actions, sustain regular operations, and tackle unknown future threats, all with associated funding.

Jefferson Lab should continue to work closely with the Site Office to ensure that all security program elements are addressed. We agree with the areas of emphasis in the Laboratory's Self-Assessment: (1) Continue to implement the Material Control and Accountability (MC&A) Program and ensure that "other nuclear materials" on site are maintained in accordance with DOE requirements, and (2) Continue to keep abreast of and implement the applicable Department security initiatives that relate to Jefferson Lab, including but not limited to non-classified computer (cyber) security, foreign travel, and export controls. This item is a repeat from last year's performance evaluation report, recognizing the continued emphasis in these areas across all levels of Government.

In addition to the Administrative Peer Review and the performance metrics, the Site Office monitors the Laboratory's performance on a day-to-day basis and utilizes matrix support from SC/HQ and ORO. During this year, the Site Office received the following technical assist visits/reviews in the security area:

Office	Date
OR Security Survey	February 24-26, 2004
OA/HQ Cyber Security	May 17-21, 2004

In summary, the "Outstanding" rating achieved in this category is well supported by the Peer Review Panel's work, secondary performance measures, the Laboratory's self-assessment, DOE's ongoing operational awareness, and by other indicators of an effective business and administrative structure. SURA/Jefferson Lab should continue working to close the remaining recommendations identified in the Administrative Peer Review Report, "improvements/ initiatives" identified in their self-assessment, and in the Correction Action Plan prepared in response to the OA review.

5.0 Responsible Institutional Management (100 points)

In August 2004, an Institutional Management Review of the TJNAF was conducted. In addition, the Laboratory conducted its 2004 Self-Assessment. Both reviews resulted in a rating of "Outstanding" in the area of Institutional Management. The JSO agrees that a rating of "Outstanding" in the Institutional Management Category is appropriate.

Performed on a biennial basis, the 2004 Institutional Management Review included the review of Strategic Planning, Managerial Effectiveness and Organizational Culture. The review panel indicated that the Laboratory has a clear vision of its future which includes significant focus on the 12 GeV Upgrade. Operationally the panel indicated that the Laboratory has delivered on its commitments. The Laboratory's strategic plan is well developed and well aligned with the goals of the DOE and the Laboratory User community. The currently experimental and theoretical scientific programs and their potential were found to be "Outstanding" by the 2003 and 2004 Science and Technology Reviews. The Laboratory has consistently delivered physics over 100% of the goal every year and Hall availability exceeded expectations. The Laboratory has continued to deliver on the committed scope on the Spallation Neutron Source (SNS) Project within cost and schedule. JLab management worked hard to help achieve the CD-0 approval for the 12 GeV project and has secured multi year funding for the FEL. JLab management also continues to incorporate cost reduction through process improvement and reengineering. JLab management has controlled the overall budget within a 13.3% overall increase from FY 1998 until FY 2004. The staff at JLab generally views the Laboratory as a great place to work and moral appears to be high.

The Office of Science has undergone organizational changes in FY 2004. In addition to its Federal stewardship, program management, and contract management and administration responsibilities, the Site Office will be relied upon more heavily by DOE managers in the Office

of Science to provide a "sense of the Laboratory." These changes will require enhanced communication between the Site Office and JLab personnel at all levels. The Laboratory management should work with the Site Office to enhance and promote such efforts.

As we look ahead in 2005, the TJNAF management should focus attention on improving the EH&S conditions to ensure a safe work environment for all its employees. In addition, a strong effort should also be placed on achieving success with the 12 GeV Project. This project is critical to the future of the TJNAF and should be managed accordingly.

6.0 Project Management (57 Points)

There were five performance measures for this area in FY 2004 however only four of them were scored. The greatest emphasis was placed on schedule performance for the SNS Project. The other four measures covered cost and schedule performance on the CEBAF Center Addition, Phase 1 (CCA) Project and other projects valued at over $100K. The cost measure for the CCA Project was not scored due to budget issues that were beyond the Laboratory's control. The Site Office and Laboratory independently concluded an "Outstanding" rating was warranted.

