Fiscal Year 2000

Annual Performance Evaluation and Appraisal

Lawrence Berkeley National Laboratory

Prepared by:

U.S. Department of Energy
Oakland Operations Office
December 2000

CONTRACTING OFFICER'S EVALUATION

The DOE Oakland Operations Office Performance Review Board reviewed and discussed the recommendations of functional managers and staff concerning the appropriate adjectival and numeric ratings with which to rate the University of California's performance in the management and operation of the Lawrence Berkeley National Laboratory. Based upon this process and a unanimous vote of the members of this board, an adjectival rating of "**Outstanding**" is granted, based on a numeric rating of 914 points. This report, the "Fiscal Year 2000 Annual Performance Evaluation and Appraisal - Lawrence Berkeley National Laboratory" provides the basis for my determination, and is hereby endorsed and approved.

Recommendation:

_____ Date:_____

Martin J. Domagala
Deputy Manager
Chairperson, Performance Review Board

Approval:

_____ Date:_____

Camille Yuan-Soo Hoo
Manager
Oakland Operations Office

FY 2000 Annual Performance Evaluation and Appraisal for Lawrence Berkeley National Laboratory

TABLE OF CONTENTS

Title Page

EXECUTIVE SUMMARY 3

Introduction 3
Performance Period 3
Appendix F - Objective Standards Of Performance And Contract Requirements 3

FY 2000 Appraisal Results in Brief 5
A. Overall Results FY 2000 5
B. Overall Trend Results FY 1995 - 2000 6
C. Science and Technology 7
D. Operations and Administration 12

Conclusions and Recommendations 20

DETAILED APPRAISAL RESULTS
Science and Technology
Institutional Level Assessment 23
Basic Energy Sciences 26
High Energy Physics 29
Nuclear Physics 33
Computing Sciences 36
Fusion Energy Sciences 41
Biological and Environmental Research 44
Energy Efficiency and Renewable Energy 46
Civilian Radioactive Waste Management 54
Fossil Energy 57
Operations and Administration
Laboratory Management 62
Environment Restoration and Waste Management 78
Environment, Safety and Health 91
Facilities Management 116
Financial Management 131
Human Resources 163
Information Management 183
Procurement 200
Property Management 215

APPENDICES

A. Report Methodology A-232
B. Science and Technology Scores B-240
C. Operations and Administration Scores C-245
D. Computation of Salary Increase Authorization Multiplier D-260

Executive Summary

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Executive Summary

Introduction

This report, produced by the U. S. Department of Energy (DOE) Oakland Operations Office (DOE OAK), provides the Contracting Officer's written assessment of the Contractor's performance at the Lawrence Berkeley National Laboratory (LBNL) under contract DE-AC03-76SF00098. Contract Appendix F defines the Objective Standards of Performance agreed to by DOE and the University of California (Contractor or UC) to annually measure the Contractor's overall performance of operations and administration, and science and technology/program performance under the contract.

Performance Period

This appraisal and evaluation is for the period from October 1, 1999 through September 30, 2000 (Fiscal Year 2000). Certain performance measures are on a calendar year basis and they are identified in the "Detailed Appraisal Results" section of the report.

Appendix F - Objective Standards of Performance and Contract Requirements

This report provides Contracting Officer's Fiscal Year 2000 evaluation and validation of the Contractor's self-assessment of performance in its management and operation of LBNL for DOE under the contract. In this contract, UC and DOE have agreed to use a performance-based management system for Laboratory oversight. The parties agreed to use clear and reasonable, objective performance measures as standards against which the Contractor's overall performance of Science and Technology and Operations and Administration under the contract will be assessed and evaluated. DOE and UC also agreed that the Contractor would conduct an ongoing self-assessment process, including self-assessments done by the Laboratory, as the principal means by which the Contractor would evaluate compliance with the performance objectives contained in Appendix F.

DOE OAK conducts validations against the Contractor's self-assessment and evaluates the Contractor's performance. The validation effort is conducted by teams that are responsible for the various functional areas represented in Appendix F. These teams, with guidance from DOE OAK management, are responsible for developing an adequate, independent basis for assessing the quality, credibility, and accuracy of the Contractor's self-assessment, and for establishing a basis for DOE OAK's evaluation of the Contractor's performance.

This report fulfills the requirements of the contract (Appendix F), and specifically supports and meets the following contract requirements:

- Provide a summary of the results from the conduct of the DOE OAK validation program and evaluation of performance of work under this contract, as required by Clause 2.6.

- Provide a written assessment of the Contractor's performance under the contract based upon the DOE OAK appraisal program and the Contracting Officer's evaluation of the Contractor's self-assessment, as required by Clause 2.6(e).

- Provide the basis for determination of the Senior Management Salary Increase Authorization (SIA) Multiplier, as required by Section III (compensation) paragraphs (f), (6) and (8) of Appendix A and Section C, Part III of Appendix F.

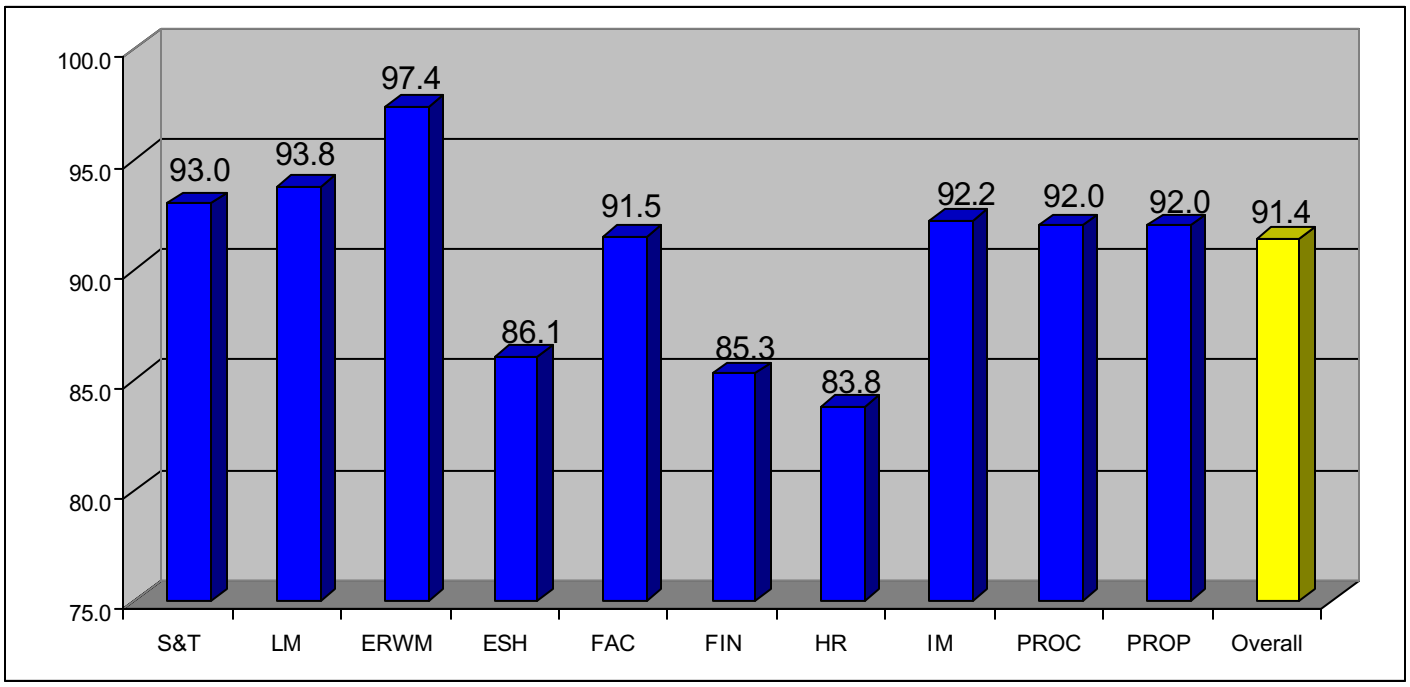
- Provide the basis for determination of the Contractor’s Program Performance fee, as required by Clause 5.3.

FY 2000 Appraisal Results in Brief

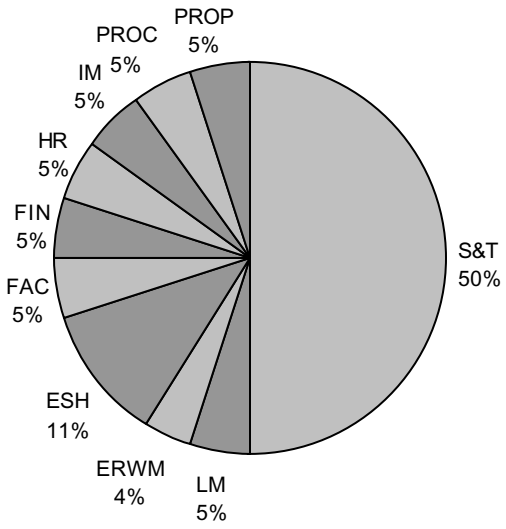
A. Overall Results FY 2000

DOE rates the overall performance of LBNL as **Outstanding** for FY 2000.

A.1 RATING SUMMARY

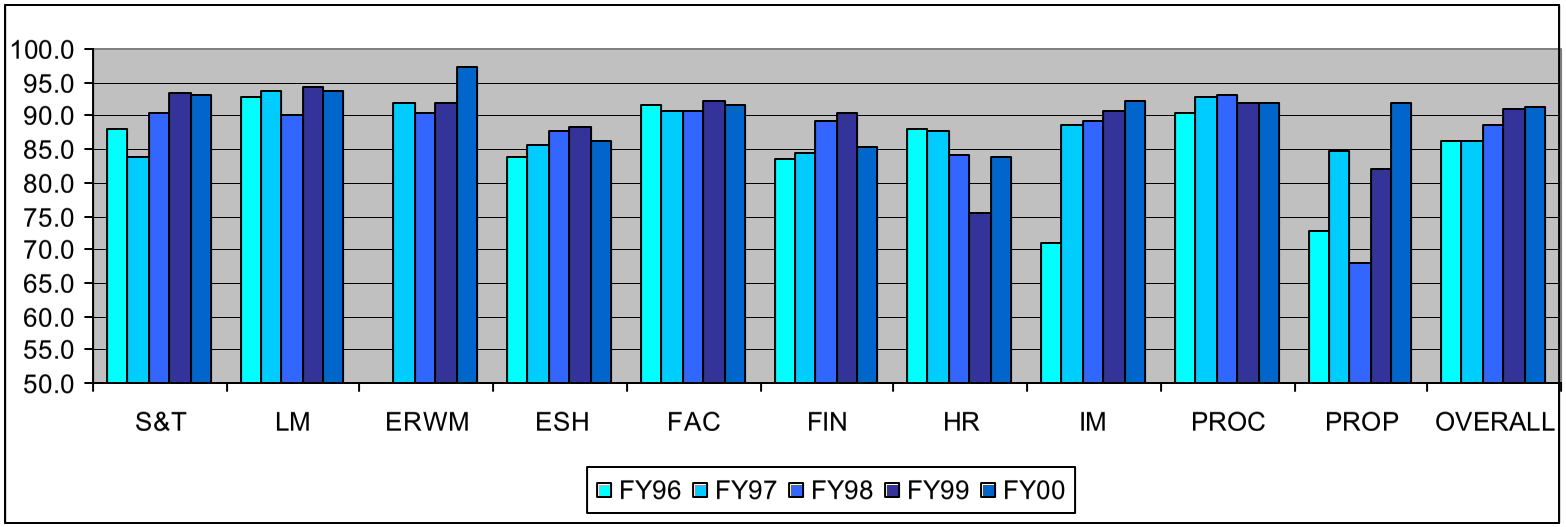


A.2 WEIGHTING SUMMARY



FY 1995-2000 Appraisal Results in Brief

B. Overall Trend Results FY 1995 – 2000



Science and Technology

DOE's FY2000 science and technology/program assessment of the Lawrence Berkeley National Laboratory (LBNL) is based upon peer reviews of its twelve scientific divisions, corresponding self-assessments by LBNL and the University of California, and validation reviews by DOE HQ program managers and their DOE Berkeley Site Office counterparts. The DOE assessment of performance for research programs is comprised of a funding weighted evaluation of the following DOE programs: Basic Energy Sciences (BES), High Energy Physics (HEP), Nuclear Physics (NP), Advanced Scientific Computing Research (ASCR), Fusion Energy Sciences (FES), Biological and Environmental Research (BER), Energy Efficiency and Renewable Energy (EERE), Civilian Radioactive Waste Management (CRWM; i.e., the Yucca Mountain Project), and Fossil Energy (FE). Within LBNL, each of these DOE programs is mostly executed by one or two of the Laboratory's twelve scientific divisions. An exception to this is the BES program, which is carried out by four Laboratory divisions, including the Advanced Light Source (ALS).

LBNL had a very successful and scientifically productive year in FY 2000. It's overall Science and Technology score of 93.0 reflects the fact that all but one Office of Science program provided across-the-board ratings of "outstanding" to LBNL research programs.

The overall rating of Science & Technology programs is **outstanding** for FY 2000.

Institutional Level Assessment

LBNL continues to excel in its ability to develop and execute scientific programs. From FY1993 to FY2000, the Laboratory's total annual budget grew by over 60% and total Laboratory staff grew by over 40%, to ~$416M and ~3850 FTEs, respectively. During this time, the Laboratory's mission has also broadened considerably to include growing efforts in the Life and Computing Sciences, and increasing collaborations and contributions to research activities at other DOE institutions and international facilities. The Laboratory's institutional planning process provides for the establishment of strategic directions, related research initiatives and facilities, and resource priorities for ensuring the future viability of the Laboratory. LBNL is in the second year of moving toward its "VISION 2010": Fundamental Understanding of the Universe, Quantitative Biology, Complex Systems (Nanoscience), New Energy Sources and Environmental Solutions, and Integrated High-Performance Computing. During FY2000, LBNL management began to focus special attention on three areas that impact the science and technology programs: space/strategic facilities planning, human resource management (recruitment, retention, diversity), and community relations.

All five of LBNL's user facilities continue to operate at or near record-levels of scientific productivity: the Advanced Light Source (ALS), the National Center for Electron Microscopy (NCEM), the National Energy Research Supercomputer Center (NERSC), the 88" Cyclotron, and the National Tritium Labeling Facility (NTLF). The Laboratory continues to provide ~3.5% of its funding annually to Laboratory-Directed Research and Development (LDRD). This program supports a broad range of leading edge projects complementary to DOE-funded work, and provides the Laboratory with a critical mechanism to recruiting and retaining key research staff. Work For Others (WFO) at LBNL

has also grown in recent years, especially funding from the National Institutes of Health, and appears to be leveling-off near 20% of total laboratory funding.

Basic Energy Sciences

LBNL's Basic Energy Sciences (BES) programs continue to earn an overall **outstanding** performance rating. The Laboratory has been a leader in the complex materials initiative and developing the basis for the national nanosciences initiative. In FY2000, LBNL made notable advances in the fabrication of gallium nitride (GaN) semiconductors that were recognized in professional society awards and honors. The Laboratory also continues to be recognized for outstanding research in radiochemistry, actinide and inorganic chemistry, and chemical catalysis. In the geosciences, LBNL submitted highly rated proposals related to Carbon Sequestration to the Climate Change Technology Initiative. The scientific output and user satisfaction at the Advanced Light Source (ALS) and National Center for Electron Microscopy (NCEM) has been outstanding. The number of annual users continues to grow, and there is eager anticipation for the broad range of new science results. An excellent job is being accomplished in the construction of the new ALS Molecular Environmental Scieces (MES) beamline.

High Energy Physics

The overall HEP program performance rating remains **excelle nt**. High Energy Physics (HEP) research activities continue to be world class and among the nation's best. LBNL researchers are playing a leadership role in the nation's HEP research program and their peers consider their performance to be outstanding. The leadership of the Physics Division (PD) has been very effective in maintaining high quality contributions to HEP programs during this period of tight budgets. The leadership of the Accelerator Fusion Research Division (AFRD) has also maintained high quality output with limited resources by identifying areas, both within and outside of HEP programs, in which the unique capabilities of the LBNL staff and facilities can have the most beneficial impact. Both Divisions have worked with other LBNL divisions to maximize their effectiveness. LBNL scientific staff serve on the National Science Board and on the High Energy Physics Advisory Panel. An LBNL scientist is leading the commissioning of the upgraded Collider Detector at Fermilab (CDF). A recent external review of the Relativistic Klystron Two Beam Accelerator project determined that this project is considerably behind schedule and over budget due to insufficient managerial oversight. Also, inadequate facilities for the Superconducting Magnet Group remains a long-term issue despite recent improvements. The need for expanded laboratory facilities for this group remains a long-term issue, and needs to be addressed.

Nuclear Physics

LBNL's overall performance in the Nuclear Physics program has been **outstanding**. The quality of science performed by the Nuclear Physics Group remains outstanding, and the Laboratory is among the world leaders in major parts of the program. The Berkeley Laboratory continues to play a major role in the STAR experiment at the Relativistic Heavy Ion Collider (RHIC) experiment at Brookhaven National Laboratory and the Sudbury Neutrino Observatory (SNO) in Ontario, Canada. LBNL is also the lead U.S. laboratory in the collaboration with Japan on the KamLAND neutrino oscillation experiment. The Gammasphere, the world's most powerful gamma-ray detection instrument, was

relocated back to LBNL from Argonne National Laboratory, and the Laboratory is now developing the Gamma-Ray Energy Tracking Array (GRETA) that would be yet a thousand time more powerful than the Gammasphere. LBNL is also providing technical and management leadership for the proposed Rare Isotope Accelerator (RIA), including the needed development of new, more intense ion sources.

Computing Sciences

Computing Sciences and network research continues to be **outstanding** at LBNL. LBNL has developed and maintains a world class supercomputer center and computing science research program. The National Energy Research Scientific Computing Center (NERSC) continues to be an extremely powerful computing environment incorporating high performance computing capability, capacity and storage resources. NERSC is also the Center for Computational Science and Engineering that addresses high-resolution numerical methods for advanced modeling and problem solving in areas such as computational fluid dynamics. The Energy Sciences Network (ESnet) is the backbone of DOE's research network. ESnet provides access to the NERSC computing environment, and to other experimental and computational facilities, for scientists across the nation and for international scientific collaborations. LBNL's Applied Mathematics Research Program provides research into computationally intensive techniques for solving complex mathematical problems. The Laboratory Technology Research (LTR) office continues to show leadership, creative thinking, and study of critical scientific questions. LBNL is also a partner in the Office of Advanced Scientific Computing Research's Grand Challenge projects.

Fusion Energy Sciences

Lawrence Berkeley National Laboratory (LBNL) has done an **outstanding** job as the lead for the Office of Fusion Energy Sciences' Inertial Fusion Energy (IFE) program. LBNL management has shown leadership as exemplified by their collaboration with Lawrence Livermore National Laboratory (LLNL) and the Princeton Plasma Physics Laboratory (PPPL) on the Virtual National Laboratory (VNL) for Heavy Ion Fusion. LBNL managers have demonstrated vision in carrying out long range planning and strong support for the program. With future fusion energy budgets uncertain, LBNL leadership must ensure that near term tasks are clearly identified in field work proposals, so that an orderly progression of accomplishments can be demonstrated.

Biological and Environmental Research

Overall LBNL performance in the Biological and Environmental Research (BER) program continued to be **outstanding** in FY2000. Even though previous reviews have been laudatory, there have been further improvements in both the quality and magnitude of the science, and in the integration of different disciplines. The Life Sciences Division has capitalized on a number of special features that enable them to make progress in ways that are not readily accessible in the standard academic departments of cell and molecular biology. The Joint Genome Institute (JGI) continued its remarkable progress in FY2000, becoming the first public center to complete the draft DNA sequencing of its assigned part of the Human Genome Program (HGP), i.e., chromosomes 5, 16, and 19. The JGI has now gone on to other DNA sequencing efforts, including numerous micro-organisms and the Fugu fish. In structural biology, the protein crystallography program at the ALS has been extremely productive. In the environmental sciences, LBNL has made state-of-the-science contributions to DOE's

Atmospheric Chemistry Program, including execution of the Atmospheric Radiation Measurement (ARM) Carbon-Cycle project. LBNL is also making mission-critical contributions in Natural and Accelerated Bioremediation Research (NABIR), Ocean Carbon Sequestration, and the water-cycle initiative in the US Global Change Research Program (USGCRP).

Energy Efficiency and Renewable Energy

LBNL has demonstrated **outstanding** performance in promoting the Department of Energy's (DOE) mission of ensuring reliability of the Nation's electricity infrastructure and of fostering renewable energy technologies such as wind energy. LBNL's intellectual contributions, outstanding publications, analyses, and hands-on technical assistance are highly valued by local, state and federal policymakers. LBNL's work in addressing key barriers that hamper the development of advanced batteries for electric and hybrid vehicles is of the highest quality, timely, and effectively communicated. LBNL has shown excellent leadership in improvement of appliance standards, development of design tools for buildings, indoor environmental research, and window research. In the Indoor Air Quality and Rebuild America programs, new program management at both LBNL and DOE Headquarters may require extra effort and time to ensure a common understanding of all parties. Moreover, the Design Tools and Window Research Programs require much needed improvements in implementing monthly reporting of activities, progress towards milestones, budget and expenditures. The Lighting Program's recent shift towards more basic research especially in the area of solid state lighting should be strongly encouraged. Collaborative research with other divisions within the Laboratory and other research institutions and manufacturers should be strongly encouraged especially in the solid state lighting arena. The Laboratory must make a commitment to long-term planning for their Lighting Research Group towards more basic lighting research. The overall rating in Energy Efficiency and Renewable Energy programs at LBNL is **outstanding**.

Office of Power Technologies (OPT):
Overall, LBNL has done **outstanding** work for the DOE Office of Power Technologies in the areas of Transmission Reliability, Electric Restructuring and the Wind Energy Program. LBNL's intellectual contributions and hands-on technical assistance are highly valued by local, state and federal policymakers. Laboratory staff produced several outstanding publications and reports that have played an integral role in supporting DOE's mission of ensuring reliability of the Nation's electricity infrastructure, and of fostering renewable energy technologies such as wind energy.

Office of Transportation Technologies (OTT):
Overall, LBNL provides an **outstanding** service to the DOE and the scientific community. Work is of the highest quality, deadlines are met, and results are communicated in a meaningful manner. LBNL adds great value to each OTT program it supports.

Office of Building, State and Community Programs (BTS):
Appliance Standards: LBNL has been the principal source of analyses for DOE's efforts to improve the energy-efficiency of appliances for two decades. Though analytical requirements have been demanding, LBNL has consistently and successfully managed to address the most difficult challenges. LBNL efforts to make the appliance standards analyses simultaneously more transparent and more robust have greatly facilitated stakeholder understanding and acceptance of DOE's appliance standards program.

Design Tools: LBNL made significant progress towards delivering major software in FY2000. LBNL is involved in major new cost-shared programs with the State of California under the DOE Commercial Building Roadmap.
Lighting Research and Development: LBNL made important contributions to DOE's new Lighting R&D Roadmap in FY2000. Solid-state lighting research provides a significant opportunity for the Laboratory that is just beginning to be explored by leveraging fundamental materials and chemistry research at the Laboratory. Now is a unique time for the LBNL lighting program to develop a strategic plan that identifies resources needs (facility and human) and targets solutions to long-term research goals.

Civilian Radioactive Waste Management

LBNL is responsible for one of the most technically challenging tasks in the Yucca Mountain Project (YMP), and consistently does an **outstanding** job technically and programmatically. Their role in understanding the unsaturated zone at Yucca Mountain, their participation in the thermal tests, studies of coupled processes, and their work in understanding the uncertainties in the performance of Yucca Mountain are all exemplary. They are regarded as insightful leaders, frequently bring forth solutions on their own initiative, and are always cooperative in executing their part of the project. With respect to Quality Assurance (QA), LBNL has a very strong leader who stays abreast of all facets of the program and demands a quality product. Additionally, the caliber of Laboratory project personnel and their dedication to delivering a quality product has been reflected in positive QA audit results as well as the minimal number of deficiencies identified within the program. The Laboratory appears to be taking measures aimed at further improvements including: (1) documenting software routines, and (2) promoting an open forum for communications between project management and research staff.

Fossil Energy

Overall LBNL performance in the Fossil Energy program for the Natural Gas and Oil Technology Program is **outstanding**. LBNL conducts outstanding research in advanced diagnostics, reservoir imagining and process monitoring to improve recovery from oil fields that has been highly merited by petroleum industry. Outstanding leadership and research management has been demonstrated in timely delivery of reports, coordinating with other researchers and laboratories, and balancing scientific resources against limited budget constraints. Additional laboratory technician support is needed in the Rock-Fluid Imaging Laboratory to support the researchers with routine laboratory activities. As the researchers begin to branch into other high potential R&D areas, the need for additional laboratory support staff will become even more critical.

Operations and Administration

Laboratory Management

Lawrence Berkeley National Laboratory's (LBNL) overall Laboratory Management rating for FY 2000 is rated **outstanding** at 93.8%.

LBNL continued to build upon its strong set of planning activities in FY2000. Special emphasis focused in three challenging areas that will affect the future of the institution and are common to the DOE Science laboratories: infrastructure and strategic facilities planning, addressing workforce challenges (diversity and age demographics, recruitment and retention), and public communications/community relations. Results highlights include: the Joint Genome Institute (JGI) completed the draft DNA-sequencing of its part of the public Human Genome Project (chromosomes 5, 16, 19) and is moving on to DNA-sequence other organisms; the number of users/collaborators, beamlines, and the scientific productivity of the Advanced Light Source (ALS) continues to expand; the leased Oakland Scientific Facility (OSF) was prepared to house the Laboratory's computing systems, including the National Energy Research Supercomputing Center (NERSC) for up to the next decade; and program momentum is building for two major initiatives to build a Nanoscience facility and a SuperNova Acceleration Probe satellite. The Laboratory continued its strong support to the DOE "integrated system of laboratories" by contributing its expertise in accelerators, detectors, and other areas through collaborations on a number of major facilities and projects around the DOE complex. Science education and outreach activities are well leveraged, but remain highly resource constrained. The Laboratory responded successfully to a number of new DOE and Congressional requirements in areas such as security, project management, and travel costs.

Laboratory Management remains performance/results-driven, and supportive of partnership and engagement with customers and stakeholders. Several standing forums and venues are utilized to maintain regular communications with DOE and the University of California, and to internally convey progress, directions, and expectations to Laboratory management and staff. LBNL has a mature system of annual individual performance appraisals that supports line management communications and accountability. Laboratory Management followed-up and is continuing to focus attention on issues/opportunity areas raised in last year's DOE appraisal, notably in human resources and communications/community relations.

LBNL continued to reduce its institutional indirect burden rates in FY 2000, even as it absorbed new DOE and Congressionally mandated requirements, and continued to make targeted infrastructure investments with overhead funding. The ratio of research to support staff funding remained approximately level at 2.2. LBNL has also remained successful in the recruitment of qualified scientists and engineers for high-demand areas in the life-sciences, computing sciences, and engineering. The LDRD program continues to seed-fund leading-edge projects built upon institutional competencies and DOE strategic directions. The Laboratory also continues to make investments in modernizing its management information systems. These systems are utilized effectively to minimize overhead costs, improve services to research programs, plan the use and stewardship of facilities and other capital assets, and prioritize site investments.

LBNL's leadership continues to be proactive in its community relations efforts. The Laboratory established a new Community Relations Office, appointed the EH&S Director to also serve as the Community Relations Director, and implemented the FY2000 objectives in its Community Relations Plan. LBNL served as the representative SC laboratory in hosting a Community Relations pilot review by a panel of the Secretary of Energy Advisory Board (SEAB) in September 20000. An Environmental Sampling Task Force, a 21-member community advisory group, was formed and met six times to develop consensus on a sampling plan for the operation of the National Tritium Labeling Facility (NTLF). LBNL hosted an Open House Science Festival in May 2000 that attracted over 4000 local visitors. The Laboratory's Tour program expanded by several-fold over the previous year, and now averages seven tours and 145 people per month. The Center for Science and Engineering Education (CSEE) continues to work in partnership with educational institutions and Laboratory divisions to provide research internship opportunities to undergraduate students from across the nation, and teacher training in the California high school science curricula it helped develop. The Laboratory continues to implement an active vegetation management program, and participates in the East Bay Hills Emergency Forum to reduce the risk of wildfires.

Laboratory Management continued an effective system of line-management accountability to promote a culture of follow-through and meeting commitments. LBNL continues to employ several internal systems to track commitments, assure follow-up, and enforce accountability on actions resulting from reviews and audits. To assure effective project management on the Laboratory's large number of major external collaborations, especially given requirements in the new DOE Project Management Order (DOE O 413.3), LBNL has a full-time project management specialist in the General Science program group, and has formed an internal project board and office to advise, support and ensure quality project management as a discipline at the Laboratory. All major scientific, cost and schedule milestones continue to be met on LBNL's contributions to the SNS and DAHRT projects at other laboratories. Y2K readiness commitments were met and the event passed without incident at LBNL. HQ verified LBNL's effective implementation of Integrated Safety Management (ISM) in FY2000. LBNL also implemented applicable new security requirement in FY2000, particularly regarding cybersecurity and foreign visits and assignments. It has been proactive in moving toward Integrated Safeguards and Security Management (ISSM) modeled after the line accountability approach used successfully for ISM.

Environment Restoration / Waste Management

LBNL's overall FY2000 performance in the DOE Environmental Management (EM) program was **outstanding**.

Environmental Restoration: The Laboratory targeted the number of potential release sites (Solid Waste Management Units and Areas of Concern) that are planned to be completed in the fiscal year based on the program budget. Five release sites were approved for No Further Action/No Further Investigation in FY 2000. Three of the five sites were approved for No Further Action.

Waste Management: LBNL Waste Management has met and exceeded the treatment and disposal commitments identified in the Accelerating Cleanup Path to Closure document. LBNL continues to reduce the unit cost per operations dollar for disposal or recycling of each of the waste types.

Cost and Schedule Variance: Cost and schedule variances were outstanding based upon the percentage levels achieved. Both Environmental Restoration and Waste Management have managed their program in a fiscally responsible manner.

EM Program Innovation: LBNL's continued effort (1) using innovative technologies on-site and elsewhere, (2) providing resources to aid others, and (3) realizing cost savings for implementing innovative solutions. LBNL should pursue the application of its EM-developed technology at other government sites.

Environment, Safety and Health

LBNL's overall Environment, Safety and Heath (ES&H) rating for FY2000 is **excellent** at 86.1%.

The DOE FY2000 Integrated Safety Management (ISM) performance evaluation was focused on effective integration of safety systems into work planning and execution in all divisions at all levels at the Laboratory to ensure that its mission is carried out in a workplace that is free of accident/injuries, and to ensure that the public and the environment are protected.

LBNL's senior management continues to demonstrate a strong commitment to the management principles and core functions of ISM. The overall Laboratory Environment, Safety and Health Self-Assessment Report does a very good job in reporting performance, but reoccurring shortfalls in performance in emergency training and accident/injury statistics warrant more attention

The overall division safety performance for FY2000 has improved. All self assessments scheduled by Laboratory Management, EH&S, and divisions have been completed in a timely manner. The Management, Environment, Safety and Health (MESH) reviews were conducted at an accelerated pace to reduce the backlog of these assessments. The Laboratory's self assessment program is robust and is effective in identifying opportunities for improvement. However, there appears to be a trend that many of the issues identified reoccur yearly, particularly those directly tied to lack of a strong safety culture.

There is an upward trend in the rate of completion of required ES&H training showing an increase from last year's average rate of 85% to 89% for this performance period. Some divisions need to improve their rate of completion of the emergency training courses. New training program enhancements have led to significant improvements to the quality of instruction and have made it easier to obtain the required training.

The EH&S Division has developed excellent radiation and environmental programs and systems. Although the Laboratory has a good worker safety program in place, it has been unable to reduce the Total Lost Work Days and Total Reportable Accident/Injury below the DOE contractor average. Despite numerous initiatives to drive improvement, DOE is concerned that the desired safety performance has not been achieved. The Laboratory's performance statistics have been marginal for the past two years in achieving reduction goals. LBNL Management needs to give priority attention to the slight upward trend in accident/injury statistics, and to the development of corrective actions that reduce the statistics to a good level of performance

The overall division implementation of ISM systems, and the effectiveness of those systems based on performance, is excellent. However, there still remains some unevenness between divisions in their ISM performance of line management accountability and identification of hazards in work planning. Progress has been made to get more line managers involved in walk throughs and activities that ensure

that the ISM safety culture is institutionalized, however, this practice is not consistent throughout all the divisions.

The Laboratory is to be commended for the number of new initiatives it has undertaken during the performance period and for the additional resources that have been allocated to drive performance improvements. Follow up on the initiatives is warranted to assess and assure their effectiveness.

Facilities Management

LBNL's overall Facilities Management rating for FY2000 is **outstanding** at 91.5%. Three of the five objectives of Facilities Management (Real Property Management, Physical Asset Planning and Maintenance Management) received a rating of outstanding. Project Management and Utilities/Energy Conservation were rated excellent.

For the third year in a row, LBNL's Real property Management has been outstanding. All established milestones in the area of Facilities Information Management System (FIMS), Substandard/Excess Space, Space Utilization, and Off-Site Real Property Management were met. By meeting these milestones, LBNL has improved its FIMS data, evaluated office and shop space utilization, conducted space and population surveys in all buildings, planned and converted substandard building space, developed reutilization plans for key buildings in high demand and ensured a smooth transition to a new space management system. In addition, LBNL was the first Laboratory to migrate the data and reporting of the Energy Management System into FIMS.

LBNL's performance of Physical Asset Planning continues to be outstanding. LBNL continues to achieve key planning objectives and refine processes while emphasizing value-added activities. This year's accomplishments included annual activities such as the site and long-range planning, vegetation/fire risk management, NEPA/CEQA compliance, geographical information system development, evaluation of electronic planning tools, and maintenance of the facilities planning Web site. Noteworthy achievements include the initiation of a new Long Range Development Plan and Environmental Impact Report.

Facilities Maintenance Management performance continued at an outstanding level. LBNL's facility maintenance team continued to focus on milestones designed to improve the quality of procedures and better track and manage maintenance requirements. Noteworthy milestones included those designed to improve the Preventive Maintenance (PM) program such as "going live" with new software modules to improve job planning and training which contributed to an overall increase of PM actions completed as scheduled. LBNL's Facility Maintenance Program composite index was comparable to the "Best-in-Class" among the Energy Facility Contractors Group (EFCOG) benchmarking participants for the selected performance indicators. LBNL has also utilized benchmark data to further improve their Preventive Maintenance Program resulting in over a 10% improvement in PM execution.

Utilities/Energy Conservation performance received a rating of excellent. Two of the three measures were rated outstanding. Building energy use has been reduced by 36.58% from 1985 levels. Fourteen energy management goals were all achieved. Goals included maintenance of a comprehensive Energy Management Plan, energy and water conservation studies, Title 24 compliance, summary of low-cost energy conservation deficiencies, energy management training and retrofit of older building energy

management systems. Reliable utility service was rated good due to unplanned electrical outages but still achieved an average reliability of 99.984%.

LBNL's Project Management overall performance remains excellent. Construction project work performed continued at an outstanding level reflecting on time completion of all line-items, general plant and operating funded project milestones. Noteworthy accomplishments include completion of planned activities supporting the Berkeley Computing Center and the Joint Genome Institute, Blackberry Switching Station, the Spallation Neutron Source and the Dual-Axis Radiographic Hydrodynamic Test Facility. The "Total Estimated Cost" measure was rated excellent; all four active line-item projects were managed within their total estimated costs.

LBNL's outstanding performance in Facilities Management is attributed to continued high performance expectations and expertise to produce performance results that ensure cost effectiveness and continual improvements. LBNL and DOE OAK have embraced performance-based management and work as a team to support current and future Laboratory mission requirements. LBNL continues to build on its performance with new initiatives and goals for FY 2001.

Financial Management

LBNL's overall financial management rating for FY2000 is **excellent** at 85.3 percent. While ratings on a few measures decreased from FY1999, the Laboratory continues to perform effectively in the financial management area.

LBNL exceeded expectations for Customer Focus and Satisfaction. The Laboratory continues to successfully identify their customer groups and improve their comprehensive and systemic approach for understanding their needs and requirements. Techniques utilized were increased customer training and workshops, surveys, and inclusion of quality customer service as part of the CFO's internal values and in employee job descriptions. Feedback from the internal customers indicated that they were very satisfied with the level of service provided by LBNL CFO staff.

The LBNL Controller organization has outstanding overall operational effectiveness. Financial Management System improvements have increased timeliness and quality of data and further reduced cycle times. Accomplishments include improvements or expansion of systems and applications for budgeting, project costing and tracking, travel and work management. However, one individual measure score was reduced because of inaccurate conversion tables, which need to be maintained more diligently. This year, five of the nine transactional gauges scored 100 percent.

Performance in Financial Stewardship and Integrity is down slightly from last year. Scores in two measures were impacted because of administrative control violations with costs exceeding available funding and one B&R costed in an incorrect fund type. Despite this cost control issue, LBNL is viewed as proactive and generally has good processes in place to avoid funding problems. However, some refinement and improvements are warranted. The Laboratory excelled in the preparation of FY 2000 annual financial statements. Similarly, the Statement of Cost Incurred and Claimed was submitted ahead of schedule and transmitted to the Office of the Inspector General. The Laboratory has done an excellent job in reducing the delinquent accounts receivables. The low percentage and

duration of UC "bridge funding" use at LBNL is outstanding. LBNL has an adequate CAS disclosure statement that results in a fundamentally sound basis for the distribution of costs at the Laboratory.

Financial reporting, support and coordination are excellent. However, there are indications that detailed Laboratory subsidiary records and DOE Management Analysis and Reporting System (MARS) data are not completely in agreement. Internal controls and compliance are well managed, but the Year End Reporting audit found that some fundamental control issues exist regarding validations and reconciliations.

LBNL provides outstanding learning and growth for its workforce. The Controller has implemented workforce development strategies including a web-based financial management training program and methods to assess employee satisfaction. Technology is effectively deployed to offset staffing reductions and maintain productivity.

Human Resources

LBNL's overall FY 2000 performance in Human Resources (HR) Management is rated **excellent** at 83.8%. The Laboratory demonstrated improvements in this area from FY 1999.

The FY 2000 appraisal period can be characterized as one in which LBNL committed to a few projects in HR that were critical to its basic effectiveness, and targeted its resources at accomplishing those projects expediently. The HR management staff remained relatively stable during FY 2000, allowing LBNL to effect improvements it had previously identified as necessary.

The Compensation and Benefit programs realized the most significant impact in FY 2000. In Compensation, consultants were utilized to validate LBNL's market comparisons of five separate pay structures, and recommendations were implemented and included in the FY 2001 Compensation Increase Plan proposal. This effort would have taken several years if attempted in-house. In Benefits, a Master Plan was developed and implemented to effect changes necessary to respond to customer feedback. This included staffing a new benefits team, implementing a system to count and monitor calls, dedicating an individual to provide customer service over the phone, and launching a campaign to communicate the new benefits system. Other significant initiatives undertaken by HR in FY 2000 were that of taking first steps in establishing a role for HR in supporting workforce planning through providing demographic data to divisions, and its development of an "A List" of goals to ensure support of the Laboratory's strategic objectives.

The areas of Equal Employment Opportunity (EEO) and Diversity continue to be of concern to DOE. FY 2000 is the fourth year in which LBNL has been required to designate High Priority Under-utilized Job Groups (HPUG's) in order to target its efforts toward job groups which are both significantly under-utilized and will have hiring opportunities. LBNL attempted in FY 2000 to revitalize its recruitment efforts in job groups that were carried over from prior years. However, the Laboratory was again unable to demonstrate significant improvement, which may be partially attributable to the loss of the Recruitment Manager three months after hire. In the area of Diversity, although the Laboratory has made a strong commitment to improvement, no action was taken on two of the initiatives described in the Work Force Diversity Initiatives document, and the other two were only

partially implemented. In both the EEO and Diversity areas, LBNL's intent and goals were reflected in the Laboratory's plans to improve performance and results. However, its implementation of the planned actions has been neither timely nor results-oriented, producing minimal results in the recruitment and selection of minorities and women.

Information Management

The overall FY2000 rating for Information Management is **outstanding** at 92.4. The rating reflects a continuing trend of high-level performance over several years. There is clear evidence that information is managed as a corporate asset and that Information Management (IM) activities directly contribute to the successful completion of the Laboratory's mission. The activities related to the Year 2000 (Y2K) turnover were extensive and contributed to a New Years rollover that had no Y2K related failures. New systems and improved processes resulted in substantial cost avoidance and savings, better cost effectiveness and greater user satisfaction. Customer satisfaction continues at a high level, and extensive customer feedback has resulted in identification of opportunities for improvement. IM Planning includes a systematic method that incorporates user involvement at many levels, and this planning has led to the successful migration to a state-of-the-art IM environment at the Laboratory.

Procurement

LBNL's overall Procurement performance in FY 2000 is rated **outstanding** at 92.0%. LBNL continues to maintain an excellent program for assessing system operations, resolving system deficiencies, and implementing process improvements. The Procurement Manager exhibits strong leadership and is instrumental in implementing the necessary remedial actions to deficiencies found during reviews. The cycle time continues to average 7 days, while the DOE contractor benchmark is 10.5 days. Cycle time and using alternative procurement approaches continues to exceed DOE benchmarks. Socioeconomics results continue to indicate a high number of awards are reaching the target communities. Supplier performance, however, earned a low excellent rating and warrants more attention. Customer and employees satisfaction is trending upward as the Procurement manager continues to work and communicate with both internal and external groups. The cost-to-spend ratio remains low at 1.13 percent, which is well below the DOE benchmark of 2.9 percent and an indicator of an efficient operation.

Property Management

The Property Management Program at LBNL earned an overall rating of **outstanding** at 92.0% in FY2000. Using the translation matrix agreed to by the Laboratory, DOE and UC, Property Management earned 477 out of a possible 500 points, which equates to an Outstanding rating. Senior management support to the property management effort is apparent and has been a catalyst in significant performance improvement over the past two years.

The LBNL property program has had an inconsistent historical trend in overall performance, but is now showing signs of maturity and stability. The Laboratory, using an approved statistical sampling methodology, produced notable find rates of 99.8 percent and 99.6 percent for sensitive property and equipment, respectively. One hundred percent of precious metals were accounted for. Performance

in the Accuracy of Identification measure reflects management recognition of the importance of getting control of assets quickly and recorded accurately into the database. However, the percentage of equipment accurately assigned to custodians dipped from 9l.5 percent in FY 1999 to 87.6 percent in FY 2000.

LBNL continues to have a well-managed and utilized vehicle fleet. The less visible but important areas of aligning with customer expectations, organizational vitality, and self-assessment of internal support processes also achieved high levels of performance.

Conclusions and Recommendations

In FY2000, LBNL performed at an **outstanding** level of overall performance for the second consecutive year. The Laboratory earned overall 'outstanding' ratings in its science and technology programs as well as in six of nine operations and administration areas assessed in FY2000. There are no significant recommendations. However, given the recurrence of some performance observations in the High Energy Physics (HEP) Program, it is suggested that the Laboratory catalyze discussions with HEP program officials to achieve a clear, mutual understanding of performance expectations for future years. The Laboratory is encouraged to continue its management focus and attention in the three areas where "white papers" have been developed by the DOE Science Laboratory Directors for the new administration: Infrastructure Modernization, Workforce, and Communications/Outreach.

Science & Technology

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Science and Technology/Programmatic Performance

The Institutional-level Assessment for the Lawrence Berkeley National Laboratory (LBNL) highlights major program challenges and issues faced by the Laboratory during the last year, as well as prospects and plans for the future. LBNL continues to excel in its ability to plan, develop and execute scientific programs. The Laboratory's institutional planning process is aimed at establishing research directions and priorities, and ensuring the future viability of vitality of the institution. The Director's statement in the Laboratory's FY 2001 – FY 2005 Institutional Plan and the Director's 'State of the Laboratory' address provided in June 2000 highlight significant research progress during the past year, where Laboratory Management's attention has been directed, and outline strategic directions and initiatives for the future. LBNL's Vision 2010 is comprised of five broad thrust areas that build upon its core competencies and emerging new research opportunities:

- Fundamental Understanding of the Universe
- Quantitative Biology
- Complex Systems (Nanoscience)
- New Energy Sources and Environmental Solutions
- Integrated High-Performance Computing.

The Laboratory has a number of current program activities and proposed new initiatives under each of these areas. They are well-aligned and integrated with the DOE Office of Science's Strategic Plan.

LBNL's management of the Laboratory-Directed Research and Development (LDRD) and Work for Others (WFO) programs continue to direct the Laboratory's resources toward new scientific opportunities and to keep the Laboratory at the forefront of science and technology with its mission profile. The Laboratory continues to support the LDRD program at about 3.5 percent of the total funding. WFO continues to comprise about 20% of total annual funding at LBNL, and is especially in strong in the life science research divisions.

LBNL operates five user centers open to qualified researchers in the U.S. and from around the world:

- Advanced Light Source (ALS)
- National Energy Research Supercomputer Center (NERSC)/Energy Sciences Network (Esnet)
- National Center for Electron Microscopy (NCEM)
- 88" Cyclotron
- National Tritium Labeling Facility (NTLF).

All of these user facilities continue to operate at or near record levels of scientific productivity. The NTLF is operated for the National Institute of Health (NIH) with WFO funding.

During FY 2000, LBNL successfully implemented several new operational and administrative requirements imposed by DOE and Congress while keeping the impacts on its science and technology programs relatively modest. These included reductions in travel funding, pre-approval requirements for hosting large conferences, relocation of employees in its Washington DC office, and various security-related requirements. LBNL continues to be successful in preserving its open environment as a "Tier III" DOE site for security purposes, i.e., a fully open institution with no classified work or information on-site. This is programmatically critical given the Laboratory's close ties with the UC Berkeley campus and other universities, and given that a significant fraction of its research staff are foreign

nationals. LBNL remains extensively involved in major collaborations at research facilities being constructed and operated across the DOE complex and around the world.
DOE's science and technology/program assessment of the Laboratory is based upon individual peer reviews of its scientific divisions, corresponding self-assessments by LBNL and the University of California, and validation review by DOE HQ program managers and their DOE OAK counterparts. The DOE assessment of performance for research programs is comprised of a combined evaluation of the following DOE programs: Basic Energy Sciences (BES), High Energy Physics, Nuclear Physics, Advanced Scientific Computing, Fusion Energy Sciences, Biological and Environmental Research, Energy Efficiency and Renewable Energy, Fossil Energy, and Civilian Radioactive Waste Management (the Yucca Mountain Project). Within LBNL, each of these DOE programs is, for the most part, executed by one or two of the Laboratory's thirteen scientific divisions. An exception to this is the BES program, which carried out by four Laboratory divisions, including the ALS.

The overall rating of these programs is **outstanding** for FY 2000.

LBNL, UC and DOE evaluated the programs against the following four criteria:

Criteria 1: Quality of science

Reviewers will consider recognized indicators of excellence, including impact of scientific contributions, leadership in the scientific community, innovativeness, and sustained achievement. As appropriate, they may also evaluate other performance measures such as publications, citations and awards.

Criteria 2: Relevance to national needs and agency missions

Committees will consider the impact of Laboratory research and development on the mission needs of the Department of Energy and other agencies funding the programs. Such considerations include national security, energy policy, economic competitiveness, national environment goals, as well as the goals of DOE and other Laboratory funding agencies in advancing fundamental science and strengthening science education. Committees will assess the impact of Laboratory programs on industrial competitiveness and national technology needs. In this assessment, committees will assess characteristics that are not easily measured, including relevance of research programs to national technology needs and effectiveness of outreach to industry. As appropriate, they may consider such performance measures as licenses and patents, collaborative agreements with industry, and the value of commercial spin-offs.