The SNS Inter-laboratory Memorandum of Agreement (MOA) requires that SNS management assess, at least annually, the performance of the SNS partner laboratories consistent with the SNS performance measures contained within their respective management and operating contracts. The following is quoted directly from the SNS management evaluation of the technical and management performance of Jefferson Lab for SNS work performed during FY 2004 and includes areas discussed with the Laboratory Director for desired emphasis during FY 2005:

> "Jefferson Lab is responsible for the superconducting cavities and cryomodules and cryogenics system. Over the last fiscal year many of the production issues, that became visible towards the end of FY 2003, impacted the production of the cryomodules. With strong engagement of Jefferson Lab management, the necessary expertise was focused on the resolution of these problems. Unfortunately, neither the schedule nor the cost variances could be recovered. As a result, it was necessary to develop a consistent schedule and cost plan to finish the balance of the work planned for Jefferson Lab. This approach was developed with SNS, Jefferson Lab and DOE concurrence. With the steps taken to improve cavity processing, production has been tracking closely to the revised plan. The cavities are consistently exceeding specification in tests at Jefferson Lab and in the recent integrated system test at Oak Ridge National Laboratory (ORNL). It will be very important that Jefferson Lab meet the objectives of this new plan without further cost growth or schedule slippage."
>
> "The second area of Jefferson Lab's involvement in SNS is the procurement, installation and commissioning of the Central Helium Liquefier (CHL). While originally anticipated to be in operation in March 2004, the CHL completion is now projected to be December 2004. Additionally there is some uncertainty concerning the operation of the 2-Kelvin cold box. Nevertheless, operation of the facility down to 4 Kelvin, cooling down the transfer line and beginning cryomodule cool down, shows

> that essential milestones can be met on the current schedule. Consistent support from Jefferson Lab staff and management will be required to bring this system to the final handoff stage."
>
> "The team, under the leadership of Claus Rode, continues to work closely with ORNL staff to pursue construction and testing activities to meet crucial project milestones. Efficient management of resources and infrastructure are key to successful delivery of cryomodules and other systems on schedule and within budget."

Although FY 2004 was a challenging year for work on the SNS Project, the Laboratory responded well to the challenges and has delivered quality products with cost and schedule tracking closely to the approved production plan. The Site Office agrees with the score of "Outstanding" on this measure in the self-assessment document based on the scoring criteria established for FY 2004.

In FY 2005, continued Laboratory management attention to ensure that the final stages of SNS work are completed according to the plan is strongly encouraged. The Jefferson Laboratory SNS work during FY 2005 will continue to be primarily in-house assembly of cavities and cryomodules. As the Laboratory is working diligently to deliver these key components on schedule and within budget, it is also imperative to continue to place strong emphasis on maintaining a safe work environment. Since delivery of the SNS cryomodules in support of the SNS Project schedule will continue to be the key focus for FY 2005, the SNS performance metric for FY 2005 will continue to measure performance against cryomodule completion milestones.

This was an extremely challenging year for the CCA Project as well because of budget issues that delayed start of construction by over two months. The Laboratory is commended for its outstanding support in preparation for the CCA Project Critical Decision 3 (CD-3), Approve Start of Construction, and rapid award of the construction subcontract once CD-3 was approved. The CCA will provide greatly needed office and computer space to support the Laboratory's mission. It was ranked as the number one priority in the Laboratory's Strategic Facilities Plan.

The Site Office agrees with the score of "Outstanding" on the CCA schedule measure in the self-assessment document based on the scoring criteria established for FY 2004. The cost measure was not scored because of the previously mentioned budget issues that were out of the Laboratory's control.

Challenges in FY 2005 for the CCA Project will be to maintain a safe work environment while achieving technical, cost and schedule baselines. CCA Project metrics for FY 2005 will measure both cost and schedule performance.

The cost and schedule measures for projects valued at over $100K were scored this year using the aggregate of performance on all projects versus a sum of the performance on individual projects. This approach is appropriate for these projects since the overall performance on

projects of this size is of greater significance than individual project performance. The Site Office agrees with the scores of “Outstanding” and “Excellent” corresponding to cost and schedule performance on projects valued over $100K in FY 2004.

Challenges in FY 2005 are to establish an improved process for joint Laboratory and Site Office review and prioritization of General Plant Projects, and to provide additional technical, cost and schedule status information on selected projects. Measuring aggregate cost and schedule performance for projects valued at over $100K is appropriate and will be continued in FY 2005.