Criteria 3: Performance in the technical development and operation of major research facilities

Performance measures include success in meeting scientific and technical objectives, technical performance specifications and user availability goals. Other considerations may include the quality of user science performed, extent of user participation and user satisfaction, operational reliability and efficiency, and effectiveness of planning for future improvements, recognizing that DOE programmatic needs are considered to be primary when balanced against user goals and satisfaction. This includes, but is not necessarily limited to, LBNL's performance related to aspects of the Spallation Neutron Source (SNS) Project, in accordance with the inter-Laboratory Memorandum of Agreement and approved work plans.

Criteria 4: Programmatic performance and planning

The assessment should focus on the achievement of broad programmatic goals, including meeting established technical milestones, carrying out work within budget and on schedule, satisfying the sponsors, providing cost-effective performance, and planning for the orderly completion or continuation of the programs, and appropriate publication and dissemination of scientific and technical information. In assessing the effectiveness of programmatic and strategic planning, the reviewers may consider the ability to execute projects in concert with overall mission objectives, programmatic responsiveness to changes in scope or technical perspective, and strategic responsiveness to new research missions and emerging national needs. In the evaluation of the effectiveness of programmatic management, consideration may include morale, quality of leadership, effectiveness in managing scientific resources (including effectiveness in mobilizing interdisciplinary teams), effectiveness of organization, and efficiency of facility operations.

Performance Area: Basic Energy Sciences

FY 00 Overall Performance Summary*:*

LBNL programs funded under Basic Energy Sciences (BES) have earned high marks for their research efforts and continued relevance to the science mission of the Department of Energy as evidenced by the overall performance rating of **Outstanding**.

Overall Performance Rating: Outstanding

Criteria 1: Quality of science:
Rating: Outstanding

Outstanding scientific achievements by LBNL under the Metal, Ceramic and Engineering Sciences program include: advances in the growth of gallium nitride (GaN) layers with substantial reduced orientation of defects; identification of magnesium defects in GaN; advances in the understanding of atomic transport at liquid metal/solid ceramic interfaces; the very first demonstration of imaging of a light atom such as nitrogen—achieved by full reconstruction of the electron wave after it passed through a sample of GaN in an electron microscope; and the discovery of a new fabrication route for GaN semiconductors, as a consequence of the discovery, by means of a high-pressure spectroscopic method of an unexpected large excess of electrons that result from the presence of an oxidizing impurity.

These and other scientific achievements by LBNL researchers have been recognized through awards and honors such as: the James C. McGroddy Prize for New Materials by the American Physics Society for the new fabrication route for GaN semiconductors; the Richard M Fulrath Award of the American Ceramic Society; an appointment to the Arthur C. and Phyllis G. Oppenheimer Chair in Advanced Materials Analysis by the College of Engineering at UC Berkeley; and Chair appointment to the High Temperature Corrosion 2000 Gordon Research Conference.

The Condensed Matter Physics and Materials Chemistry programs at LBNL, have not been reviewed on-site since 1998; a review is planned for May or April of 2001. Nevertheless, the research results from the investments made by these programs continue to be extremely good, and the individual scientists continue to be recognized in many ways.

The BES program in the Chemical Sciences Division at LBNL is directed at very basic research issues underlying heavy element chemistry, catalysis, combustion, electrochemistry, and fundamental chemical dynamics research using molecular-beam techniques—all of which are priority science issues for the Department of Energy. LBNL continues to be recognized for its outstanding research in radiochemistry, the chemistry of the actinides, inorganic chemistry, and both homogeneous and heterogeneous chemical catalysis. Historically, the staff has performed at a very high level. Many of the principal investigators supported through the program continue in that vein. Their impact, leadership, and innovation may be measured through the high regard they are held by their peers—many of the principal investigators are members of the National Academy of Sciences. The chemical

dynamics beamline at the Advanced Light Source (ALS) is relevant to the broad science objectives of the chemical physics program in the Chemical Sciences Division.

The Geosciences program at LBNL supports high quality experimental and computational research on rock physics of porous and fractured rock, subsurface imaging through both seismologic and electromagnetic methods, and hydrologic research on fluid flow through both pores and fractures. Geochemical studies focus on advanced interpretations of low-temperature flow processes, innovations in analytical geochemistry, isotope and trace element chemistry with mass spectrometric and synchrotron-based analyses. The Earth Sciences Division is expanding a program in biogeochemistry using the Advanced Light Source (ALS) among other facilities. LBNL researchers in geomechanics, geochemistry and geophysics continue their outstanding research with significant contributions in the peer-reviewed literature. They have been active participants in National Academy of Science/National Research Council committees, Earth Sciences Council and BES-investigator workshops. Recent research proposals in geomechanics, geophysics, geochemistry, and hydrology have received outstanding ratings from the community. Geoscience investigators submitted highly rated proposals to the Climate Change Technology Initiative solicitation related to Carbon Sequestration.

Criteria 2: Relevance to national needs and agency mission
Rating: Outstanding

LBNL has been a leader in getting the initiative in complex materials underway and in developing the arguments and rationale for the federal initiative in nanostructure-scale science and technology. The research supported through the Chemical Sciences Division at LBNL, continues to be quite relevant to DOE programmatic interests.

The Geosciences program supported research at LBNL is recognized for its impact on the DOE technology programs, especially in Fossil Energy (Oil and Gas Program) and Environmental Management. LBNL leadership in combining fundamental geochemical, geomechanical and hydrologic investigations of fluid-flow processes in the shallow crust, serves as an outstanding foundation for collaboration and integration of basic and applied research. The Earth Sciences Division has used its BES funded research efforts as a foundation for successful submissions to the Office of Fossil Energy, in its call for new research programs related to carbon sequestration.

Criteria 3: Performance in the technical development and operation of major research facilities
Rating: Outstanding

The scientific output and user satisfaction from the National Center for Electron Microscopy (NCEM) has been outstanding, notwithstanding the difficulties in repairing the foreign made, high-voltage, transformer and power supply that were compounded by the manufacturer's discontinuance of this item. The Center provides instrumentation for high-resolution, electron-optical characterization of defects, nanostructures, phase transformations, thin films, surfaces and microelectronic materials. It has made important contributions in atomic level spectroscopy, electron beam holography, electron nano-crystallography and investigations of the atomic structure of interfaces.

LBNL has turned the ALS operation around for the better—there is much excitement now over a very broad range of science using the ALS, with future results eagerly anticipated. A new effort in diffraction enhanced imaging, using the capabilities of the ALS, will be the subject of a workshop next spring. In addition, an excellent job is being accomplished on the construction of the new ALS Molecular Environmental Science (MES) beamline. The efforts in putting together a thorough project execution plan for the project, will ensure that the scientific community will be able to derive the maximum possible benefit from this facility as soon as it is ready.

Criteria 4: Programmatic performance and planning
Rating: Outstanding

LBNL management is complemented for their vision to extend the limits of electron beam microcharacterization with a new generation of unprecedented capabilities for dynamic in-situ microscopy. These capabilities will include energy-filtered imaging, holography, and highly localized spectroscopy with high spectral resolution.

The leadership at LBNL for the Condensed Matter Physics and Materials Chemistry programs, is doing an outstanding job of long term planning, developing the opportunities and the team to attack the scientific opportunities that present themselves, and forcefully presenting their case to BES. While many of these opportunities have been rejected because of lack of funds, one cannot help but be impressed with the selection of opportunities that LBNL has presented. While some notable individuals have left, some outstanding new scientists have been attracted to the Materials Sciences Division.

The new LBNL management for the Chemical Sciences program has been very responsive.

The Earth Sciences Division has been a leader in recent DOE planning efforts on Carbon Sequestration Science, and working with the International Energy Agency on mutual technical areas of interest at the Sleipner Oilfield in the North Sea and at the Weyburn Oilfield in Canada.

The LBNL biology programs supported by BES are undergoing some personnel changes. LBNL management requires a clearer vision of the overall direction of these activities.

LBNL's thorough documentation of reports and publications emanating from BES supported research to the Office of Scientific and Technical Information (OSTI) is outstanding, and is appreciated. In FY 2000, these scientific and technical information products to OSTI included over 100 items—journal article announcement citations, technical reports, theses, conference proceedings and papers, and books.

Conclusions & Recommendations:

None.

Performance Area: High Energy Physics

FY 00 Overall Performance Summary*:*

High Energy Physics (HEP) research activities continues to be among the nation's best and to be world class. Researchers at LBNL are playing a leadership role in the nation's HEP research program and their peers consider their performance to be outstanding and they are considered leaders in the field.

Although the overall rating for programmatic efforts is outstanding, the HEP program reports that a recent external review of the Relativistic Kylstron Two Beam Accelerator project determined that this project is considerably behind schedule and over budget due to insufficient managerial oversight. Also, inadequate facilities for the "Superconducting Magnet Group remains a long-term issue despite recent improvements.

Members of the LBNL scientific staff serve on the National Science Board and on the High Energy Physics Advisory Panel; A Physics Division (PD) scientist is leading the commissioning of the upgraded Collider Detector at Fermilab (CDF).

The leadership of the PD has been very effective in maintaining very high quality contributions to HEP programs during this period of very tight budgets. The leadership of the Accelerator Fusion Research Division (AFRD) has also maintained high quality output with limited resources by identifying areas, both within HEP programs and without, in which the unique capabilities of the LBNL staff and facilities can have the most beneficial impact. Both Divisions have developed methods of working together and with other units at LBNL to maximize their effectiveness.

The need for expanded laboratory facilities for this group remains a long-term issue, and needs to be addressed.

Overall Performance Rating: Excellent

Criteria 1: Quality of science:
Rating: Outstanding

Quality of Science

Examples of Impact of the accomplishments include:
The Physics Division (PD) and Accelerator Fusion Research Division (AFRD) were part of the consortium of three US Laboratories (Standford Linear Accelerator Center, Lawrence Berkeley National Laboratory, & Lawrence Livermore National Laboratory) to construct the PEP-II electron-positron collider with asymmetric collision energies (B-Factory). LBNL staffers are now participating in measuring the dynamics of B-particle production and decay, using the recently completed BaBar detector at PEP-II, to study Charge Parity (C-P) violation, which may lead to a better understanding

of the origin of matter. The concept of asymmetric collisions in B-factories to investigate C-P violations originated at LBNL.

In the area of advanced accelerator research, the Laser-Plasma acceleration studies in the AFRD has consistently received excellent reviews. The work of this group is considered to be among the nation's best, with a good strategic plan and careful, thorough experimental work, that promises definitive results toward the understanding of the possibility of practical application of this emerging field to High Energy Physics purposes.

The Supernova Cosmology Project and Cosmic Microwave Background experiments, led by LBNL PD staff, are having a major impact on our understanding of the dynamics of the Universe.

Examples of Leadership:
Members of the LBNL scientific staff serve on the National Science Board and on the High Energy Physics Advisory Panel.

A PD scientist is leading the commissioning of the upgraded Collider Detector at Fermilab (CDF).

Criteria 2: Relevance to national needs and agency mission
Rating: Outstanding

Recent peer reviews have rated groups in the AFRD and PD as outstanding in this area:

Peer reviewers note the uniqueness and excellence of the Superconducting Magnet and Materials R&D group as "world class in their areas of expertise". This group has been chosen to oversee the industrial development of improved performance superconducting wire, with lower fabrication costs. Moreover, this group still holds the world record for the highest field dc dipole magnet, and is proceeding with the development of an innovative design that should exceed the current high field record, and with the potential for lower fabrication costs than presently used designs. This work is crucial to the design of future high-energy colliders.

The Ion Source Group at LBNL does "outstanding" work and is considered "one of the world's strongest".

The Particle Data Group is considered to be "indispensable to the world community of particle physicists". This group performs extremely effectively the task of compiling and evaluating particle physics data from all the world's HEP facilities. This group is developing a very accessible, user friendly, electronic data retrieval system on the INTERNET. This electronic dissemination greatly enhances the utility of the "Reviews of Particle Physics", which the group publishes every two years. This group is very effective in education and outreach on the INTERNET, which has encouraged active participation by interested high school groups in HEP laboratory experiments.

Criteria 3: Performance in the technical development and operation of major research facilities
Rating: Excellent

Although LBNL does not have any major HEP research facilities on site, the Laboratory makes excellent contributions to HEP facilities at other sites such as: Standford Linear Accelerator Center, Fermi National Accelerator Laboratory, and the Large Hadron Collider project at European Organization for Nuclear Research (CERN). The work has generally been of very high quality and timely. LBNL has unique capabilities for developing complex, specialized integrated circuits and electronic components that are critical to the effectiveness of HEP detectors, such as BaBar at the SLAC PEP-II collider and CDF and D-Zero at the FNAL Tevatron. LBNL also has taken on a leading role in the LHC ATLAS detector physics and computing. For example, a senior staffer in the PD co-edited the ATLAS Detector and Physics Performance Technical Design Report. The advanced computing facility, National Energy Research Scientific Computing (NERSC), at LBNL is essential for HEP collider data analysis, but is also being used for accelerator design. The Superconducting Magnet Group at LBNL has contributed cabling equipment to CERN for the LHC magnets, and provides expertise on the production of high quality superconducting cable needed for the successful achievement of the high fields required for the LHC to reach design energy.

Criteria 4: Programmatic performance and planning
Rating: Good

The leadership of the PD has been very effective in maintaining very high quality contributions to HEP programs during this period of very tight budgets. The leadership of the AFRD has also maintained high quality output with limited resources by identifying areas, both within HEP programs and without, in which the unique capabilities of the LBNL staff and facilities can have the most beneficial impact. Both Divisions have developed methods of working together and with other units at LBNL, to maximize their effectiveness.

In terms of publication and dissemination of scientific and technical information, the biennial Reviews of Particle Physics, produced by the Particle Data Group at LBNL, is the most often cited work in all of scientific literature. During this year, LBNL has contributed 350 publications to The Office of Scientific and Technical Information, of which at least 33 are of direct interest to HEP programs. This is commensurate with the proportion of HEP funding at LBNL.

A recent external review of the Relativistic Klystron Two-Beam Accelerator (RTA) project, a modest-level R&D program for advanced high power rf generation, determined that this project is considerably behind schedule and with cost over-runs. This circumstance was identified as due to lack of sufficient managerial oversight. This is the only area of concern, in an otherwise excellent record of programmatic performance and planning. To the credit of the AFRD, the RTA project management has been restructured for more effectiveness, and the project has been re-scoped to provide near-term results for further evaluation.

The primary concern in last year's evaluation, cost over-runs and delays in the move of the Superconducting Magnet Group to improved facilities, has been mostly resolved. The Laboratory has determined that the projected cost to complete the renovation to Building 51, and the uncertain long-term availability of this space, has made the move impractical. The Group has developed methods for proceeding with their R&D program in the existing facilities. The Group leadership is to be congratulated for making the best of a difficult situation however, the need for expanded laboratory facilities for this Group remains a long-term issue.

Conclusions & Recommendations:

LBNL should work with the High Energy Program Manager to develop a solution to the space constraints for doing research on the Laboratory.

Performance Area: Nuclear Physics

FY 00 Overall Performance Summary:

LBNL performance in the management of Nuclear Physics has been outstanding. The quality of science performed by most of the Nuclear Physics Group was outstanding, and performance was rated from excellent to outstanding in the Nuclear Theory Group.

All major components of the Nuclear Physics Research Program at the Lawrence Berkeley National Laboratory are judged to be among the world leaders in their respective areas.

Research performed in Low Energy Physics Program continues to be outstanding. The discovery of elements 116 and 118 is a major achievement. LBNL continues to play a major role at the Sudbury Neutrino Observatory and the Relativistic Heavy Ion Group continues to play an outstanding role in the STAR experiment at Relativistic Heavy Ion Collider at Brookhaven Laboratory. The Nuclear Theory Group mounts an excellent/ outstanding effort in studies of nuclear matter under extreme conditions, from the formation of the quark-gluon plasma in relativistic heavy-ion reactions, to the production of superheavy elements

The nuclear research areas at LBNL have generated more that one hundred and forty papers in peer reviewed journals, more that forty invited talks, and eight dissertations during FY 1999-2000.

Overall Performance Rating: Outstanding

Criteria 1: Quality of science:
Rating: Excellent

All major components of the Nuclear Physics Research Program at the Lawrence Berkeley National Laboratory are judged to be among the world leaders in their respective areas.

The Low Energy Nuclear Physics research effort continues to be outstanding. This effort includes programs in heavy element studies and searches for new elements, research in nuclear structure and nuclei at extreme conditions, fundamental studies using exotic nuclei, and neutrino physics, among others. The first data on the discovery of elements 116 and 118 have excited the heavy element community. The use of the 8p gamma-ray array and Gammasphere have furthered the study of nuclei at high spin and high excitation energy. In the area of fundamental interactions, the electron-neutrino correlation measurement on laser-trapped 21Na is highly sensitive to possible scalar and tensor contributions to electroweak currents. The LBNL group is playing a major role at the Sudbury Neutrino Observatory (SNO), designed to resolve the solar neutrino problem through the measurement of both charged and neutral current reactions. In the KamLAND neutrino experiment in Japan, to measure reactor neutrino oscillations at large distances, LBNL is the lead United States Laboratory in the collaborative effort, and contributes to the electronics and calibration tools development.

The relativistic heavy ion group at LBNL continues to play an outstanding role in the STAR experiment at RHIC at Brookhaven Laboratory Members of the Relativistic Heavy Ion Group hold leadership roles in several STAR working groups, developing physics motivation and simulations for the first measurements at RHIC. The nuclear theory group mounts an excellent/outstanding effort in studies of nuclear matter under extreme conditions, from the formation of the quark-gluon plasma in relativistic heavy-ion reactions, to the production of superheavy elements. Topics include signatures of the relativistic heavy ion reactions that probe the early stage of the collisions, when the quark-gluon plasma is expected to form, and exploration of symmetric reactions as more efficient for production of superheavy elements.

The nuclear research areas at LBNL have generated more that one hundred and forty papers in peer reviewed journals, more that forty invited talks, and eight dissertations during FY 1999-2000.

Criteria 2: Relevance to national needs and agency mission
Rating: Outstanding

The experimental and theoretical nuclear physics effort at LBNL supports and provides leadership in the areas identified as priorities in Nuclear Science: a Long Range Plan, the 1996 report to DOE, and National Science Foundation that has guided nuclear physics for the last five years.

The LBNL researchers in low energy nuclear physics seek out important questions in the field, develop techniques and methods to address them, and participate in the experiments and studies that provide crucial data. For example, Gammasphere, the most powerful gamma-ray detection instrument in the world, was inspired and built by LBNL scientists, and employed for nearly a decade now in studies of nuclei at high spin and excitation energy. This effort has pointed the way worldwide for the study of nuclei at extreme conditions, and has helped define the field of low energy nuclear physics. The STAR detector at RHIC will be used for investigating hot, dense nuclear matter with the hope of discovering the quark-gluon plasma, a top priority research direction for the international nuclear physics community. The Nuclear Theory Group addresses a broad spectrum of nuclear physics, and fosters international exchange by a strong visitor program. Their theoretical developments are likely to play a significant role in interpreting data from the new facilities. This work is clearly important for the accomplishment of the mission of the Division of Nuclear Physics, to study the strong interaction through the quantum many body problem and the fundamental constituents of nucleons. In addition, a small group of LBNL scientists play a significant role in the national nuclear data effort, that provides evaluated nuclear structure and decay data to the basic research and applied physics communities.

Criteria 3: Performance in the technical development and operation of major research facilities
Rating: Outstanding

The operation of the 88-Inch Cyclotron user facility by LBNL is judged to be excellent/outstanding. As one of three user facilities at national laboratories, it provides researchers with nuclear beams, instrumentation, and other infrastructure to carry out nuclear research studies of many kinds. Approximately 5000 hours of nuclear beams are provided for an experimental program guided by a Program Advisory Committee. The 88-Inch Cyclotron User's Group and the Gammasphere Executive Advisory Committee are vehicles for additional community input to the facility operation and scientific program. In addition to Gammasphere, which recently returned to LBNL for another experimental campaign, the Berkeley Gas-filled Separator (BGS) is a powerful instrument for the study of heavy elements, rare reaction channels, and the search for new heavy elements and isotopes.

The Berkeley Experiments with Accelerated Radioactive Species (BEARS) capability is being developed to provide selected radioactive beams for use in a variety of research areas. A new concept in gamma-ray arrays, the gamma-ray tracking array GRETA, is undergoing research and development at LBNL. If successful, GRETA will be one thousand times more powerful than Gammasphere. LBNL played a major leadership role in the successful fabrication of the STAR TPC detector for RHIC that performed outstandingly during the initial data taken in June, 2000. LBNL is taking a leading role in research and development of new and more intense ion sources (VENUS) that will be needed by the proposed Rare Isotope Accelerator, RIA.

Criteria 4: Programmatic performance and planning
Rating: Outstanding

The overall programmatic management and planning is considered to be excellent to outstanding. The scientific staff has shown substantial insight into the identification of the important questions of the field, and developed experimental and theoretical initiatives to address them. Management has successfully presented the case and secured funding. The strategic planning carried out by the LBNL Nuclear Science Division is considered to be outstanding. The recruitment of new staff is consistent with this strategic planning and promises to result in strong, competitive LBNL efforts in the future. LBNL staff members also are providing both formal and informal leadership in a number of areas important to the national program. Dr. James Symons is the current chairman of the DOE/NSF Nuclear Science Advisory Committee (NSAC) that is presently in the midst of developing the next Long Range Plan for the community. A committee under the leadership of Dr. Jay Marx provides guidance to the DOE Division of Nuclear Physics on R&D for the proposed Rare Isotope Accelerator. Both Dr. Marx and Dr. Claude Lyneis served on the 1999 Nuclear Sciences Advisory Committee Isotope Taskforce that established the optimal technical design of the RIA facility.

Performance Area: Computing Sciences

FY 00 Overall Performance Summary*:*

Computing Sciences and network research continues to be **outstanding** at LBNL and cuts across all that is done at the Laboratory. LBNL is commended for developing and maintaining a world class supercomputer center and computer science research program. LBNL's Applied Mathematics Research Program provides research into computationally intensive techniques for solving complex mathematical problems. The Laboratory Technology Research (LTR) office continues to show leadership, creative thinking, and study of critical scientific questions requiring high quality scientific results. The National Energy Research Scientific Computing Center (NERSC) continues to be an extremely powerful computing environment incorporating high performance computing capability, capacity and storage resources. Also, NERSC is the Center for Computational Science and Engineering which addresses high-resolution numerical methods for advanced modeling and problem solving in areas such as computational fluid dynamics. The Energy Sciences Network (ESnet) is the backbone of DOE's research network. ESnet provides access to NERSC computing environment, and to other research, experimental and computational facilities, for scientists across the nation and by international collaboration. LBNL is also a partner in the Office of Advanced Scientific Computing Research's Grand Challenge projects.

Overall Performance Rating: Outstanding

Criteria 1: Quality of science:
Rating: Outstanding

Applied and Computational Mathematics

Over the past three years, Lawrence Berkeley National Laboratory (LBNL) has been actively involved in a number of Research and Development (R&D) projects, that were initiated under the Department of Energy (DOE) 2000 program and both National Collaboratory Pilots. Until early this year, LBNL also provided coordination of the effort across all participating organizations. All these efforts involve integrated activities across multiple laboratories and organizations. This integration is a key element to assuring the success of the program, and LBNL has shown excellent leadership in this area. The work done by LBNL is outstanding and the contribution to the Mathematical Information and Computational Sciences (MICS) program in the respective project areas, is very.

The distributed security architecture is an example of a project that is proceeding very well and has wide applicability and interest. Akenti is an access control mechanism designed to be flexible and easily controlled in providing strong access control to distributed resources. It relies on commercial products where possible, building on these to meet the specific requirements associated with scientific research. It is well coordinated with other related efforts in the department, as well as outside, and the leadership shown in developing this keystone for enabling successful collaboratories is highly respected. Akenti is used in the Diesel Combustion Collaboratory and has been released in beta version to friendly users, both inside and outside the department.

An example of leadership is the formation of the Grid Forum, a forum where individual researchers and practitioners working on distributed computing, or "grid" technologies, can meet as a community and focus on the promotion and development of Grid technologies and applications. A key LBNL manager was instrumental in driving the formation of this forum and serves as a member of the steering group.

Technology Research
LBNL continues to study very important scientific questions and produce high-quality scientific results. An example is a project to identify chemical species on the surfaces of catalysts in situ, under actual reaction conditions, using a new surface science tool - ultraviolet Raman spectroscopy. Another project is characterizing and designing advanced lubricants with properties tailored for the next generation of ultra-high density magnetic storage devices. LBNL researchers are also investigating the molecular and biological mechanism by which epithelial cells are converted to tumorigenic, invasive, and metastatic cancer cells. This project will design novel targeted therapies for a variety of carcinomas.

This year, four LBNL multi-year projects were subjected to a mid-program peer review. The results of each review, demonstrated that each project had made good scientific progress. Accordingly, all four projects will be continued to completion as scheduled.

National Energy Research Scientific Computing (NERSC)
NERSC is not a research organization but mainly a provider of high performance computing resources, for scientists and engineers performing research and development relevant to the missions of the Department of Energy. Nevertheless, a portion of the NERSC Center staff either collaborate or are directly involved in research efforts and some spectacular achievements in the physical sciences, have depended on the NERSC Center's computational capabilities.

The NERSC Center is the premier High Performance Center in the United States and probably the world. It also is, at any time, one of the half-dozen largest unclassified centers with the most substantial computing resources and is widely recognized for its contributions to the advancement of science.

Energy Sciences Network (Esnet)
ESnet continues to be a recognized leader in networking for the scientific research community. It supports a research community numbering in the thousands, both domestically as well as internationally. ESnet enables the DOE science mission to excel in the time of rapid prototyping and deployment by providing the required reliable connectivity to the DOE scientific community.

Criteria 2: Relevance to national needs and agency mission
Rating: Outstanding

Applied & Computational Mathematics
Partnering across science and technology programs is an important element to the structure and goals of the MICS program that supports these projects. LBNL fully supports this partnering and provides effective championing of this goal within the broader community.

Technology Research
LBNL Laboratory Technology Research ((LTR) projects strongly support national needs and DOE missions. These projects include development of Metal Plasma Immersion Ion Implantation and Deposition to produce various layers used in copper metallization for next generation integrated circuits; investigation of web-based energy-cost benchmarking to determine whether commercial buildings are performing efficiently over time; and development of a cost-effective solution to high-resolution reservoir characterization, using a new power supply and control system for the orbital vibrator seismic source.

NERSC
As one of the world's largest unclassified high performance computing facilities (in terms of resources) and with a policy to support R&D pertinent to the DOE missions, the relevance to DOE missions is assured. The decision to open the NERSC Center to investigators funded by sources other than the DOE, assures its relevance to national needs as well. The impact of the NERSC Center not only supports the United States industrial competitiveness and national technology needs through the computational projects but also through the interactions with the vendors of the high performance computing systems - the NERSC Center has often purchased Model #1, Serial #1, and has entered into collaborative agreements with industry to develop computing and communications technology important to the LBNL support of the DOE mission. An example is the collaborative work with International Business Machines (IBM) on the High Speed Storage System.

ESnet
The ESnet is a critical item to the DOE scientific research, computing, and nuclear stewardship missions. With the increasing use of computers, from desktop PC, workstations, to supercomputers, collaborations have become paramount to accomplishing the DOE mission. ESNET provides the mechanism for DOE to enable worldwide collaborations and data exchange, whether it be simple email, or massive accelerator data sets. Its ease of use and reliability, as well as being on the leading edge of technology, has made it a critical component for the DOE mission.

Criteria 3: Performance in the technical development and operation of major research facilities
Rating: Outstanding

Applied & Computational Mathematics
LBNL is a participant in the Materials Micro Characterization Collaboratory (MMC) pilot, an important element of which is the development of a common user interface, and basis for accessing instrumentation at Materials User Facilities from off-site locations. The goal of the pilot is to introduce a new paradigm in scientific research, by developing a cohesive virtual laboratory accessible from anywhere on the Internet. The group is constructing a "Microscopy Channel" where a list of all available on-line microscopes is found, and where users can seamlessly join to participate or observe an ongoing experiment. This offers great potential for positively impacting the effectiveness of the facilities, by making them more accessible and in some cases, more highly utilized. Significant progress has been made towards this goal.

NERSC
The NERSC Center is the acknowledged role model for a facility providing production computing support for computational sciences in the federal sector. It has generally met all expectations of the user community, in providing both vector and massively parallel resources, as well as High Performance Storage System (HPSS) capabilities to the scientific community.

The review by the Scientific Computing Applications Council (SCAC) early in the second quarter of FY2000, has verified that the NERSC Center continues to maintain this position. Since the move of the NERSC Center to Berkeley, the User Services Division has incorporated computational scientists with specific experience, in the science disciplines important to DOE's missions. This has lead to collaborative efforts with NERSC users and with the User Services staff. An example is the development of a new materials sciences code that won the Gordon Bell award in 1998, as the first scientific code to run with a sustained rate greater than one teraflop. Other codes developed at the NERSC Center can determine the electronic structure of systems of millions of atoms. This code is important to understand real material systems such as quantum dots, quantum wells, superlattices and other structures important to nanotechnology.

NERSC has an excellent acquisition group. It has used the "best value" approach to acquisition based on benchmarks developed from actual user code, as well as benchmarks known to the industry. Recently this group has developed a new benchmark entitled, "Effective System Performance", that is targeted for use by DOE and other agencies to test the cost-effectiveness of real world computing systems. The latest lease-to-own contract is with IBM. This will lead to a new system configuration at the NERSC Center (staying within budget which has been flat for four years), that will again make it the world's most powerful unclassified computer center.

ESnet
ESnet is a critical item in the development and technical operations of the DOE research facilities. ESnet enables the high speed exchange of the research data from these facilities not only within the DOE community, but also with other federal agencies, industry, universities and worldwide research partners. ESnet has shown, over the long haul, that it is capable of meeting the performance objectives needed by the DOE research community and the major research facilities. The user satisfaction, as evidenced at the face to face Esnet Steering Committee (ESSC) meetings and the ESnet Site Coordinating Committee (ESCC) meetings, is a tribute to the technical development and operation of this major facility.

Criteria 4: Programmatic performance and planning
Rating: Outstanding

Applied & Computational Mathematics
These projects involve planning across multiple organizations. This is done well and appropriate milestones are met. From a management perspective, the performance is outstanding. Strong leadership from LBNL's participation has been invaluable in helping maintain a cohesive collaboratory effort across all the R&D projects, the pilots, and the Advanced Computational Testing and Simulation (ACTS) projects. This applies generally, as well as in the particular instance of the R&D and pilot

projects involved. LBNL's collaborative activities within DOE, are a positive contribution. They also interface well with others in the research community outside of DOE, who are pursuing R&D in the same or similar areas.

Technology Research

The LBNL LTR office continues to show leadership and creative thinking regarding the LTR program. As an example, the office took the initiative to arrange video conferences with DOE HQ for each of the four on-site, mid-program peer reviews. The office has been very responsive to the requests from DOE HQ concerning conduct of the LTR program.

LBNL responded satisfactorily to the FY 2000 initiative for Rapid Access Projects. Each of the two proposals from LBNL was funded.

NERSC

The programmatic performance of the NERSC Center has met the goals set for the Center as verified by the SCAC Review earlier this year, as well as user surveys. The Center has met its technical milestones within budget and on schedule - though we know that IBM will be delivering the second phase of its large (greater than 600 node) SP2 system six months late. This is only possible if the morale and satisfaction of the staff, is maintained at a high level by the upper management of the NERSC Center. If not, Silicon Valley - across the Bay from Berkeley, may lure the NERSC staff away. The NERSC Center management and organization, however, is competitive with the best computing facility center in the world.

Though the cost-effectiveness is high at this time and will likely remain so, the cost of the staff, even as the number of staff is slowly decreased by moving to more automation, will force the NERSC Center costs up over the next several years.

Eighteen of the 230 items submitted to the Office of Scientific and Technical Information (OSTI) were directly from the NERSC Center and about another dozen were dependent on NERSC Center resources. This is somewhat low in number, but the items were generally substantial items than average. Most publications from the NERSC tend to be published in the open literature and do not appear in the OSTI list. Another representative list of the published works can be found in the NERSC Center's self assessment, "How are we doing?", Report LBNL-43131.

ESnet

Although ESnet personnel provide excellent programmatic performance and have great success in meeting the technical and scientific objectives, the short and long range planning and feedback to DOE could use some improvement. Specific areas recommended for improvement are generally centered around ESnet taking a proactive approach to: keeping the DOE involved in the loop on transition planning and current status on a frequent basis, advising DOE of any potential problems and changes in schedule, providing DOE information on personnel changes that may affect budgets, and developing a written operation plan and disaster recovering plan, and providing a copy to DOE. Many times DOE personnel are required to answer detailed questions on very short time frames, and having ESnet take a proactive approach would assist in this endeavor since, due to the differences in time zones, it is not always feasible to have the luxury of email or phone call exchanges with ESnet personnel.

Performance Area: Fusion Energy Sciences

FY 00 Overall Performance Summary*:*

Lawrence Berkeley National Laboratory (LBNL) has done an **outstanding** job as the lead for the Office of Fusion Energy Sciences' Inertial Fusion Energy (IFE) program. LBNL management has shown leadership as exemplified by their collaboration with Lawrence Livermore National Laboratory (LLNL) and the Princeton Plasma Physics Laboratory (PPPL) on the Virtual National Laboratory (VNL) for Heavy Ion Fusion. LBNL managers have demonstrated vision in carrying out long range planning and strong support for the program. With future fusion energy budgets uncertain, LBNL leadership must ensure that near term tasks are clearly identified in field work proposals, so that an orderly progression of accomplishments can be demonstrated.

Overall Performance Rating: Outstanding

Criteria 1: Quality of science:
Rating: Outstanding

The development of heavy ion drivers for Inertial Fusion Energy (IFE) has for many years been led by LBNL. This leadership has been recognized by both national and international scientific communities with interests in fusion energy. The scientific quality of the research carried out in the LBNL program is of the highest quality. Lead papers presented at international conferences and symposiums, are recognition of this excellence and also contribute to assuring that scientific results are generally available to the scientific public.

The work being done at LBNL combines the scientific aspects of the behavior of heavy ion beams, which are non-neutral plasmas, with the engineering concepts of accelerator technology germane to a realizable driver for IFE. These two aspects of the LBNL effort are tightly coupled, since experiments on the beams require experimental facilities that must be constructed in a cost-effective way because of the modest funds available for this effort. Experimental work continues to be of high quality, using existing facilities to bring together different aspects of producing, transporting and focusing beams in a way to provide information useful in understanding beam dynamics necessary for future systems

Progress continues to be made in the complementary task of developing end-to-end simulation of heavy ion driver systems. This work is closely coupled with other researchers in the IFE community, as well as the broader accelerator community. There has been a consistently high degree of innovation in addressing IFE problems, and this is being facilitated by the availability of ever-increasing computational capabilities.

The scientific effort carried out at LBNL is coordinated through the Virtual National Laboratory (VNL) for Heavy Ion Fusion. This agreement now involves three laboratories (LBNL, LLNL and PPPL). The VNL will contribute to better inter-laboratory coordination in carrying out IFE tasks and

should result in better programmatic planning. IFE technology tasks are coordinated through the Virtual Laboratory for Technology that has both IFE and MFE components.

Criteria 2: Relevance to national needs and agency mission
Rating: Outstanding

Inertial fusion energy research at LBNL, is in direct support of DOE and the Office of Science's goals. Because of the importance of making fusion energy cost effective and reliable, LBNL has been working with industrial, university and other laboratory partners in identifying accelerator components for which long range scientific and technical developments can have significant cost and performance impacts. They have, through their leadership role for IFE, contributed to a more cohesive program involving national laboratories under the VNL and the mix of laboratories, universities, and private sector carrying out technology tasks.

Criteria 3: Performance in the technical development and operation of major research facilities
Rating: Outstanding

A long-term goal of recent IFE research, has been providing the basis for an accelerator-based program called the Integrated Research Experiment (IRE). The main component of this experiment would be a heavy ion accelerator, but several elements of an IFE power plant would be studied in this facility. These elements include the scientific basis for a full-scale driver, validation of beam target interaction physics and exploration of areas of target physics. LBNL, through their institutional plans and field work proposals, has proposed a series of individual experiments that would provide the scientific and technical basis for an IRE. This type of detailed and careful planning is necessary within the context of the goals of the fusion energy program. The path along which DOE would proceed to consider construction of an IRE is unclear, because of funding and other considerations, but the scientific work carried out at LBNL (and LLNL) is preparing the way for such a program.

Criteria 4: Programmatic performance and planning
Rating: Outstanding

The IFE program at LBNL has responded positively to restructuring of the fusion energy sciences program since FY 1996, as well as significant funding fluctuations prior to this time. The leadership of the program has responded to these conditions by maintaining focus on critical, long-range elements of the program. In FY 2000, there was a significant increase in funding for the IFE program. The leadership at LBNL (and elsewhere) responded very well to this increase and a well-coordinated program was put in place within IFE. In part, this response to the increase in funds was made possible by the work done by the IFE working group at the Snowmass Fusion Meeting. The VNL has worked well in making sure work was done effectively at the appropriate institution, including modest efforts at MIT.

As planning goes forward with continuing uncertainty in future fusion energy budgets, LBNL leadership must ensure that not only long range planning is carried out with vision, but that near term tasks are clearly identified in field work proposals, so that an orderly progression of accomplishments can be demonstrated. Communication between the VNL has been generally good, but there is room for continuing improvement. The retirement of Roger Bangerter, as the head of the VNL, raises the normal issues associated with a transition to a new leader. The ongoing search for a replacement was initiated promptly, and is a good sign for the future of the VNL.

Conclusions & Recommendations:

LBNL has done an outstanding job as the lead for the Office of Fusion Energy Sciences' IFE program. LBNL management has shown leadership as exemplified by their collaboration with Lawrence LLNL and the PPPL on the VNL for Heavy Ion Fusion. LBNL managers have demonstrated vision in carrying out long range planning and strong support for the program. With future fusion energy budgets uncertain, LBNL leadership must ensure that near term tasks are clearly identified in field work proposals so that an orderly progression of accomplishments can be demonstrated.

Performance Area: Biological and Environmental Research

FY 00 Overall Performance Summary*:*

LBNL has continued to perform at an outstanding level in FY2000. Even though previous reviews have been laudatory, there has been even further improvement in both the quality and magnitude of the science, and of the integration of different disciplines. It is clear that the Life Sciences Division has capitalized on a number of special features that enable them to make progress in ways that are not readily accessible in the standard academic departments of cell and molecular biology.

Overall Performance Rating: Outstanding

Criteria 1: Quality of science:
Rating: Outstanding

LBNL has the largest share of Life Sciences funding of any single laboratory or institution with projects in structural biology, genomics, low dose radiation research, and functional genomics. The largest of these efforts in FY 2000 was in genomics, including substantial contributions to the management and operation of the Joint Genome Institute (JGI). The JGI continued its remarkable progress and success in FY 2000, completing the draft DNA sequence of human chromosomes 5, 16 and 19 well ahead of those working on the remaining chromosomes. A peer review conducted this past year on the Life Sciences Division at LBNL, unanimously judged the science, the scientific interactions and the leadership of the Division to be truly outstanding.

The Medical Sciences Divisions' program in the areas of structural biology facilities and research, radiopharmaceuticals development, medical imaging instrumentation, and related clinical feasibility studies for human use generally have met the high standards of panel and peer-review. Additionally, the researchers have excellent track records of productivity and scientific publication, and are well regarded nationally and internationally. The crystallography program at the Advance Light Source is achieving outstanding productivity.

In the Environmental Sciences, LBNL has continued to excel. LBNL researchers have made a number of state-of –the-science contributions to DOE's Atmospheric Chemistry Program. LBNL has been successful in competitions for awards in both the National & Accelerated Bioremediation Research and the integrated assessment programs. Additionally, LBNL is beginning to build a virtual center for Ocean Carbon Sequestration, in partnership with LLNL. LBNL has been outstanding in the execution of the Atmospheric Radiation Measurement (ARM) Carbon Cycle Project. The team has been extremely creative in developing new instrumentation for the ARM site.

Criteria 2: Relevance to national needs and agency mission
Rating: Excellent

Overall, LBNL's Life Sciences research is highly relevant to DOE and National needs. A substantial fraction of the functional genomics portion of the program, while scientifically outstanding and highly relevant to National needs, continues to be much less relevant to DOE mission needs than the rest of the program. Although this is not viewed as a serious deficiency, it continues to be an issue for concern in terms of program justification.

Medical Science Divisions' program at the Center of Functional Imaging to support R&D activities on new radiotracers and nuclear medicine imaging instrumentation devices, provide substantial benefits to the DOE Nuclear Medicine research. The crystallography and spectroscopy programs at the Advance Light Source (ALS), are highly supportive of the Office of Science programs and major national research programs such as structural molecular biology.

LBNL is working in a number of mission critical areas in support of BER programs, such as NABIR and carbon sequestration. The National Academy of Science identified carbon cycle and water cycle research as the top priority for the US Global Change Research Program (USGCRP). LBNL's participation in the development of the USGCRP's water cycle initiative has been outstanding.

Criteria 3: Performance in the technical development and operation of major research facilities
Rating: Outstanding

As noted, LBNL has done an outstanding job in its management of the JGI/Production Sequencing Facility. This facility has exhibited exceptional success, progress and improvement in a very short amount of time. Its success and scientific contributions are widely recognized in the scientific community.

Operation of the protein crystallography stations at the ALS is outstanding and has demonstrated the utility of the ALS for these experiments. This is evidenced by the large number of additional stations for crystallography being built at the facility.

Criteria 4: Programmatic performance and planning
Rating: Outstanding

Overall, LBNL is very responsive to DOE needs and concerns. LBNL does an outstanding job of trying to develop well integrated, interdisciplinary research programs that take advantage of the broad and diverse capabilities of a national Laboratory. LBNL is effective in disseminating the results of scientific research, and its organization and leadership are effective in program management.

In the Medical Sciences Division, investigators have generally forged successful intramural and extramural collaborations for effective management and productivity of research programs and optimum use of resources and facilities. Also, the Laboratory management continues to be responsive to DOE programmatic needs in a timely fashion.

Performance Area: Energy Efficiency & Renewable Energy

FY 00 Overall Performance Summary*:*

Office of Power Technologies (OPT)/ EE-10:
Overall, the Lawrence Berkeley National Laboratory (LBNL) has done outstanding work for the DOE Office of Power Technologies in the areas of Transmission Reliability, Electric Restructuring and the Wind Program. LBNL's intellectual contributions and hands-on technical assistance are highly valued by local, state and federal policymakers. The Laboratory staff has produced several outstanding publications and reports that have played an integral role in promoting the Department of Energy's (DOE) mission of ensuring reliability of the Nation's electricity infrastructure and of fostering renewable energy technologies such as wind energy.

Office of Transportation Technologies (OTT)/EE-20:
Overall, LBNL provides an outstanding service to the DOE and the scientific community. Work is at the highest quality, deadlines are met, and results are communicated in a meaningful manner. LBNL adds tremendous value to each DOE program it supports.

Office of Building, State and Community Programs (BTS)/EE-40:
Appliance Standards: For two decades, LBNL has been the principal source of analyses for DOE efforts to improve the energy-efficiency of appliances. Though DOE analytical requirements have been demanding, LBNL has consistently and successfully managed to address the most difficult challenges. As increased stakeholder interest grew in the DOE appliance standards analyses, there has been a need to develop new analytical tools, both to satisfy growing stakeholder interest, as well as to extend its analyses to more precise levels. LBNL efforts to make the appliance standards analyses simultaneously more transparent and more robust, have greatly facilitated stakeholder understanding and acceptance of the appliance standards program of the Department.

Design Tools: Relatively on-schedule, LBNL has made significant progress towards delivering major software in FY 2000. LBNL is involved in major new cost-shared programs started in the DOE Commercial Building Roadmap.

Lighting Research and Development: Opportunities to improve technical capabilities and scientific content abound and are just beginning to be explored. It is hoped that the immense opportunity represented by solid state lighting will be acknowledged and exploited by Laboratory Management. In particular, this opportunity represents a unique time to develop a longer-term strategic plan, itemize resources (facility and human), and develop a tractable solution that meets the expectations of all involved. The significance of this opportunity cannot be overstated.

Overall Performance Rating: Outstanding

Criteria 1: Quality of science:
Rating: Outstanding

OPT/EE-10:
Transmission Reliability: LBNL led the Consortium for Electric Reliability Technology Solutions (CERTS) in the final review of six white papers that were published in December 1999 and that resulted in high quality assessments of the needs for electric power research by the Federal government. LBNL also performed excellent work related to collection and validation of data to support evaluation of power markets in California, and data requirements with respect to load as a reliability resource and the integration of distributed energy resources.

Wind Program: LBNL has an internationally recognized expert specializing in the electric utility regulatory community, the emerging competitive marketplace, renewable energy, and State and Federal policies as they apply to new technologies. The LBNL researcher's work is of outstanding quality and serves to identify unique opportunities to deploy wind energy technology. His publications in this area are considered authoritative and are cited by authors throughout the world. Making use of relevant analysis that provides useful cross-program exchange of ideas, he functions well as a member of a multi-laboratory team examining competitive opportunities for wind energy. In FY 2000, he was requested to advise the Texas Public Utility Commission on the complex issue of implementing their 2000 Megawatt Renewable Energy Portfolio and his expertise was requested to analyze a proposed law in Iowa by the Energy Office.

OTT/EE-20:
LBNL is the premiere center-of-excellence in electrochemical sciences. The Laboratory draws heavily on their resource of distinguished scientists, who in turn attract outstanding graduate students and post-doctoral fellows. LBNL always has a strong presence at electrochemically-oriented conferences and, in the most highly regarded electrochemically oriented journals. Two of the Principal Investigators serve the scientific community by editing the most respected electrochemistry journal in the country, the *Journal of Electrochemistry*. The staff has received numerous awards and has published collectively over 700 publications. LBNL's leadership and continuous achievements are unparalleled.

BTS/EE-40:
Appliance Standards: LBNL developed a new methodology and statistical analysis, using census and industry financial data, to estimate central air conditioner mark-ups. This analysis became fundamental in supporting the efficiency levels contained in the proposed rule. While a difficult task, modeling results for the water heater analysis have been less than perfect and somewhat controversial. Overall, the quality of work has been outstanding.

Design Tools: Quality is consistently high and usually places LBNL as a leader among research organizations.

Indoor Air Quality: The program has sustained its leadership in the area of Indoor Environmental research. This year's work resulted in a *Research and Development 100 Award*. The program is an active participant in the Science Advisory Broad for the Environmental Protection Agency (EPA).

Lighting Research and Development: The LBNL lighting program has historically been more applied than basic in nature. The traditional applied work is mostly associated with lamp fixtures and geometrical optics and has been technically of high quality but of low scientific content. While this

research may find consistent support from industrial benefactors and local utilities, it can be argued that such applied work does not fit into the established theme of the National Laboratory. Very recently, the program has embarked on a shift towards a more basic research and development theme and shows great promise in this regard. While perhaps too early to evaluate, the initial activities and scientific contributions are encouraging. This shift towards more basic research especially in the area of solid state lighting should be strongly encouraged.

Rebuild America: LBNL has been a leader in the area of products and services required for the high level of science needed. The quality of science is excellent.

Windows Research and Development: Just one year ago the quality of science, as measured by peer reviews, was consistently ranked in the higher performance categories. This quality continued this year. LBNL has had a number of advances in material science. A few of these included: reflective electrochromism in transition-metal hydrides, application of combinatorial synthesis to solar control films, and use of this method with LBNL discovered enhanced ion-beam deposition toward development of durable silver coatings. Last year, LBNL deferred expansion of their Infrared Thermography laboratory. LBNL is now proceeding to develop a world class research facility, with a better design guided by an international review team of experts. The new facility will focus on increased understanding of fenestration system performance (developing procedures to determine local film coefficients) and on extending existing capabilities to related applications (photovoltaic systems, automobiles).

Criteria 2: Relevance to national needs and agency mission
Rating: Outstanding

OPT/EE-10:
Transmission Reliability: LBNL manages the Program Office for CERTS which performs research, development and demonstration of electric power system reliability for the Transmission Reliability program in the Department of Energy. The Under Secretary's analysis of DOE's Energy Resources R&D Portfolio indicated that increased support for this work is a high priority in the Department, and the work is also addressing critical National needs to assure the reliability of the Nation's electricity infrastructure during the transition to competitive electricity markets. LBNL also played a leadership role in participating on the DOE Power Outage Study Team (POST), and in writing the POST final report that contained recommendations to the Secretary.

Wind Program: The wind energy program plays an important part of the Department of Energy's mission to clean energy. The relevance of LBNL wind energy analysis is outstanding and will play an important role in forming State and Federal policies which are the key vehicle, or impediment in some cases to the deployment of renewable energy technologies.

Electric Restructuring: LBNL's Electricity Market and Policy Group has been an outstanding performer for the DOE Electricity Restructuring Program during the past several years. The major goal of DOE's Electricity Restructuring Program, is to provide technical assistance to states on policy and market mechanisms to achieve renewable energy and energy efficiency goals in a restructured

electricity industry. LBNL has played a key role in helping the Department to meet this objective. For example, during FY 2000, LBNL completed the first national analysis of the impacts of state Renewable Portfolio Standard and System Benefit Charges programs -- a major analytic contribution. LBNL also provided technical assistance to key states developing and implementing renewable energy and energy efficiency public purpose programs. The leader of the Electricity Market and Policy Group received a certification and letter of commendation from the California Public Utilities Commission for his two years of public service as Vice-Chairman of the California Board for Energy Efficiency, which oversees $275 million of energy efficiency funding in California. Key members of the Electricity Market and Policy group were also recognized by the Vermont Public Service Board in their technical assistance in Vermont's successful effort to launch the nation's first energy efficient utility. During FY2000, LBNL provided technical assistance on public purpose energy efficiency and renewable energy programs to eight states. The above examples are key indicators of the relevance of LBNL's work for DOE. LBNL's activities are highly critical to ensuring continued and expanded market relevance to DOE's programs in energy efficiency and renewable energy.

OTT/EE-20:
LBNL is the lead laboratory for the DOE sponsored Exploratory Technology Research (ETR) program, which is designed to address the key barriers that hamper the development of advanced batteries for electric and hybrid vehicles. The ETR program is crucial to the success of achieving a battery that meets the very difficult performance targets as set by the Untied States Advanced Battery Consortium (USABC). ETR addresses technical issues that are fundamental and impact all systems deemed most likely to meet the USABC goals. In addition, the program has produced several young scientists who have gone on to work for battery and fuel cell companies around the country taking with them a broad background in electrochemical sciences. Commercial spin-offs include two major battery companies, one of which is a strong candidate for supplying a lithium-ion high-power technology to the U.S. car manufacturers

BTS/EE-40:
Appliance Standards: LBNL has been very flexible and adaptable in meeting the accelerated schedules for the priority rulemakings. This has included quick and accurate results in analyzing proposed negotiated standards for clothes washers and fluorescent lamp ballasts. Various scenarios, including revised shipments and timetables, were evaluated on a real time basis greatly supporting the negotiations.

Design Tools: LBNL has premier capabilities to meet the needs of the Department and National priorities.

Indoor Air Quality: LBNL leadership in this area is well balanced between overall National needs in Indoor Air Quality and DOE's mission on Energy Efficiency. LBNL was a major contributor to development of the consensus standards of the American Society of Heating, Refrigeration, and Air-conditioning Engineers (ASHRAE).

Lighting Research and Development: LBNL leadership in this area is very important to the overall mission of the agency. Lighting represents a significant percentage of the total end use of electricity and is characterized by its relatively low system efficiency. Clearly, there exists considerable opportunity for improvement and this has historically been a focal point of the program at LBNL.

Recently however, there has been a decline in this leadership role and while the effectiveness of the Laboratory's outreach efforts have been good, there is room for improvement both in terms of quality and number. The LBNL program continues to be spread too thinly across a large number of activities and should consider a more targeted approach. The applied fixtures development projects continue to attract the attention of manufacturers many of whom are too small to maintain a Research and Development staff of their own. Also, local energy conservation interests have become involved in these applied projects and have begun to assume a stronger financial leadership role.

Rebuild America: The ability of LBNL and its personnel to provide maximum flexible response to meet agency and program needs has been excellent.

Windows Research and Development: LBNL is successfully addressing a number of priorities listed in the DOE Windows Roadmap. LBNL continues to play a critical role providing technical support to industry associations (the National Fenestration Rating Council (NFRC), the Efficient Windows Collaborative (EWC), the Primary Glass Manufacturers Association (PGMA)) supporting DOE goals. LBNL's technical expertise is carefully focused on issues that address meeting national energy efficiency needs; accomplishments include training NFRC simulators, leading NFRC efforts to develop an annual energy rating, documenting skylight energy performance, developing the technical base for determining a condensation resistance index, expanding the NFRC optical properties database, developing new content on window selection and efficient window energy and energy-related benefits for the EWC website, and development of a spectrally selective low-e detector. In support of NFRC and EWC energy savings objectives, LBNL continued to expand the capabilities of its software (RESFEN 4 and Optics 5 beta and WINDOW5 alpha developed). LBNL leadership in standards organizations (independent system operators (ISO), American Society for Testing and Materials, ASHRAE) ensures industry procedures capitalize on state-of-the art algorithms and consistency between standards, software, rating systems, and product development. LBNL plays a critical technical oversight role that is important if the electrochromics initiative is to achieve overall mission goals.

Criteria 3: Performance in the technical development and operation of major research facilities
Rating: N/A

Criteria 4: Programmatic performance and planning
Rating: Excellent

OPT/EE-10:
Transmission Reliability: LBNL performed outstanding work related to published reports; program reviews; management of subcontracts that are producing outstanding results with respect to development and transfer of real-time reliability tools to the electricity industry; preparation of the DOE Transmission Reliability draft multi-year program plan; and forming a board of National experts to review and guide the program.

Wind Program: LBNL demonstrated outstanding planning and management in coordination of projects from the National Wind Coordinating Committee and providing timely deliverables to the Wind Program.

Electric Restructuring: LBNL's Electricity Market and Policy Group has an extremely strong record of publications in the area of electricity restructuring, retail energy services, and public purpose energy efficiency and renewable energy programs. The group does an outstanding job of disseminating the products of their research through their publicly available group web site, and through invited presentations and participation in industry forums, workshops, and meetings. In FY2000 alone, LBNL staff gave over 20 invited presentations with approximately ten publications in electric restructuring. This level of performance is particularly notable given their limited budget. LBNL has a team of analysts who have come to be recognized as among the nation's experts in their fields. LBNL provides analyses that are considered to be unbiased, yet insightful, even though the field of electric restructuring analysis can be heavily politicized and controversial. LBNL's work can be viewed as the intellectual foundation of many decisions made by electric restructuring decision makers at the state and federal level, including public purpose provisions in the current Administration's electric restructuring proposal now before the U.S. Congress. Moreover, LBNL's team takes the result of its various analyses and conducts targeted outreach to key national, state, and local electric restructuring decision makers in an unpretentious, non-threatening manner that is well-received and understandable to non-technical people. Thus, LBNL's manner of delivery is highly important to DOE's Electric Restructuring Program and in addition to the quality of its work, is the reason LBNL is held in high regard in the electric restructuring policy community.

OTT/EE-20:
Under the ETR program, LBNL performs work which is between very applied and very basic. It is much more research oriented than development. As such, it is very difficult to set clear, measurable scientific and technical objectives, although we continually work on improving this aspect. In the past we have asked each researcher to provide a list of objectives and milestones for the coming year. Unfortunately, since many of the scientists work on one aspect of the battery, it is nearly impossible to state meaningful, measurable objectives in the absence of a clearly defined overarching system. This year we have identified baseline systems which investigators can refer to in order to demonstrate progress or improvements.

BTS/EE-40:
Appliance Standards: Goals and milestones were accomplished on schedule and within budget.

Design Tools: The monthly reporting of activities, progress towards agreed deliverables, and expenditures versus budget is needed but not provided.

Indoor Air Quality: All planned milestones and deliverables are on schedule with only some minor delays. The LBNL Indoor Environment Program has been an invaluable resource in the Department's recent planning on productivity. New research projects and logical extensions of ongoing LBNL efforts have been formulated by the Laboratory and forwarded to the Department of Energy for consideration prior to the due date. A highlight in this area is the long-range plan on outdoor air control.

Lighting Research and Development: There continues to be improvements in attaining and reporting of milestones. While there is room for significant improvement, the effort expended towards this objective has been noticed. Annual plans continue to be relatively weak compared to other industrial proposals and continue to exhibit poor long-range planning. Period reports continue to be Spartan, infrequent, and too late to be of real programmatic value. The recent initiatives in the solid state lighting area have provided a much needed opportunity for personnel to reach out to their colleagues in other, unrelated areas to forge new alliances and research teams. This positive activity has strengthened the technical capabilities of the Lighting Group significantly and is an effective use of the Laboratory and the University of California infrastructures.

Rebuild America: LBNL's ability to plan and perform exceeds expectations and deserves a rating of excellent. LBNL has superior management and delivery capabilities.

Windows Research and Development: Significant improvements in the submission of monthly reports have occurred since they have been posted on a web site. As contractually required, completed portions should be posted within ten days of the end of the month with late parts to be added as soon as possible thereafter. To date, a limited number of reports have been a few weeks late. Further, because of the need to minimize uncosted funds, proposed statements of work must be submitted on time. Any anticipated budget difficulties should be communicated to the DOE program manager as soon as possible. Anticipated cost of living increases should be provided to EE senior management before April. In general, it should be noted that LBNL staff has been generally responsive in providing technical materials to DOE in response to rapid turnaround information requests from DOE. LBNL staff provides key technical management support, on a timely basis, to DOE for the Electrochromics initiative. LBNL works effectively with the NFRC, the EWC, PGMC, SIGMA and other industry members to understand and prioritize industry research and technical support needs. One area of concern which occurred in FY 1999 was the failure to have a review by technical experts of the WINDOW 5 software. A very limited review did occur in FY 2000, though DOE has never received the formal written results of the review. This review was a contractual requirement. Because of the significant resources that are committed by both DOE, industry and the entire user community, both domestic and foreign, to window rating software, it is important that LBNL adhere to sound management approaches in the development of software. This is not to deride the quality of the software and its development team, but to question the broader management process. DOE appreciates the responsiveness by LBNL by their commitment to management reforms which are reflected in the FY 2001 statement of work. Future evaluations will consider progress in these matters, and responsiveness to DOE priorities for window rating software. Finally, LBNL should be commended for the responsiveness to industry and DOE concerns with THERM software by early release of THERM 2.1 which resolved many concerns. WINDOW, THERM and OPTICS are critical to the NFRC and Energy Star programs, and rating programs in many countries. Significant support is needed as we move to reflecting ISO 15099 and other ISO standards in the new WINDOW suite of software. This software now needs to address the needs of partners in Europe and elsewhere to assure harmonization.

Conclusions & Recommendations:

LBNL has demonstrated outstanding performance in promoting the Department of Energy's (DOE) mission of ensuring reliability of the Nation's electricity infrastructure and of fostering renewable

energy technologies such as wind energy. LBNL's intellectual contributions, outstanding publications, analyses, and hands-on technical assistance are highly valued by local, state and federal policymakers. LBNL's work in addressing key barriers that hamper the development of advanced batteries for electric and hybrid vehicles, is of the highest quality, timely, and effectively communicated. LBNL has shown excellent leadership in improvement of appliance standards, development of design tools for buildings, indoor environmental research, and window research. In the Indoor Air Quality and Rebuild America programs, new program management at both LBNL and DOE Headquarters may require extra effort and time to ensure a common understanding of all parties. Moreover, the Design Tools and Window Research Programs require much needed improvements in implementing monthly reporting of activities, progress towards milestones, budget and expenditures. The Lighting Program's recent shift towards more basic research, especially in the area of solid state lighting, should be strongly encouraged. DOE Headquarters should make a commitment to become much more involved with the Laboratory in their planning and reporting process. Collaborative research with other divisions within the Laboratory and other research institutions and manufactures should be strongly, encouraged especially in the solid state lighting arena. The Laboratory must make a commitment to long-term planning for their Lighting Research Group towards more basic lighting research. The overall rating in Energy Efficiency and Renewable Energy programs at LBNL is **outstanding**.

Performance Area: Civilian Radioactive Waste Management

FY 00 Overall Performance Summary*:*

In the Yucca Mountain Project (YMP), Lawrence Berkeley National Laboratory (LBNL) is responsible for one of the most technically challenging tasks of the past few decades. LBNL staff consistently does an outstanding job technically and programmatically. They are looked to as a leader and for insight, and frequently bring forth solutions on their own initiative. At the same time, they do so with good spirits and are always cooperative. Their role in understanding the unsaturated zone at Yucca Mountain, their participation in the thermal tests, studies of coupled processes, and their work in understanding the uncertainties in the performance of Yucca Mountain, are all exemplary. YMP has the luxury of looking to many organizations, including other national laboratories for input. LBNL is frequently one of the first that the YMP turns to as a measure of their standing.

With respect to Quality Assurance (QA), LBNL has a very strong leader who demands a quality product. He stays abreast of all facets of the program and is knowledgeable in all program aspects. An off-site meeting is planned with his staff to further discuss, (as noted in the Laboratory Leads' notification to his staff dated 9/13/2000), " to make our work more enjoyable, improve on the scientific quality of the work, as well as streamline and efficiently produce our Project deliverables." Not only does LBNL have a strong leader, the caliber of personnel and their dedication to delivering a quality product has been reflected in the QA audit results as well as the minimal number of deficiencies identified within the program. Based on the overall efforts and positive attitude, LBNL's performance has been **Outstanding**.

Overall Performance Rating: Outstanding

Criteria 1: Quality of science:
Rating: Outstanding

LBNL's technical role in the Yucca Mountain Project (YMP) is for the most part outstanding. As the lead organization for characterizing the unsaturated zone for YMP, LBNL is outstanding in addressing the unprecedented technical challenges of characterizing the performance of the unsaturated zone. LBNL is always looking to do the best job that can be done, and is very active in trying to solve the next problem or address the next issue. Since many of the issues of the YMP crosscut several technical disciplines and organizations, DOE staff needs to obtain input and leadership from any number of organizations. Frequently, LBNL is looked to first for input. Examples include thermal testing, coupled processes, interactions with Russia, and the treatment of uncertainties in YMP performance assessments. Not only is LBNL looked to, they frequently bring issues and solutions to the attention of DOE. The science conducted on the YMP is highly visible, and there are numerous public interactions with the review groups, including the Nuclear Waste Technical Review Board, the Nuclear Regulatory Commission, the Advisory Committee on Nuclear Waste, and the National Academy of Sciences. In many of these meetings, LBNL plays a key role.

Quality Assurance (QA) is intimately related to LBNL's technical performance. Based on everyday involvement with LBNL personnel, the results of the compliance-based audit, the results of performance-based audits, and the team spirit manifested, the implementation of the QA program by LBNL is excellent. There were neither recommendations nor deficiencies noted in the compliance based audit. The results of the performance-based audits noted deficiencies in the area of software control as part of the Process Model Report Audit M&O-ARP-00-04. However, overall, LBNL has performed their work with a high degree of accuracy and quality. In addition, LBNL has been very responsive in addressing those deficiencies identified that affected LBNL documents for the Unsaturated Zone Process Model Report. Taken as a whole, LBNL's rating for this criterion is Outstanding.

Criteria 2: Relevance to national needs and agency mission
Rating: Outstanding

By any measure, understanding the behavior of the unsaturated zone is critical to understanding the performance of a potential repository at Yucca Mountain, and LBNL is responsible for this effort. LBNL efforts have a direct impact on the environmental goal of geologic disposal, which also has non-proliferation related aspects. LBNL's rating for this criterion is Outstanding.

Criteria 3: Performance in the technical development and operation of major research facilities
Rating: N/A

Criteria 4: Programmatic performance and planning
Rating: Outstanding

The Yucca Mountain Project has many different participants, and in terms of programmatic performance, including morale, leadership, and managing interdisciplinary teams (including staff from other laboratories and Management and Operating contractors (M&O's)), LBNL is outstanding. Not only does the LBNL staff produce excellent products, they do so with style and grace. Across the board, the staff members are not only hard working, but they are pleasant and cheerful. Maintaining such an attitude in a trying environment of public scrutiny and demanding deadlines is exemplary.
In the area of QA, for FY 2000, LBNL was cited in only one Deficiency Report (DR) which is on schedule for timely closure. Additionally, the Quality Assurance Management Assessment (QAMA) report for FY 2000 stated that "*there were no specific recommendations that required a response; no issues were identified that needed to be formally addressed, and that [the Office of Quality Assurance]OQA is effectively supporting LBNL and assisting the line organization in the implementation of the QA Program"*. The responsiveness, communication, and cooperation between LBNL and the On-site OQA Representative have improved this fiscal year, particularly with the

Engineering Assurance staff. Issues of concern are openly discussed and the OQA representative is considered part of the problem-solving team. The OQA representative is invited to all LBNL management staff meetings and is allowed to openly participate. The overall attitude seems positive, as the Laboratory Lead and his staff are trying hard to comply with the requirements of the QA program as well as the technical requirements of the Analysis & Model Reports/Process Model Reports. LBNL's rating for this criterion is Outstanding.

Conclusions & Recommendations:

The Lawrence Berkeley National Laboratory has demonstrated outstanding leadership, initiative, and an exemplary attitude in their diligent efforts on the YMP. While LBNL performance has been outstanding, the following areas of improvement are recommended: (1) The Quality Assurance Management Assessment interviews indicate that there is room for improvement on management communication with staff, specifically in promoting a more open forum for communication. The staff should be encouraged to express their opinions and feel more comfortable about actively participating in technical discussions. (2) LBNL has had problems with not adequately documenting software routines that were identified as a result of the Near Field Environment QA audit. The LBNL staff is aware of these problems and appears to be taking measures to correct this issue.

Performance Area: Fossil Energy

FY 00 Overall Performance Summary*:*

Overall performance of the Lawrence Berkeley National Laboratory (LBNL) in the Fossil Energy program for the Natural Gas and Oil Technology Program is **outstanding**. LBNL research in advanced diagnostics, reservoir imaging and process monitoring to improve recovery from oil fields, have been highly merited by petroleum industry. Outstanding leadership and research management have been demonstrated through timely delivery of reports, coordinating with other researchers and laboratories, and balancing scientific resources against limited budget constraints.

Overall Performance Rating: Outstanding

Criteria 1: Quality of science:
Rating: Outstanding

Lawrence Berkeley National Laboratory research in the area of reservoir imaging and process monitoring is innovative and well respected by the petroleum industry which is the ultimate user of many Research and Development (R&D) products of the laboratory.

Significant advances have been made in projects through LBNL researchers, in concert with researchers in academic institutions, oil operator and oil service companies. Numerous scientific, peer reviewed, technical articles have been published and presented by the researchers involved in advanced diagnostics and imaging projects. One notable example is the LBNL researcher who received recognition as one of the co-authors of the annual Society of Petroleum Engineering (SPE) Cedric K. Ferguson Award for *Best Peer-Approved Technical Paper* of 1999. The paper, entitled "Integrating Dynamic Data into High-Resolution Reservoir Models Using Streamline-Based Analytic Sensitivity Coefficients", offers new methods for characterizing reservoirs during secondary recovery of oil using fast-changing data from injection and production wells.

Criteria 2: Relevance to national needs and agency mission
Rating: Outstanding

LBNL R&D contributes to the development of improved methods to monitor injectants, an important element of the oil program mission to improve recovery from mature oil fields. All five advanced diagnostics and imaging projects have components of industrial involvement assuring that the research efforts have relevance and near-term application. Further, several projects have service company involvement assuring that the resulting products will be quickly implemented by service companies, thus taken to the field for application by the oil operators. The five advanced diagnostics and imaging projects are addressing technological hurtles, germane to real-world oil field problems. The integration

of multiple data sets at varying scales, focusing on reservoir rock and fluid imaging, is the backbone leading to risk reduction of oil exploration and field development activities. All of these projects work toward reduction of risk, through the development of a more quantitative understanding of the rock-fluid behavior as detected through the development of several remote-sensing technologies.

Most of the projects are reviewed annually by members of the Diagnostics and Imaging Technologies Forum of the Natural Gas and Oil Technology Partnership. Participating members of the Forum are technical representatives from the oil industry and the associated oil service companies. Each year these projects must compete for funds based on industry's evaluation of the technical significance of the proposed activities to the oil industry; the likelihood of technical success; and the time it would take to bring the R&D results to field application through oil service company involvement. Ongoing projects are evaluated yearly to determine if sufficient progress has been made to warrant continued funding. Industrial forum members contribute their input to the Partnership office for deliberation and resulting recommendations are passed on to DOE for evaluation. If the recommendations fit within DOE's programmatic needs, funding for these and other projects may be approved. All of the LBNL projects have been considered to merit funding by industry.

Criteria 3: Performance in the technical development and operation of major research facilities
Rating: Outstanding

LBNL equipment and facilities (electronics design and testing and computer modeling) are well suited to the research. The access to California oil fields to test the imaging technologies is an important advantage for the laboratory work. Moreover, approximately three years ago, substantial amounts of rock-physics equipment was moved from the DOE – National Institute for Petroleum and Energy Research facility in Bartlesville, OK, to LBNL. Items included X-ray CT imaging equipment, high- and low- field Nuclear Magnetic Resonance imaging equipment probe minipermeametry, petrographical imaging analyses equipment, ultra-high speed centrifuge as well as other equipment. These items form the backbone of the Rock-Fluid Imaging Laboratory at LBNL. The Laboratory moved rapidly to identify the needed lab space and modify the existing facilities and utilities to accommodate this equipment and the added capabilities brought to LBNL Earth Sciences Division. Much of the above equipment is now operational and used in some of the research efforts funded through the Oil Program. The capabilities that this equipment brings to LBNL is of considerable interest to oil companies in the California area and avenues of cooperative R&D ventures are being explored.

Criteria 4: Programmatic performance and planning
Rating: Outstanding

Research is conducted efficiently, reports are delivered in a professional and timely manner, and the laboratory is diligent in coordinating their work with other researchers and laboratories, all signs of excellent research management.

The ongoing Partnership projects undergo a technical progress review annually, by industrial technical representatives and DOE, to determine if the projects are meeting their determined milestones and goals on schedule and within budget. If it is determined that they are not meeting these objectives, funding is terminated. To date all five advanced diagnostics and imaging projects are progressing well, staying within the DOE mission and developing R&D results that are directly germane to the oil industry. The level of productivity is quite high and morale of the technical staff is excellent. The leadership is outstanding and the balancing of scientific resources against limited budget constraints, a continuing challenge in budgetary constrained conditions, is done effectively.

Conclusions & Recommendations:

LBNL conducts outstanding research in advanced diagnostics, reservoir imaging and process monitoring, to improve recovery from oil fields that has been highly merited by petroleum industry. Outstanding leadership and research management has been demonstrated in timely delivery of reports, coordinating with other researchers and laboratories, and balancing scientific resources against limited budget constraints. Additional laboratory technician support is needed in the Rock-Fluid Imaging Laboratory, to support the researchers with routine laboratory activities. As the researchers begin to branch into other high potential R&D areas, the need for additional laboratory support staff will become even more critical.

Operations & Administration

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Performance Area: LABORATORY MANAGEMENT

Performance Objective: #1 Laboratory Leadership

Laboratory leadership, in support of Laboratory missions, ensures the stewardship and viability of the institution. **(Weight = 100%)**

Note: The Gradient for each measure is shown in the attachment and the weighting between Approach/Deployment and Results is A/D=40% and R=60%.

Criterion: 1.1 Institutional Stewardship and Viability

Evaluation of Laboratory senior management's approach, deployment and results for ensuring that the institution is capable of executing its current and future missions. **(Weight = 100%)**

Performance Measures: 1.1.a Planning

Evaluation of management's approach for strategic planning that aligns Laboratory missions, core competencies, strategic direction, and funding sources with DOE strategic plans and objectives. The assessment will focus on achievement of the key objectives contained in the Laboratory's plans and how this information is reviewed with DOE. **(Weight = 17%)**

Performance Gradient:

Weighting for Approach/Deployment and Results:
A/D=40%
R=60%
Gradients (see Table 1)

Performance Narrative:

Approach/Deployment

LBNL continued to build upon its strong set of planning activities in FY2000, with special emphasis on Infrastructure and Strategic Facilities Planning. Each year the Laboratory's Director and senior-management team hold an off-site planning retreat to develop/update the Laboratory's 10-year vision (Vision 2010), identify challenges, target opportunities and key management objectives, and set priorities and strategic directions built upon the Laboratory's core competencies and national role in the DOE Laboratory system. Related to Vision 2010, the issue of space/work environment/facility modernization received focused planning attention in FY2000. Throughout the year, several

laboratory-wide planning systems are used to guide and manage the Laboratory, to assist HQ-SC in implementing the Government Performance and Results Act (GPRA) of 1993, and support management by the University of California (UC). These include Institutional Planning; Strategic Facilities Planning; Environment, Safety, Health and Infrastructure Planning; Security Planning (including Cybersecurity); Communications Planning; Community Relations Planning; Diversity Planning; and others. These plans are coordinated and integrated within the Laboratory through the use of a Comprehensive Planning Calendar.

DOE Interfaces: The annual Institutional Plan, Laboratory-Directed Research and Development (LDRD) Plan, Facility Plans, Project Plans, ES&H and Infrastructure Plan, field budget/work proposals, and other planning documents are communicated to and reviewed by the DOE Berkeley Site Office (BSO), Oakland Operations Office (OAK), and in DOE-HQ. Laboratory Management also meets regularly with DOE officials through a variety of communications forums (see measure 1.1.b).

Mission Integration: The Berkeley Laboratory's Vision 2010 has five major components: Fundamental Understanding of the Universe, New Energy Sources and Solutions, Quantitative Biology, Nanoscience and Complex Systems, and Integrated High-Performance Computing. This vision and the Laboratory's Institutional Plan (IP) for FY2001-2005 continue to be very well aligned and integrated with the major goals of the SC Strategic Plan and Science Portfolio: Explore Matter and Energy, Fuel the Future, Protect Our Living Planet, Provide Extraordinary Tools for Extraordinary Science, and Manage as Stewards of the Public Trust.

External Collaborations: LBNL continued strong support to DOE's integrated system of laboratories by contributing expertise, especially in accelerators and detectors, and collaborating in major DOE projects and research activities at other DOE labs and around the world, including:

- Spallation Neutron Source (SNS) at ORNL
- Dual-Axis Radiographic Hydrodynamic Test (DARHT) facility at LANL
- Asymmetric B-Meson Factory at SLAC
- Relativistic Heavy-Ion Collider (RHIC) facility at BNL
- CDF and D0 detectors at Fermilab
- Supernova Observations at the Keck Telescope (Hawaii)
- Large Hardron Collider (LHC) at CERN (Switzerland)
- Sudbury Neutrino Observatory (SNO) (Ontario)
- Antarctic Muon and Neutrino Detector Array (AMANDA) at the South Pole
- Yucca Mountain Project (YMP) for fission reactor waste at the Nevada Test Site
- Human Genome sequencing at the DOE Joint Genomics Institute (JGI).

Recognizing the importance of effectively managing the LBNL portion of external projects, and additional requirements of a new DOE Project Management order, the Laboratory has a full-time project management specialist in the General Sciences group.

Results

LBNL's planning and leadership efforts resulted in a number of scientific and operational successes that contributed to achieving DOE objectives in FY00. Some highlights include: The JGI became the first institution in the public Human Genome Program to complete the draft DNA sequencing of its assigned portion of the genome (chromosomes 5, 16, 19). The Secretary of Energy announced this milestone in the Spring of 2000. LBNL also established a new Genomics Division. Scientific use and productivity of the Advanced Light Source (ALS) continued to grow with high user satisfaction. ALS operations expanded with the addition of new beamlines and "superbend" magnets that will extend the operating envelope of the ALS into the x-ray regime. Progress toward a SuperNova Acceleration

Probe satellite (SNAPsat) continued with a favorable DOE technical committee review in March 2000. The Laboratory leased and upgraded a facility in downtown Oakland (the Oakland Scientific Facility – OSF) to house its growing computing systems. The OSF will house DOE's National Energy Research Supercomputing Center (NERSC) for up to the next decade.

Site Planning: LBNL's new Strategic Facilities Plan entailed considerable coordination and effort between the Site Planning Group in the Facilities Department, the twelve scientific divisions, and Laboratory Management. Additionally, the Laboratory produced a related report on General Purpose Infrastructure needs. These plans supported several DOE-SC objectives in FY2000: (1) the SC Landlord Review of LBNL in May 2000, (2) the Laboratory Stewardship Committee (LSC) which held its first meeting in July 2000, and (3) the Institutional Plan and related DOE-SC Onsite Review conducted in October 2000. The summary elements of the Strategic Facilities Plan have now been incorporated into the Laboratory's Institutional Plan.

There is growing recognition of need for plant modernization across the DOE complex and these planning documents serve as vital "blueprints" for the stewardship and viability of the institution in being able to execute its current and future missions. This pertains not only to the *quantity* of facility space at the Laboratory, but to the appropriate *type* of space as well. LBNL is the oldest DOE Laboratory, with an average facility age over thirty years. Seventy percent of the facility space at LBNL was built by the Atomic Energy Commission (AEC) before 1970 when the mission was predominantly in the physical (general) sciences. LBNL's R&D mission has evolved considerably over the past thirty years, and now involves substantial fractions of work in the life and health sciences, information and computing sciences, and energy sciences. Additionally, since space on the Laboratory's hill site is fully occupied, continued steady mission growth without resources for new buildings has necessitated more offsite space to be leased. This includes the new Oakland Scientific Facility (OSF) for which the Laboratory took beneficial occupancy and began relocating the National Energy Research Supercomputing Center (NERSC) in the Fall of 2000.

Steps Toward Institutional Modernization: LBNL made progress on several near-term initiatives and building priorities in its Strategic Facilities Plan. First, the Laboratory completed its site-wide upgrade of electrical utility services. It also continued to channel overhead/indirect cost savings into site infrastructure investments, including maintenance backlog reduction. Second, for the Bevatron Decontamination and Decommissioning (D&D) project, a detailed cost estimate was developed and a Critical Decision 0 (CD-O: Mission Need) document is in preparation for the Conceptual Design of a facility that would be located on Bevatron site c.2010. This is nominally targeted to be a Computational Facility, but also includes alternative building options. Third, a CD-0 (Mission Need) document was also developed and submitted for consideration by HQ-SC for a "Molecular Foundry/Nanoscience Research Facility." This ~$90M/90k sq ft facility would be located in the Laboratory's "old town" area adjacent to the Advanced Light Source (ALS). This combination laboratory/office facility would help to accommodate the rapidly growing number of ALS users now scattered in several sub-standard facilities, and be a Vision 2010 centerpiece in LBNL's growing research in the emerging field of nanoscience (observation, characterization and control of matter, chemistry, and biological systems at the atomic and molecular level).

Other Planning Results: The Y2K event passed without incident. The Laboratory hosted an Open House and Science Festival in May 2000 attended by over 4000 visitors. In August 2000, the Laboratory hosted DOE's third Experimental Program to Stimulate Competitive Research (EPSCoR) Conference for over 130 academics in ~20 EPSCoR states, with the objective of expanding research collaborations and use of DOE laboratory facilities. As part of its community relations activities, it established an Environmental Sampling Task Force. In FY2000, the Laboratory's Washington DC

office was relocated and consolidated into a shared facility with other DOE Laboratories, fulfilling a Congressional mandate. Also in response to new FY2000 statutes, LBNL successfully instituted internal procedures to control and limit travel costs, and to obtain OAK pre-approvals on large Laboratory-hosted conferences. In the security area, the Laboratory is implementing a Cybersecurity Plan that meets all DOE requirements, and a Counterintelligence Plan for employees with clearances (~60) held by other institutions, pertaining both to their international travel and their hosting of foreign visitors and assignees. LBNL has also been proactive in developing and promoting an Integrated Safeguards and Security Management (ISSM) Plan and approach that is analogous to the one successfully instituted for Integrated Safety Management (ISM), i.e., line management responsibility for applicable security requirements as a part of planning and executing work.

Performance Rating (Adjectival)**: Outstanding**	95.00%

Performance Measure: 1.1b Establishing and Communicating Performance Expectations

Evaluation of management's effectiveness in establishing and communicating performance expectations. Assessment will focus on communication with Laboratory line management and senior management at the DOE Headquarters, Operations Office, and UC that reinforces performance goals.

(Weight = 16.6%)

Performance Gradient:

Weighting for Approach/Development and Results:
A/D=40%
R=60%
Gradients (see Table 1)

Performance Narrative:

Approach/Deployment

Berkeley Laboratory leadership remains performance/results-driven, committed to continuous quality improvement, and supportive of partnering with DOE and other external stakeholders. Effective, ongoing, bilateral communications are recognized as pre-requisite for these objectives. The Laboratory utilizes the DOE-UC contract performance measures effectively as a means to further performance improvements and focus interactions with DOE, UC, and others.

Customer/Stakeholder Engagement: LBNL management continues to support the importance of partnership and proactive engagement with the Laboratory's external customers and stakeholders, including DOE (HQ, OAK, and BSO), other DOE laboratories and research institutions across the U.S. and around the world, and the local community. There are effective, standing communication forums between the Laboratory Management and DOE (HQ, OAK and BSO), between Laboratory Management and UC, and jointly between the Laboratory, UC and DOE. These forums facilitate two-way communications on policies, funding, operational issues, progress/plans, and other matters that impact programs, projects and/or the institution. These include: the Director's participation in Laboratory Directors' meetings with the Secretary of Energy, the Deputy and Undersecretary, and the SC Director; the annual DOE/SC Institutional Planning On-Site Review; monthly Executive Management meetings between top Laboratory, OAK and BSO managers; and a bi-monthly Executive Streamlining Group meeting involving the Lab Deputy Director for Operations, several OAK Assistant Managers, the BSO Director, and members of their staffs. In September 2000, LBNL also hosted senior DOE officials from the Office of Energy Efficiency and Renewable Energy (EERE) in a review of ongoing and prospective R&D, including growing work for the California Energy Commission (CEC). EERE may begin holding such onsite reviews annually as HQ-SC does. LBNL senior managers also participate in a number of DOE inter-lab committees and groups dealing with laboratory operations, computing, facilities, and planning. There are quarterly operational awareness meetings between ES&H officials at the Laboratory, BSO, OAK and UC. There are also regular

teleconferences between public affairs officials in the Laboratory, OAK, and DOE/HQ. LBNL has been interacting more actively with its local community as it seeks to communicate greater public awareness of its work, promote openness and cooperation, and build improved credibility and trust. The LBNL Director, Deputy Directors, and other senior managers attend regular meetings and/or are members of several UC executive-level Councils and Groups.

Internal Communications: Within LBNL, Laboratory leadership uses several mechanisms and forums to convey priorities and expectations within the Laboratory. Communications with line managers and division management occurs through regularly scheduled meetings including: weekly Director's Action Committee, biweekly Operations meetings, and quarterly division directors meetings. Various venues are also used to communicate directly with employees, including: Director Shank's annual State of the Lab address which highlights past progress and future directions, dissemination of "level-1" e-mails to all employees, notifications of changes to the Laboratories Regulations and Procedures Manual (RPM), senior management messages transmitted via the Lab's bi-weekly *Currents* newspaper and in the weekly *Headlines* electronic newsletter, and increasing use of the Lab's growing webpage (e.g., for administrative and operational services and information). Finally, performance expectations for individual employees are ultimately codified in the Laboratory's personnel system. The Berkeley Laboratory uses a well-established annual process for Performance/ Progress Review (P2R) wherein supervisors convey performance and behavioral expectations and assess employee performance.

Results

Science: The annual LBNL Institutional (5-year) Plan serves to communicate established top Laboratory goals internally, to DOE, and to outside constituencies. The IP includes a Director's Statement, strategic research objectives and initiatives, key management issues, and other summary-level information about the Lab. Activities that were advanced and received media attention in FY2000 include:

- Crystallography/molecular structures studies at the ALS
- Successful commissioning and first experiments with the STAR detector for RHIC at BNL, and the BaBar Detector for the B Factory at SLAC
- Participation and computational analysis of the data from the Boomerang and Maxima balloon-based studies of the cosmic microwave background
- Key participation in the international completion of a working "draft" of the human genome
- Completion of the *Drosophila* (fruitfly) genome sequence with UC Berkeley and Celera
- Discovery of two genes linked to the development of asthma
- Initiation of major public-private research collaborations for energy efficient commercial buildings and reliable electric utility services in deregulated markets

Operations: In addition to the research mission, two areas that received focused attention by Laboratory management this past year are: Security and Diversity. The Laboratory held "all hands" employee stand-down meetings on Security in late FY1999 and on Diversity in FY2000, both to raise awareness and to communicate priorities and expectations. These were followed-up with specific actions, with requirements flowing down into the line organizations together with institutional support. As an open "Tier 3" Laboratory (no classified work or materials onsite), LBNL continued to interact closely with DOE to realize prudent and reasonable (graded) implementation of new DOE security requirements. LBNL also continued its fully institutionalized Integrated Safety Management (ISM) program, including its close associated interactions with the BSO and OAK. HQ-SC reviewed and validated LBNL's and OAK's implementation of ISM during FY2000.

Community Communications: In pursuing implementation of its Community Relations Plan, Laboratory officials continued to expand contacts and interactions with the local community, including City of Berkeley officials. The Director convened four meetings of the Environmental Sampling Task Force (ESTF) to begin building communications and trust between the Laboratory and the Community over the continued operation of the National Tritium Labeling Facility (NTLF). The ESTF is a broadly representative community group that will work with the Environmental Protection Agency (EPA) and the Laboratory to draft an environmental sampling plan to measure NTLF emissions. The Laboratory also held a major Open House and Science Festival in May that attracted over 4000 visitors. In addition to highlighting LBNL research areas, the event's theme was science education and careers in science.

Response to Previous Appraisal Findings: In response to DOE's FY1999 Performance Appraisal in the Human Resources area, the LBNL Director required each Laboratory Division to develop a Diversity Plan aimed at achieving a more broadly representative future workforce. LBNL also continues to synergistically pursue this objective through its educational outreach programs with high school and college students. The Laboratory has also achieved notable improvements in Property Management over the past two years. Use of the MAXIMO and Sunflower systems achieved FY2000 accountability rates of 99.6% for controlled property and 99.3% for sensitive property.

Performance Rating (Adjectival): **Outstanding**	95.00%

Performance Measure: 1.1.c Stewardship of Assets

Evaluation of Laboratory management systems for making decisions that address stewardship of programmatic and institutional assets. Assessment will include the impact of planning on decision making, the use of prioritization processes, asset management, resource allocation, etc.

(Weight = 16.6%)

Performance Gradient:

Weighting for Approach/Development and Results:
A/D=40%
R=60%
Gradients (see Table 1)

Performance Narrative:

Approach/Deployment

The Laboratory's unique assets include human resources, facilities, equipment, administrative and operational support systems, and LDRD funding. The LBNL Director employs a systematic approach to ensure senior management attention to asset stewardship. The Deputy Director for Research has responsibility for the stewardship of research program assets (scientific and engineering personnel, LDRD), and the Deputy Director for Operations is responsible for the stewardship of operational and administrative infrastructure (facilities, equipment, institutional systems, administrative and operations support personnel). The Director's Action Committee (DAC) is the Laboratory's final planning approval and decision-making group. The DAC annually reviews plans and recommends priorities in the Institutional Plan, the Strategic Buildings Plan, facility and capital resource allocation, for human resources, the level of LDRD, and indirect costs (including maintenance budgets). LBNL established a second senior-level decision forum in FY2000, DAC II, for in-depth analyses of key issues such as space needs and diversity planning. Key annual activities that contribute to the stewardship of assets include: the field budget call and review (for research programs and projects), the corollary facilities project call, the LDRD call, review and allocation process, and the indirect (overhead) budget review. LBNL continues to uses a Risk-Based Priority Matrix (RPM) for integrated review and ranking of *all* institutional capital and plant project needs.

Human Resources (HR) focus: The HR Department undertook a number of initiatives and was externally peer-reviewed in FY2000 given the tight labor market, the critical strategic importance of a well-qualified workforce, and results from the FY1999 DOE Performance Appraisal of LBNL in the HR area. A Recruitment Group was established assist the divisions develop diverse, qualified applicant pools, especially in critical need areas such as the life sciences, computing sciences, and engineering. Additional recruiters were hired and a Recruitment Manager is being sought. A Compensation strategy was developed based on market comparisons of the Laboratory's salary structure. Employee support from the Benefits group was also improved. The Director called for Diversity Plans from all Laboratory Divisions.

Results

HR: A Director for the Laboratory's new Genomics Division was recruited, and the Laboratory hired a new Chief Financial Officer (CFO). LBNL has been successful in addressing hiring and retention needs for critical, high-demand areas like the Life and Computing Sciences.

LDRD: LBNL implemented its FY2000 LDRD program consistent with the requirements of DOE Order 413.2 and seed funding frontier projects built upon core competencies and capabilities, and focused on emerging opportunities and strategic directions of the Laboratory. LDRD projects continue to make strong contributions to the ALS program, scientific computing, physical biosciences, astrophysics, and other areas. LBNL also hosted two successful, positive reviews of the program by the General Accounting Office (GAO) during FY2000.

Site and Facilities Planning and Stewardship: LBNL continues to make outstanding use of facility plans and information management systems to steward its physical assets, identify infrastructure needs, and prioritize resource investments. LBNL developed a Strategic Buildings Plan in FY2000 that outlines the program research drivers and facility needs of the Laboratory over the next decade. It was a focus area of the May 2000 Landlord Review, and subsequently incorporated into the Laboratory's Institutional Plan. LBNL also developed a Strategic Facilities Plan that encompasses the Buildings Plan and also includes facility and infrastructure modernization needs and estimated resource requirements (demolition, rehabilitation, remediation, and utilities). This document contains planning information needed by HQ-SC in preparing its FY2002 budget request for investments to begin revitalizing the laboratory complex. The Laboratory's Comprehensive Facilities Plan is regarded as a model by DOE. A 5-Year Space Assessment Plan was developed to explore on-site development and off-site leased facility options. To facilitate space planning and decision-making, the Laboratory used a new software tool, Odyssey, with connections to existing databases. To further progress toward D&D of the Bevatron, the Laboratory, following up on decisions by the Laboratory Stewardship Committee, prepared a detailed cost estimate of the project as a pre-requisite for requesting funding approval for a conceptual design. Alteration and build-out of the new Oakland Scientific Facility was completed in FY2000 in preparation to house NERSC and the Laboratory's computing systems.

Other Stewardship Results: Continued improvement was achieved in FY2000 in the control of personal property using the Sunflower Assets software to track property and notify Lab custodians. An FY2000 inventory was completed achieving a 99.6% accountability rate for controlled items, and 99.8% rate for sensitive property, and 100% for precious metals. The Facilities Department continues to successfully use the MAXIMO integrated, multi-functional resource management application for: project/work-order tracking and cost management, central storeroom inventory management, capital equipment management and maintenance scheduling, vehicle fleet management, et al. The Laboratory has implemented an exemplary vegetation management program to reduce the risk of wildfires and develop a sustainable landscape. It is serving as a model for other DOE sites.

Performance Rating (Adjectival): **Outstanding**	95.00%

Performance Measure: 1.1.d Effective Resource Management

Evaluation of management's efforts to effectively manage funding and staff resources consistent with DOE and Laboratory goals. Assessment will focus on performance results which may include improvements in cost effectiveness such as the ratio of S&T to A&O staff, travel funds management, and other productivity or re-engineering indicators. **(Weight = 16.6%)**

Performance Gradient:

Weighting for Approach/Development and Results:
A/D=40%
R=60%
Gradients (see Table 1)

Performance Narrative:

Approach/Deployment

Focus on Overhead Control and Reduction: The Laboratory Director and senior management continued to emphasize efficient resource management to maximize the funding available to execute the Laboratory's R&D missions. Opportunities to reengineer and streamline administrative processes and improve service while reducing overhead costs continued to be evaluated. Through the Deputy Director for Operations, LBNL continued to proactively make investments in new information technology tools, management information systems and training that have been the key enablers of the indirect cost reductions during the 1990s. In addition to being more streamlined and cost-effective, the newer systems allow for better cost-projections and identification of savings opportunities. The Laboratory also continued collaborations with other DOE national laboratories in pursuit of cost savings and improved cost analysis, reporting and customer service, e.g., through participation in the Financial Management System Improvement Council, et al. The Deputy Director for Operations provides the DAC with quarterly overhead cost tracking information and an annual overhead budget target. The DAC, with support from the Controller's Office, sets institutional indirect rates, subject to DOE-OAK approval.

Travel Management: A new statute in FY2000 that capped funding available for DOE laboratory contractor travel necessitated LBNL's reinstatement of divisional allocations and a travel pre-approval process. Travel forms were automated and placed on-line for lab-wide access, and a web-based system allows travel cost reports to be generated for management purposes. New DOE requirements regarding foreign travel have been incorporated into this system. The Laboratory is in the process of implementing an automated expense voucher system, Extensity, to reduce the processing time and effort associated with travel payment vouchers. To partially mitigate the limitation on travel funding, LBNL applied and was approved to participate in the State of California Airfare program. This leverages State agreements with airlines to allow Laboratory travelers to obtain highly discounted airfares, resulting in nearly $1M/year in annual savings.

Results

Continued Overhead Rate Reductions: In FY2000, LBNL continued its sixth consecutive year of a downward trend in its institutional overhead and labor-rate burden rates. The general and administrative (G&A) rate was reduced by 0.5% to 20.5%, the site support rate remained flat at 20.0%, and payroll burden was dropped 1% to 36%. This is a remarkable achievement given the number of new policy and directive requirements that DOE has promulgated, especially in the areas of security, and travel and conference management. The Lab maintained a research to support staff funding ratio of 2.2. The DOE Landlord Review provided positive feedback to the Laboratory on efficiency of its financial systems and effectiveness of its cost management.

Travel: Laboratory travel costs are down in FY2000. LBNL underspent its FY2000 (Energy & Water appropriation) travel target of $6.4M. This is a notable accomplishment given the breadth and extent of the Berkeley Laboratory's external project collaborations around the country and the world. LBNL continues to make increasing use of videoconferencing as a substitute for some travel, with several dozen videoconferences held daily throughout the Laboratory.

Other System Improvements: LBNL collaborated with Oak Ridge National Laboratory (ORNL) to adopt a Project Management Tracking System (PMTS). This web-based system allows annual field work proposals and their out-year budgets to be formulated on-line and submitted electronically to DOE. It allows for standardization and automated consolidation of the Laboratory's annual budget request, and will be implemented for the first time when the FY2003 budget is assembled in 2001. The Laboratory also implemented a new internal budget system, Janus, that standardizes the budget process across the Laboratory, integrates with current systems, streamlines budget development, and improves forecasting accuracy. LBNL's PeopleSoft Financial Management System (FMS) was upgraded in FY2000, and now provides Web interface and other enhancements. A new Billing and Accounts Receivable system was also implemented that fully integrates with the FMS. The Laboratory provides training for its employees in each of these new systems. Use of Electronic Data Interchange (EDI), Electronic Fund Transfers (EFT) and system contracts continues to increase, thereby streamlining invoice processing and improving cost effectiveness.

Performance Rating (Adjectival): **Outstanding**	95.00%

Performance Measure: 1.1.e Community Relations

Evaluation of management's awareness of public concern regarding Laboratory operations. Assessment will focus on management's effectiveness in addressing community issues in a proactive manner. **(Weight = 16.6%)**

Performance Gradient:

Weighting for Approach/Development and Results:
A/D=40%
R=60%
Gradients (see Table 1)

Performance Narrative:

Approach/Deployment

LBNL continues to be proactive in its community relations effort. In response to the Secretary of Energy's intent that DOE facilities place community and stakeholder relations among their highest priorities, the Berkeley Laboratory restructured its community relations program, elevating the program to a new Community Relations Office that reports directly to the Laboratory Director. A new Community Relations Director supervised the community relations staff, coordinated existing programs in community, local and state government and public outreach and established a Community Relations Council. and established a community relations council. The Laboratory also has a Community Relations Advisory Group (CRAG), a management advisory body that meets monthly. The Laboratory continued to follow-up on findings from its FY1999 survey about the local community's perceptions of the Laboratory and its work. The survey identified the need to better inform local communities about the Laboratory's research, and to focus on science education as an effective means to support of community goals and objectives. The Laboratory's Community Relations program continued to expand its role as liaison to key stakeholders in the local and regional community.

Results

NTLF/Environmental Sampling Task Force: In January, 2000, LBNL convened the Environmental Sampling Project Task Force, a 21-member community advisory group to assist the Laboratory in conducting environmental sampling as part of a new assessment of tritium emissions from the National Tritium Labeling Facility (NTLF). The purpose of the Task Force is to engage community stakeholders in the process of tritium sampling and its evaluation so that concerns about public health can be answered. The Task Force met six times throughout the year and will continue to meet until the Sampling Project is completed, an expected two-year project. The Berkeley Laboratory committed time and resources to assist the City of Berkeley (COB) consultant who was hired to respond to the Laboratory's sampling plan and to evaluate past and present laboratory emissions. The COB consultant issued a report on June 30, 2000 stating that NTLF emissions pose no significant health

hazard to the community and any potential exposures are well below EPA health standards. On April 11, the Alameda County School Board called for a moratorium on all school visits to the Lawrence Hall of Science (LHS) due to alleged tritium contamination (the LHS sits adjacent to the LBNL site near the NTLF). LBNL responded immediately with a statement requesting reconsideration of the action, citing that it was based upon partial and misleading information. The Board did not consider evidence from the Environmental Protection Agency, the U.S. Surgeon General, or the California Department of Health Services, all of whom have concluded that the Laboratory's tritium releases are minute and present no health hazard to employees or visitors. The Board reversed the advisory after the Laboratory and regulators demonstrated that environmental and safety standards were being met by a wide margin.

SEAB Community Relations Pilot Review: In September 2000, LBNL hosted a pilot review on community relations by the Openness Advisory Panel of the Secretary of Energy Advisory Board (SEAB). The Laboratory, in cooperation with DOE-OAK, scheduled interviews with eleven different groups of local constituents. General findings from this review, together with those from similar pilots at two other DOE facilities, will be reported to the Secretary along with recommendations in early FY2001. This is anticipated to be an area of increasing management attention and focus.

LBNL Open House: The Berkeley Laboratory emphasized science education and careers when hosting over 4,000 visitors for its bi/tri-annual Open House and job fair. The science festival included multiple attractions for students and their parents centered around four theme areas - Home and Environment, To Your Health, World at Your Fingertips, and Universe in Your Pocket.

Tours Program: The LBNL tours program continues to expand. During FY 1999, the community relations office provided 30 laboratory tours for over 300 participants. In FY 2000, the program grew to an average of seven tours and 145 participants per month.

Center for Science and Engineering Education (CSEE): The Berkeley Laboratory's Center for Science and Engineering Education (CSEE), working in partnership with Laboratory divisions and other institutions and agencies to provide research opportunities for college & university students and faculty, and science education resources to K-12 students, teachers and schools. The Center sponsored 140 science interns from around the U.S. and Puerto Rico during the year, and provided intensive teacher training in high school science curricula during the Summer 2000.

Local Outreach: LBNL sponsored an exhibit on Environment and Health for the Children's Hospital/Alta Bates Hall of Health in Berkeley. The exhibit featured information on the relationship between the environment (air, water, soils, urban life, radiation, and home hazards) and its effects on human health.

Vegetation Management/Hills Emergency Forum: LBNL is part of the Hills Emergency forum that was established in 1991 to help prevent another catastrophic fire in the East Bay Hills. Through this forum, the Laboratory has been leading the effort to manage vegetation and reduce fire hazards. In late 1999, Berkeley Lab published and distributed a Draft Vegetation Almanac to assist the communities of the East Bay in efforts to reduce the risk of wildland fires.

Performance Rating (Adjectival)**: Excellent**	88.00%

Performance Measure: 1.1.f Accountability and Commitments

Evidence that systems ensure major commitments are met and information on status is timely and complete and that these systems allow informed management action. **(Weight = 16.6%)**

Performance Gradient:

Weighting for Approach/Development and Results:
A/D=40%
R=60%
Gradients (see Table 1)

Performance Narrative:

Approach/Deployment

Line-Management Accountability: LBNL management continued its effective system of line management responsibility to identify and track major commitments, assure follow-up, and allow informed management action to support implementation. Laboratory Management focuses on a culture of follow-through on commitments. The Deputy Director for Operations and departments under him are responsible for tracking and follow-up on operational and administrative commitments. Security/cybersecurity and human resources were important areas receiving attention in FY2000. The Deputy Director for Research and the scientific divisions are responsible for R&D program and project commitments. Key areas receiving attention by this group during the past year included the JGI, ALS, B-Factory, DAHRT and SNS project management. These operations and research groups hold regular meetings at which their respective open commitments are reviewed. Significant issues from these groups may also enter onto the DAC's agenda and actions tracker. The Laboratory's Office of Contract Management (OCM), under the Deputy Director for Operations, serves as the institutional contact to track and assure commitments are met regarding the prime contract for LBNL between DOE and UC. These include such M&O contract related requirements as: performance-based management requirements, institutional compliance (directives, Price-Anderson Act), make-or-buy planning and determinations, outside employment/conflict-of-interest issues, and institutional memberships.

Tracking Systems: The Berkeley Laboratory maintains several noteworthy data systems that serve both its own management commitments, and also support DOE/OAK and the BSO in their oversight roles. These include the Laboratory Corrective Action Tracking System (LCATS) for tracking commitments related to ES&H, directives/rules/contract changes and Appendix F performance appraisals, and Internal Audit Services (IAS) Department systems for follow-up actions resulting from GAO audits or Inspector General (IG) reviews. The Associate Deputy Director for Operations also started a tracker for miscellaneous operational actions such as those resulting from the Landlord Review and Laboratory Stewardship Committee, OAK-LBNL ESG meetings, et al. Some systems are decentralized and independently maintained.

Continuous Quality Improvement Focus: The Berkeley Laboratory has long conducted peer reviews of its scientific work. It has now begun to conduct bi-annual peer reviews of its Operations and Administrative departments. Three such reviews took place this past year (Human Resources, Facilities, Procurement) and three more are scheduled by the end of CY2000 (Administrative Services, Finance, and Sponsored Projects Office).

Results

Project Management: Project Management and Tracking: Given the number of large external project collaborations (see 1.1.a), LBNL's General Sciences program group has a full-time, senior project manager to oversee the management of both external and internal projects, and assure the on-time, within budget completion of the Lab's deliverable commitments. This past year, the Laboratory closely monitored the finalization of the new DOE Project Management Order (DOE O 413.3) and developed a uniform set of project management tools for scientific projects. LBNL also formed a Project Integration Board (PIB) and a Project Integration Office (PIO) to advise, support and ensure a quality project management discipline at the Laboratory. All major scientific projects are reviewed semi-annually. The Laboratory continues to meet all its major cost and schedule milestones for its contributions to the "front-ends" of the SNS project at ORNL and the DAHRT (2nd axis) project at LANL.

ISM/WSS: LBNL remains a leader within the DOE complex on Integrated Safety Management (ISM) implementation. ISM is now well institutionalized and implemented throughout the Berkeley Laboratory, with ongoing commitment and involvement from the Director and senior Laboratory management. In August 2000, HQ-SC conducted a review and issued an ISM verification to LBNL and OAK. The Work Smart Standards (WSS) again received a comprehensive annual review and update to comply with DOE contractual requirements, and the updated set was amended into the DOE/UC contract.

Y2K: The Laboratory fulfilled all its major Y2K readiness expectations and commitments in FY1999 and FY2000. The millennial event passed without incident at the Berkeley Laboratory.

Security: LBNL implemented a number of new DOE security-related requirements in FY2000. A Cyber-Security Program Plan (CSPP) was prepared and approved by DOE-HQ as fulfilling the requirements of DOE Notice/Policy 205.1. The Laboratory continues to update the intrusion detection software ("BRO") used on its computing systems in lieu of a firewall. Requirements of DOE Notice/Order 142.1, Unclassified Visits and Assignments apply only to the small number of Laboratory employees holding security clearances. The LLNL Counter-Intelligence Officer assists LBNL in fulfilling the requirements of this directive for these clearance holders who may host visitors from sensitive countries, i.e., background checks and counterintelligence briefings. LBNL has also been in the vanguard of the SC laboratories' move toward Integrated Safeguards and Security Management (ISSM).

Performance Rating (Adjectival): **Outstanding**	95.00%

ATTACHMENT

The performance expectation for each performance measure will use the scoring criteria indicated in Table 1 below. Each performance measure indicates the relative weights between the Approach/Deployment criteria and the Results criteria.

Table 1, Appraisal Scoring Guidelines for Laboratory Management

Narrative Rating (Score Range)	Approach/Deployment	Results
Unsatisfactory (59% and Below)	Little or no systematic approach evident; anecdotal information	Little or no results in key mission and business areas.
Marginal (60 to 69%)	Beginning of a systematic approach to the key mission and business areas. Early stages of a transition from reacting to problems to a general improvement orientation. Major gaps exist in deployment that would inhibit progress in achieving the key mission and business objectives.	Early stages of developing; some improvements and/or early good performance level in a few key mission and business areas.
Good (70 to 79%)	A sound systematic approach, responsive to the key mission and business areas. A fact-based improvement process in place in key areas; more emphasis is placed on improvement than on reaction to problems. No major gaps in deployment, though some areas may be in the very early stages of deployment.	Improvement trends and/or good performance levels reported for most key mission and business areas. No pattern of adverse trends and/or poor performance levels in the key mission and business areas. Some trends and/or current performance levels show areas of strength and/or good to very good relative performance levels.
Excellent (80 to 89%)	A sound systematic approach, responsive to the key mission and business areas. A fact-based improvement process is a key management tool; clear evidence of refinement and improved integration as a result of improvement cycles and analysis. Approach is well developed, with no major gaps; deployment may vary in some areas.	Current performance is excellent in most key mission and business areas. Most improvement trends and/or current performance levels are sustained in most other areas. Many to most trends and/or current performance levels show areas of leadership and very good relative performance levels.
Outstanding (90 to 100%)	A sound systematic approach, fully responsive to key mission and business areas. A very strong fact-based improvement process is a key management tool; strong refinement and integration - backed by excellent analysis. Approach is fully deployed without significant weaknesses or gaps in the key areas.	Current performance is outstanding in most key mission and business areas. Excellent performance levels in most other areas. Strong evidence of industry and benchmark leadership demonstrated in many areas.

Performance Area: ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT

Performance Objective: #1 Environmental Restoration and Waste Management

The Laboratory will conduct Environmental Management (EM) waste operations in a safe manner that protects human health, the environment and the public and prevents adverse impacts thereon; the Laboratory will develop innovative solutions to advance the Environmental Management Program; and the Laboratory's Environmental Restoration Program will continually strive to improve efficiency and maximize remediation. **(Weight = 100%)**

Criterion: 1.1 Waste Management

The Laboratory's facilities and operations for handling waste will be managed to minimize the impact on the environment and to maximize the efficient use of EM funds. The Laboratory will operate its waste facilities to continually strive to improve efficiency and reduce the waste inventory. **(Weight = 25%)**

Performance Measures: 1.1.a Waste Management, Productivity

The Laboratory will collect data on the volume of waste shipped offsite plus made "road ready" per total operations dollar costed per fiscal year. This data will be compared to an approved Current Year Work Plan to measure program efficiency. **(Weight = 10%)**

Assumptions:

The performance period is for a single fiscal year.

1. Planned disposal volumes and planned total operations dollars in the Baseline Year Factor are determined by the final (DOE/OAK approved) Current Year Work Plan (CYWP) as amended by the Baseline Change Control process. Baseline Change Proposals (BCPs) are reviewed and, if determined to be acceptable, approved by DOE/OAK within 30 days of receipt.
2. Total operations dollars for Performance Year is actual funding costed at end of fiscal year for operating expense and capital equipment, relegated to the Base Program.
3. Waste volumes shall be limited to those funded and tracked by EM-30. Due to its non-defense designation, TRU waste is excluded as a waste type for the performance measure.
4. "Road Ready" waste volumes are wastes that have an intended disposal site, are certified to that site's waste acceptance criteria (WAC), and its waste profiles are accepted by that disposal site, but have yet to be shipped due to circumstances beyond the site's control. The waste profile

acceptance requirement may be revisited on a case-by-case basis and is not applicable for TRU waste.

5. Waste identified as "road ready" will be considered disposed. Disposal credit for shipped "road ready" waste volumes is not allowed in subsequent performance period(s).
6. Treated liquids discharged to sewer will be classified as low-level waste (LLW), mixed waste (MW), and hazardous waste (HW) for tracking purposes, as appropriate.
7. Conversion factor of the specific density of water (1.0) will be used to convert the weight of aqueous waste to volumetric measurements.
8. LLW with non-RCRA constituents may be allocated to LLW or MW categories.
9. Toxic Substances Control Act (TSCA) and medical waste volumes will be included with HW inventory.

Success Criteria and Waste Type Matrix Elements will be renegotiated to account for any significant programmatic, regulatory, and/or fiscal changes.

Gradients:

The score for this performance measure will be based on the following table:

Success Criteria

Rating	Range
Unsatisfactory	<40%
Marginal	40-49%
Good	50-65%
Excellent	66-84 %
Outstanding	85-100%

The Success Criteria Gradient is calculated using the following formula:

$$\text{Score} = \frac{\text{Waste Type Matrix Points}}{\text{Total \# of Waste Types}} \times 100\%$$

Waste Type Matrix Points are assigned from the table below by calculating for each applicable waste type the Performance Improvement (PI):

$$PI = \frac{\text{Baseline Year Factor} - \text{Performance Year Factor}}{\text{Baseline Year Factor}} \times 100\%$$

Where:

$$\text{Performance Year Factor} = \frac{\text{Total Operations Funding Costed for Performance Year}}{m^3 \text{ Waste Type Disposed}}$$

$$\text{Baseline Year Factor} = \frac{\text{Total Operations Funding Costed for Performance Year per CYWP}}{m^3 \text{ Waste Type Disposed per CYWP}}$$

Waste Type Matrix

Waste Type	PI≤-4%	-4%<PI≤0%	0%< PI≤2%	2%<PI ≤4%	PI>4%
HW	0	1	1	1	1
LLW	0	0.25	0.5	0.75	1
MW	0	0.25	0.5	0.75	1
TRU	0	0.25	0.5	0.75	1
Other	0	1	1	1	1

Performance Narrative:

LBNL Waste Management continued streamlining their program to maximize the use of EM funds for the safe and proper disposal of waste. LBNL maintained their aggressive low level and mixed waste shipping schedule this year by successfully sending waste to commercial facilities.

Performance Rating (Adjectival): **Outstanding**	100.00%

Performance Measure: 1.1b Waste Management, Plan 2006/ACPC Commitments

The Laboratory will reduce low-level and mixed waste inventories through treatment and disposal activities. Treatment and disposal volumes will be tracked and compared to the EM Management Commitments.

(Weight = 15%)

Assumptions:

The performance period is for a single fiscal year. However, treatment/disposal volumes not claimed in the last performance period may be used in the current performance period not to exceed 25% of the performance year EM Commitment.

1. EM Management Commitments obtained from site-specific Accelerated Cleanup Paths to Closure document.
2. LBNL: treatment 1 m^3 MW, 10 m^3 LLW; disposal 0.1 m^3 MW, 42 m^3 LLW
3. Waste volumes shall be limited to those funded and tracked by EM-30.
4. Treated liquids discharged to sewer will be classified as low-level waste (LLW) and mixed waste (MW) for tracking purposes, as appropriate.
5. Total aqueous waste inventory received is treated and then disposed.
6. Conversion factor of the specific density of water (1.0) will be used to convert the weight of aqueous waste to volumetric measurements.
7. LLW with non-RCRA constituents may be allocated to LLW or MW categories.
8. Success Criteria and Waste Type Matrix Elements will be renegotiated to account for any significant programmatic, regulatory, and/or fiscal changes.

Gradients:

The score for this performance measure will be based on the following table:

Success Criteria

Rating	Range
Unsatisfactory	<65%
Marginal	65-77%
Good	78-89%
Excellent	90-95 %
Outstanding	>95%

The Success Criteria Gradient is calculated using the following formula:

$$\text{Score} = \frac{1}{4}\left[\frac{\text{Amount LLW Treated}}{\text{LLW EM Treatment Commitment}} + \frac{\text{Amount MW Treated}}{\text{MW EM Treatment Commitment}} + \frac{\text{Amount LLW Disposed}}{\text{LLW EM Disposal Commitment}} + \frac{\text{Amount MW Disposed}}{\text{MW EM Disposal Commitment}}\right] \times 100$$

Basis:
1. Each element of the formula is less than or equal to 1.2. That is, the highest individual treatment/disposal versus treatment/disposal commitment ratio that can be attained is 1.2.
2. The rating of Outstanding or Excellent can be received only if each element of the formula is greater than or equal to 78%.

Performance Narrative:

LBNL aggressively utilized commercial treatment opportunities that were offered at generously discounted prices. These shipments provided cost savings and enabled LBNL to maintain sufficient storage capacity for throughput of waste.

Performance Rating (Adjectival): **Outstanding**	100.00%

Criterion: 1.2 EM Program Innovation

The Laboratory will develop innovative solutions to advance the Environmental Management Program. The EM Program includes Environmental Restoration, Waste Management, and Technology Development. **(Weight = 25%)**

Performance Measure: 1.2.a Advancement of the EM Program

The Laboratory will advance the state of the art technologies by implementing their usage; participate in the corporate advancement of the EM Program by providing solutions or assistance to other DOE/OAK sites; and identify and implement innovative technological solutions or business practices that result in savings **(Weight = 25%)**

Assumptions:

The performance period will be a single DOE fiscal year.

It is recognized that actions may result in cost savings that extend for more than one year. Credit for cost savings (Category 3) may be taken in each year in which cost savings are realized, up to a total of five years.

In general, accomplishments are expected using existing resources. In some cases, additional funding may be required to undertake specific innovative solutions. With the agreement of both parties, DOE-HQ (EM) may provide additional funds and/or allow the Laboratory to use cost savings realized to meet this performance measure.

Gradients:

The degree of innovation achieved will be measured by a point system. Points will be awarded in each of several performance categories, with a total score from all categories being the final score for the performance measure. Projects which receive credit in one performance indicator category may also receive credit for any costs savings realized (Category 3), but may not receive credits in all three categories. The performance indicators and associated award points will be as follows:

Category 1
Advance the state of the art technologies by implementing the usage of Laboratory technologies at DOE or other Government sites, or utilize other EM technologies at the Laboratory.

1a - Use of an innovative environmental technology at LBNL (including one developed by LBNL).	1 point each technology
1b- Use of an LBNL EM-developed technology at other government sites	1 point each technology
1c- Use of an LBNL EM-developed technology at any DOE site	2 points each technology

1d- Non-DOE funded use of LBNL EM developed technology at industrial sites — 1 point each technology

Category 2
The Laboratory participates in the corporate advancement of the EM program by providing solutions or assistance on projects at other DOE sites. Projects should result in at least one of the following:

2a- Cost savings

2b- Efficiency improvement (i.e., quicker, better quality, etc.)

2c- Liability or risk reduction

2d- Use of laboratory resources and/or facilities to aid others

(1 point will be awarded for each project that meets one or more of the criteria listed.)

Category 3
Provide cost savings by identifying and/or implementing innovative technological solutions or business practices. Innovative technological solutions or business practices are defined as those that represent a significant change from current solutions or existing practices (technological or regulatory). They can not simply be refinements of existing technological or business practices, nor be cost savings due to a simple reduction in scope of work or deliverables.

- LBNL will be awarded 1 point for every $100,000 saved, but no more than 3 points per technology
- LBNL will be awarded 1 point for incorporation of innovative technologies into a Program Baseline System (PBS) with adjusted baseline

Rating	Range (LBNL)
Unsatisfactory	0-1
Marginal	2
Good	3-5
Excellent	>6-8
Outstanding	≥9

Performance Narrative:

The rating for this performance measure is **outstanding**. LBNL earned a good portion of their points from the deployment of two innovative on-site solutions, the "Trench" methodology of clean-up of its "Old Town" area, and the National Tritium Labeling Facility (NTLF) Catalytic Oxidation System. The latter prevented approximately 300 curies of tritium from being released to the environment.

Performance Rating (Adjectival): **Outstanding**	95.00%

Criterion: 1.3 Environmental Restoration

The Laboratory will target the number of potential release sites (Solid Waste Management Units and Areas of Concern) that are planned to be completed in the next FY based on budget for the next FY.
(Weight - 25%)

Performance Measure: 1.3.a Environmental Restoration

This measure will track the number of release sites completed in the FY and compare this number against expected completion levels. **(Weight - 25%)**

Assumptions:

Release sites are considered completed when the lead RCRA regulator approves "No Further Investigation (NFI)" or "No Further Action (NFA)" for the site.

- The main effort of the LBNL Environmental Restoration Program (ERP) during FY-00 is concentrated on completing the RCRA facility investigation.
- Any funding rescissions encountered during the execution year will require special consideration.
- Units assigned to the RWQCB as the lead regulatory agency were not included as part of the performance goals and will not be included in the performance evaluation. The RWQCB has indicated that they will not issue NFA/NFI's on any units as a matter of policy.

Gradients:

Maximize number of units completed.

Rating	Number of Units accepted for NFA/NFI
Unsatisfactory	< 2
Marginal	2
Good	3
Excellent	4
Outstanding	> 4

Performance Narrative:

The Resource Conservation and Recovery Act (RCRA) requires LBNL to complete investigation activities in areas where contaminants are suspected to have been released. 163 areas of potential contamination were identified in the RCRA Facility Assessment. To date, the majority of the investigation activities have been completed; however, five areas were scheduled to be investigated in FY 2000, which is the total number of available reviewable "release sites" for this fiscal year.

LBNL completed investigation activities in these five areas in FY 2000 as planned. No Further Action/No Further Investigation reports were prepared and submitted to the Department of Toxic Substances (DTSC) for review and approval. DTSC approved all the release sites as requested, Resulting in 5 release sites in total that were approved for No Further Action/No Further Investigation In FY 2000. It should be noted that 3 of the 5 sites were approved for No Further Action, which Indicates that no further restoration activities will be required in these areas. These results warranted An "**outstanding**" rating as defined by the performance measure.

Performance Rating (Adjectival)**: Outstanding**	98.00%

Criterion: 1.4 Cost and Schedule Variances

The Laboratory's Environmental Management (EM) Program will be managed to improve project/program performance. The Laboratory measures its performance of projects/programs against schedule and cost baselines. **(Weight = 25%)**

Performance Measure: 1.4.a EM Projects

This measure will track the Laboratory's performance in executing EM-funded Environmental projects in accordance with an approved project cost baseline and the Laboratory's performance in executing Environmental projects in accordance with an approved overall schedule. **(Weight = 12.5%)**

Assumptions:

- Cumulative percent cost variance (%CV) and cumulative percent schedule variance (%SV) will be obtained from the September Project Tracking System (PTS). The Cumulative CV and SV values will be for the fiscal year being evaluated.
- Baseline change proposals are reviewed and, if determined to be acceptable, approved by DOE/OAK within 30 days of receipt.
- If the Management Analysis and Reporting System (MARS) Report contains an accounting error, CV and SV values provided by LBNL and verified by the respective DOE project manager may be used.
- In FY00, only the Environmental Restoration project at LBNL will be tracked under this performance measure.
- Includes the following DOE-HQ (EM)-funded activities by Project Baseline Summary (PBS): OK-003.

Performance Gradient:

Gradient Rating	Range for LBNL:
Unsatisfactory	$(CV + SV) \leq -8\%$
Marginal	$-8\% < (CV + SV) \leq -5\%$
Good	$-5\% < (CV+SV) \leq 0\%$
Excellent	$0\% < (CV+SV) \leq 5\%$
Outstanding	$(CV+SV) > 5\ \%$

1. (A) Cost. The cost component of this measure will track the laboratory's performance in executing projects in accordance with an approved project cost baseline.

$$\% \text{ CV} = \frac{(\text{Annual BCWP} - \text{Annual ACWP}) \times 100}{\text{Annual BCWP}}$$

Given:

CV = Cost Variance
BCWP = Budgeted Cost of Work Performed
ACWP = Actual Cost of Work Performed

2. (B) Schedule**.** The schedule component of this measure will track the Laboratory's performance in executing projects in accordance with an approved overall schedule.

$$\% \text{ SV} = \frac{(\text{Annual BCWP} - \text{Annual BCWS}) \times 100}{\text{Annual BCWS}}$$

Given:

SV = Schedule Variance
BCWS = Budgeted Cost of Work Scheduled
BCWP = Budgeted Cost of Work Performed

Performance Narrative:

Upon review of the Integrated Planning, Accountability, and Budgeting System report for the end of the fiscal year (September, 2000) and additional data provided by LBNL, the BCWP was $3,440,000 and the ACWP was $3,281,000, resulting in a total Cost Variance of $159,000 or 4.6%. The Budgeted Cost of Work Scheduled was 3,382,000, and therefore the total Schedule Variance was $58,000 or 1.7%. The combined variance is 6.3%.

Performance Rating (Adjectival)**: Outstanding**	95.00%

Performance Measure: 1.4.b EM Level of Effort Programs

This measure will track the Laboratory's performance in executing Level of Effort activities in accordance with an approved project cost baseline. **(Weight = 12.5%)**

Assumptions:

Cumulative percent cost variance (%CV) will be obtained from the September Project Tracking System (PTS). The Cumulative CV value will be for the fiscal year being evaluated.

If the Management Analysis and Reporting System (MARS) Report contains an accounting error, CV values provided by LBNL and verified by the respective DOE project manager may be used.

Baseline change proposals are reviewed and, if determined to be acceptable, approved by DOE/OAK within 30 days of receipt.

Includes the following DOE-HQ (EM)-funded activities by Project Baseline Summary (PBS): OK-015, OK-016.

Performance Gradient:

Gradient Rating	Range for LBNL:
Unsatisfactory	CV> 8% or CV < 0%
Marginal	CV = 8%
Good	CV > 5% and < 8%
Excellent	CV $\leq$ 5% and > 2%
Outstanding	CV $\leq$ 2% and $\geq$ 0%

1. *(A)* Cost. The cost measure will track the laboratory's performance in executing projects in accordance with an approved project cost baseline.

$$\% \text{ CV} = \frac{(\text{Annual BCWP} - \text{Annual ACWP}) \times 100}{\text{Annual BCWP}}$$

Given:
CV = Cost Variance
BCWP = Budgeted Cost of Work Performed
ACWP = Actual Cost of Work Performed

Performance Narrative:

LBNL Waste Management has again performed exceptionally well in executing the approved technical scope of their FY 2000 Baseline in accordance with the approved budget. Allowances were made for a small allotment of funds to be carried over to FY 2001 to cover the first month of the new fiscal year because of the uncertainties involved in the transition of the newly generated waste program to the Office of Science. These funds were not included in the performance measure calculations.

Performance Rating (Adjectival)**: Outstanding**	98.00%

Performance Area: ENVIRONMENT, SAFETY AND HEALTH

Preamble The Laboratory's goal is to accomplish its mission cost-effectively while striving for an injury-free workplace, minimizing waste streams and adverse impacts to the public and environment from its operations.

The following Performance Objective, Criteria and Measures are linked to the Guiding Principles and Key Functions of Integrated Safety Management. They include a process-oriented measure that is intended to assess key elements of the Laboratory's integrated safety management system. They also include a total system outcome measure, which is intended to be a key indicator of the performance of the Laboratory's integrated safety management system as a whole.

Performance Period: Unless otherwise specified in the measures, the performance period is October 1, 1999 through September 30, 2000.

Performance Objective: #1 Do Work Safely

The Laboratory systematically integrates ES&H into management and work practice at all levels so those missions are accomplished while protecting the worker, the public and the environment.
(Weight=40%)

Criterion: 1.1 ISM Core Functions and Principles Process Measure

The Laboratory uses the five core functions and seven principles of Integrated Safety Management (ISM) in its management and work practices to protect the worker, the public and the environment.
(Weight = 40%)

Performance Measure: 1.1.a Implementation of ISM

Integrated Safety Management (ISM) is effectively implemented for management and work practices at all levels of Laboratory work. **(Weight = 40%)**

Assumptions:

- Unless otherwise specified, the term "ES&H" shall represent prevention and protection in all areas of environment, safety, and health at the Laboratory.
- ISM Plans refers to the Laboratory's Institutional Safety Plan, each division's ISM Plan, and the Operations departmental (Facilities and Directorate) ISM Plans.
- In addition to other evaluation methods to be used, the Laboratory shall use work packages (jointly selected by October 1,1999) to sample the effectiveness of ISM for driving continuous improvement or sustain safety performance in (i) mature research and research support operations and activities, (ii) infrastructure projects, and (iii) institutional equipment and instrumentation maintenance. Work package reviews verify the implementation of the principles and tenets of ISM in the three operational areas.

(iii) institutional equipment and instrumentation maintenance. Work package reviews verify the implementation of the principles and tenets of ISM in the three operational areas.

Annual peer review of effectiveness of interactions between worker safety management system and occupational medicine in support of integrating safety into the workplace is a standing work package.

Subcontractor operations/personnel are included in implementation of ISM if the subcontractor is performing part of the Laboratory's operations and reporting its hours to the Laboratory. To this end, the Laboratory's contracting process evaluates and considers the safety record of prospective subcontractors and, once selected, subcontractor statistics are gathered and performance tracked separately. Subcontractors are excluded from LBNL OSHA reporting if they are "servicing" the Laboratory (e.g., copy machine vendors or other transient workers).

Peer reviews, existing procedures, implementing memoranda, Lab tracking system data and other work process products shall serve as demonstrable evidence in contribution to satisfaction of measure gradients. Successes and difficulties associated with these processes will be included in the report. It is not the intention of this measure to foster the generation of supportive or demonstrable documents other than those needed or necessary to perform the work.

The intent of the process measure is to drive the Lab ES&H programs to implement the five core functions and seven principles to continuously improve Berkeley Lab's Integrated Safety Management System. It is recognized that the degree of success is measured on a sliding subjective scale and that satisfaction of a level of excellence does not necessarily mean that all gradients are completely met. Overall Performance is based upon the effectiveness of the integrated safety program as measured in many ways including evaluation of many factors including but not limited to the gradients listed below.

Evaluation of the Laboratory's performance is based on Operational Awareness and information provided in the Appendix F Self-Assessment Report. The DOE Validation of the Implementation of ISM at the Laboratory will be a factor in evaluating performance under Appendix F. To qualify as "Good" under Appendix F, the Lab must score "Good" in the DOE Validation of Implementation of ISM evaluation. The Laboratory's continuous improvement program emphasizes areas such as independent self-assessments, internal and external peer reviews, lessons learned, benchmarking, and corrective actions.

All safety outcome metrics collected by the Laboratory are part of the evaluation.

Significant changes in ES&H systems and processes will be reported to the Berkeley Site Office in the Appendix F Quarterly reports. Examples of significant changes include modifications of any ISM

Plans; changes to ES&H policies and requirements in, for example, Regulation and Procedures Manual, Pub 3000, Operating Assurance Plan, and WSS set; and alterations in EH&S Division staffing patterns, resources, and/or organizational structure. These changes will be linked to efforts to drive continuous improvement.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated, however results fall short of the expectations for the "good" gradient.
Good	Laboratory organizations have implemented and maintained ISM plans tailored to integrate safety into their research and/or operations.
Excellent	The Laboratory's ISM plans are effective for managing worker safety radiation protection, environmental protection, waste minimization, and pollution prevention. Achievement of the "excellent" gradient shall be consistent with the results of the DOE Validation of Implementation of ISM at the Laboratory and the Laboratory has eliminated the weaknesses identified in previous Validation or is on schedule according to the agreed upon corrective action plan.
Outstanding	The Laboratory uses lessons learned, outcomes from ISM plans, and/or benchmarking with best ES&H management practices within the Laboratory or in private industry to identify and design improvements to ES&H systems and processes and is able to demonstrate that the desired impact of sustainable safety performance has been achieved. Achievement of the "outstanding" gradient shall be consistent with the results of the DOE Validation of the Implementation of ISM at the Laboratory" and all previously identified weaknesses have been eliminated and no new weaknesses have been identified during the current performance period.

Performance Narrative:

The DOE FY 2000 ISM performance evaluation is focused on effective integration of safety systems into work planning and execution in all divisions at all levels of the Laboratory, to ensure that the mission of the Laboratory is carried out in a workplace that is free of accident/injuries, and to ensure that the public and the environment are protected.

The overall division safety performance for FY 2000 is improved. There was a slight increase in the number of reportable occurrences during the year, and some delays in reporting the incidents. All self-assessments scheduled by Laboratory Management, EH&S, and divisions have been completed in a timely manner. The Management Environment Safety and Health reviews were conducted at an accelerated pace to reduce the backlog of these assessments. The Laboratory's self-assessment program is robust and is effective in identifying opportunities for improvement. It appears to be a trend that previously identified areas for improvement reoccur from year to year. There seems to be a

need for more rigorous line management implementation of ISM in some Divisions. Consistent implementation of ISM across all divisions will lead to a more effective institutional safety culture.

The EH&S Training Program has demonstrated significant efforts to drive continuous improvement and effective implementation at LBNL. As a result of the many improvements to the EH&S Training Program, the compliance rate for the completion of required EH&S training overall for the Laboratory has increased from last year's rate of 85%, to 89% for this year.

LBNL's senior management continues to demonstrate a strong commitment to the management principles and core functions of ISM. ISM has been fully implemented. The EH&S Division has developed excellent radiation and environmental programs and systems. Although the Laboratory has a good worker safety program in place, it has been unable to reduce the Total Lost Work Days and Total Reportable Accident/ Injury Case statistics below the DOE contractors average. Several initiatives have been instituted to achieve the desired reductions; however, a slight upward trend was experienced during the performance period. DOE management is concerned that the Laboratory's accident/injury reduction performace is marginal for the second consecutive year and shows a slight upward trend. It is recommended that this trend be given the Laboratory Management's highest priority attention.

The overall division implementation of ISM systems and effectiveness of those systems based on performance is excellent. There still remains, however, some unevenness between divisions in their ISM performance of line management accountability, and identification of hazards in work planning. The data reviewed indicate that progress has been made to get more line managers involved in walk throughs and activities that ensure that the ISM safety culture is institutionalized. This practice is not consistent throughout all the divisions, however. Some division line managers are not meeting the expectation that they become directly and proactively involved in work planning to provide protection to workers, the public and the environment. This is evident in the upward accident injury trends in their divisions. These same divisions appear to tend to rely heavily on safety coordinators and the EH&S matrix to resolve safety issues. Line management involvement is a key factor to an effective ISM program. The Divisions that have a proactive management involvement approach to work planning, and implementation of controls before work is begun appear, in general, have the lower accident injury statistics.

It appears from a review of some of the Laboratory's internal Supervisor Accident Investigation Analysis Reports, that work planning for the standard industrial operations is not given the same rigorous hazards planning resulting from more specialized technical work. These reports indicate that the majority of the injuries investigated could have been avoided if the line managers and the workers had performed more thorough analysis of potential work hazards before the work had begun.

The Laboratory initiated a new innovative approach to the SAAR investigation to expedite the review of accident/injuries and made it available to all divisions. However, not all divisions have taken advantage of the approach and it is does not seem to be working as effectively in some of the divisions as it did in Engineering to reduce accident/injuries. Although accident/injury reviews involve line management, workers, Division Safety Coordinators as well as EH&S liaisons, a selected number of these reports show that the roots causes are sometimes not being identified. Therefore, the recommended corrective actions do not always result in prevention of reoccurrence. Often, there are no lessons learned generated on the SAAR form.

Aggressive efforts to complete major enhancements to the EH&S Training Program have been instituted in FY 2000. A new training Facility has been established. Although it is not a dedicated training facility, it appears to be sufficient to meet the training needs of the Laboratory. The EH&S Training Program experienced two DOE/IG Audits in FY00 and only minor deficiencies in recordkeeping of training were identified in the Hazardous Material Transportation Audit. A corrective action plan has been developed and is currently being tracked in the Laboratory's internal tracking system. There is an upward trend in the rate of completion of required EH&S training. Last year's average rate of training completion was 85% and this year it is 89%. The overall Laboratory Environment, Safety and Health Self-Assessment Report does a very good job in reporting performance, but recurring shortfalls in performance involving emergency training and accident/injury statistics warrant more attention

Performance Rating (Adjectival): **Excellent**	87.00%

Criterion: 1.2 ISM System Outcome Measures

System outcome measures are linked to the process measures. System outcomes are used to drive process excellence **(Weight = 60%)**

Performance Measures: 1.2.a Routine Exposures from Routine Activities

Occupational radiation doses to individuals (excluding accidental exposures) from DOE operations will be managed to assure that applicable 10 CFR 835 limits are not exceeded. **(Weight = 5%)**

Assumptions:

Any actual or anticipated significant changes in workloads or badged worker population (interpreted to be an increase or decrease of 5% or more) that would affect radiation doses will be brought to the attention of UC and DOE and appropriate adjustments will be made.

Some variability is expected which may not be indicative of a trend.

This measure is directed toward current management and control of radioactive materials.

Outcome Measure reports demonstrate how results are used to drive improvement or maintain current best management practices.

The severity of events is to be considered in the evaluation. Work where there is a lesser radiological hazard, is authorized under either a Radiological Work Authorization category 1 or 2; or Sealed Source Authorization 1 or 2. In general, work where there is a significant radiological hazard, is authorized under either a Radiological Work Authorization category 3 Sealed Source Authorization 3, a Radiological Work Permit, X-ray safety document , or Accelerator Safety document. Performance will consider all aspects of the program that enhance and promote program objectives and overall compliance.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure
Marginal	Some effort is demonstrated, however results fall short of the expectations for the "good" gradient.
Good	No individual exposures in excess of 500 millirem without an (unless specifically authorized in writing and approved by the Lab Deputy Director of Operations) increase in workload.
Excellent	Qualify for good, plus the number of individual exposures exceeding 100 millirem is less than or equal to the control level of 10, without an increase in workload

Outstanding Qualify for excellent, plus the total number of individual exposures (measurable over agreed reporting level) is less than or equal to the three year running average, without an increase in workload.

Performance Narrative:

Reduction of radiation exposure to workers was achieved during the performance period. Positive exposures were reduced from 59 in FY 1999 to 31 in FY 2000, well below the three-year running average of 82. No individual exposure exceeded 500 millirem. There was one exposure exceeding 100 millirem. There was a reduction in the FY 2000 workload, contributing to the exposure reductions. These results place the performance for this period in the **outstanding** range.

Performance Rating (Adjectival)**: Outstanding**	95.00%

Performance Measure: 1.2.b Radiation Protection of the Public and the Environment

Public radiation doses to the maximally exposed individual (member of the public) and radiological emissions to the environment, from all Lab operations, will be managed to assure that all applicable regulatory limits are not exceeded. **(Weight = 5%)**

Assumptions:

Any actual or anticipated significant change in workloads (interpreted to be an increase or decrease of 10% or more) that would affect radiation doses or radiological emissions will be brought to the attention of UC and DOE and appropriate adjustments will be made.

Each Laboratory will define any change in its site control level for the maximumally exposed individual dose in coordination with its local DOE office prior to the activity.

Expectations cited for " Excellent" are consistent with ALARA goals.

Outcome Measure reports demonstrate how results are used to drive improvement or maintain current best management practices.

The severity of events is to be considered in the evaluation. Work where there is a lesser radiological hazard, is authorized under either a Radiological Work Authorization category 1 or 2; or Sealed Source Authorization 1 or 2. In general, work, where there is a significant radiological hazard, is authorized under either a Radiological Work Authorization category 3; or Sealed Source Authorization 3, or a Radiological Work Permit, X-ray safety document or Accelerator Safety document. Performance will consider all aspects of the program that enhance and promote program objectives and overall compliance.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated, however results fall short of the expectations for the "good" gradient.
Good	Radiation doses to the maximally exposed individual (member of the public) is greater than 4% and less than or equal to 10% of applicable regulatory limits. Radiological emissions to the environment are greater than 10% and less or equal to 20% of applicable regulatory limits.
Excellent	Radiation doses to the maximally exposed individual (member of the public) is less than or equal to 4% of applicable regulatory limits. Radiological emission to the environment are less than or equal to 10% of applicable regulatory limits.

Outstanding Radiation doses to the maximally exposed individual (member of the public) is less than or equal to 1 % of applicable regulatory limits

Radiological emissions to the environment are less than or equal to 1% of applicable regulatory limits.

Performance Narrative:

The analysis of fourth quarter data is not available at the time of this writing. Laboratory projection of new public radiation doses and radiological emission indicates that overall performance will remain the same as in the third quarter and be at the excellent gradient level. The following evaluation is based upon the third quarter data and may need to be modified when the fourth quarter data is available.

The cumulative radiation dose to the public through the third quarter of FY2000 is 0.0027 mSv (0.27 mrem). This cumulative public dose is less than 1 % of the allowable federal annual limit of 1 mSv/yr (100 mrem/yr).

Cumulative air emissions through the third quarter of FY2000 is about 25 Ci. The resulting dose to a maximally exposed individual from this release is about 0.0005 mSv/yr (0.005 mrem/yr). This too is less than 1% of the allowable federal annual limit of 0.1 mSv/yr (10 mrem/yr)

The cumulative sanitary sewer discharge through the third quarter of FY2000 is about 0.07 Ci. This release is less than 2% of the permitted limit of 5 Ci/yr.

LBNL has demonstrated a continuing commitment to controlling radiological releases and radiation dose to the public. Their performance to date places them just short of an outstanding rating. For this reason a rating near the high end of **excellent** is justified.

Performance Rating (Adjectival)**: Excellent**	88.00%

Performance Measure: 1.2.c Prevention of Unplanned Radiation Exposures

Unplanned radiation exposures and ORPS reportable occurrences of skin or personal clothing contamination are managed and minimized **(Weight = 5%)**

Assumptions

The weight for unplanned radiation doses of greater than 100 mrem is one (weighting factor=1); if the ORPS event is classified as an Unusual Occurrence, the weighting factor is increased by a factor of 1.5. Some variability is expected which may not be indicative of a trend.
The Number of Individuals contaminated are counted.
The ALARA goal is to have no Unusual Occurrences.
Outcome Measure reports demonstrate how results are used to drive improvement or maintain current best management practices.
The severity of events is to be considered in the evaluation. Work where there is a lesser radiological hazard, is authorized under either a Radiological Work Authorization category 1 or 2; or Sealed Source Authorization 1 or 2. In general, work, where there is a significant radiological hazard, is authorized under either a Radiological Work Authorization category 3; or Sealed Source Authorization 3, or a Radiological Work Permit, X-ray safety document or Accelerator Safety document.
Performance will consider all aspects of the program that enhance and promote program objectives and overall compliance.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated, however results fall short of the expectations for the "good" gradient.
Good	The weighted number of contaminated individuals will be maintained equal to the ALARA goal of 8 per year.
Excellent	The weighted number of contaminated individuals is less than the ALARA goal (currently this number is 8) for this measure set by the Berkeley Lab Radiation Safety Committee and agreed upon by Berkeley Lab and the local DOE office.
Outstanding	The weighted number of contaminated individuals is less than or equal to 4.

Performance Narrative:

There was one ORPS reportable occurrence of skin or personal clothing contamination during the reporting period. An individual's hair was contaminated with low-level beta emitting material. Performance during the rating period was in the **outstanding** range.

Performance Rating (Adjectival)**: Outstanding** 96.00%

Performance Measure: 1.2.d Control of Radioactive Material

Radioactive material, including radioactive sources and contaminated articles, is not found outside of controlled areas. **(Weight = 5%)**

Assumptions:

Off-normal occurrences have a weighting factor of 1 and unusual occurrences have a weighting factor of 1.5.

Some variability is expected which may not be indicative of a trend.

This measure is directed toward current management and control of radioactive materials.

Outcome Measure reports demonstrate how results are used to drive improvement or maintain current best management practices.

The severity of events is to be considered in the evaluation. Work where there is a lesser radiological hazard, is authorized under either a Radiological Work Authorization category 1 or 2; or Sealed Source Authorization 1 or 2. In general, work, where there is a significant radiological hazard, is authorized under either a Radiological Work Authorization category 3; or Sealed Source Authorization 3, or a Radiological Work Permit, X-ray safety document or Accelerator Safety document. Performance will consider all aspects of the program that enhance and promote program objectives and overall compliance.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated, however results fall short of the expectations for the "good" gradient.
Good	The weighted number of occurrences will be maintained to within 1 unit of the 3 year running average or equal to the ALARA goal.
Excellent	The weighted number of occurrences is less than the ALARA goal of 4 occurences for this measure set by the Berkeley Lab Radiation Safety Committee and agreed upon by Berkeley Lab and the local DOE office.
Outstanding	The weighted number of occurrences is less than or equal to 2.

Performance Narrative:

There was one reportable occurrence during the performance period involving radioactive material outside a controlled area. This was reported by the Laboratory in an Occurrence Report.

This single event indicates that the number of occurrences is below the ALARA goal and is below the gradient of less than or equal to 2, and therefore the performance for this measure is rated as **outstanding.**

Performance Rating (Adjectival)**: Outstanding**	93.00%

Performance Measure: 1.2.e Exposure to Chemical, Physical, and Biological Agents

Personal exposure measurements, and the appropriate corrective action to reduce the exposure potential for operations with high or medium potential hazards, and for substance-specific sampling (operations required by law to be sampled), are completed during the performance period.

(Weight = 7%)

Assumptions:

Operations with "high or medium potential hazard" are determined by the LBNL Integrated Functional Appraisal process.

An exposure measurement shall be defined as “one or more samples associated with an operation that gives a value which can be compared with an Occupational Exposure Limit.”

Exposure measurements will be corrected by the protection factor of the personal protective equipment in use.

When an exposure measurement is not possible, a qualitative assessment which determines the probable exposure (comparison to Occupational Exposure Limit) and level of risk (high, medium, or low as defined by the LBNL Integrated Functional Analysis process) shall be documented.

An operation is an activity comprised of one or more tasks performed at a single location that generates a hazard(s). "Hazard" includes all stressors associated with an operation; i.e., noise, lead, etc. Note: Any significant process changes constitute a new operation.

An exceedance is one or more high results (measurements above the current tiered approach of Action Level, TLV, and then PEL) associated with an operation. When no standard has been developed for an agent, another published occupational health standard will be agreed upon and utilized.

Action Level is defined as one-half of the 8-hour TWA, STEL, and CEILING limits for OSHA PELs and ACGIH TLVs, unless a different action level is specified by OSHA.

Types of measurements to be considered are: chemicals, gases, particulates, fibers, biological agents, physical agents such as noise, magnetic fields, non-ionizing radiation, and thermal stress. Note: bulk samples, swipe samples, drinking water samples, and indoor air quality measurements are not to be included.

Exposure measurements that result in an "exceedance", along with the corrective action taken, will be discussed in the Appendix F Quarterly Report.

Per OSHA definition, the Laboratory Standard (29 CFR 1910.1450) supercedes substance-specific sampling standards for laboratory operations. Therefore, only non-lab activities, such as shops and crafts, are subject to the substance-specific standards referenced in 29 CFR 1910.1001-1052.

Outcome Measure reports demonstrate how results are used to drive improvement or maintain current best management practices.

The severity of events is to be considered in the evaluation. Higher severity events include (but are not limited to): imminent danger situations [as defined by the Occupational Safety and Health Administration (OSHA)], worker exposures above OSHA Permissible Exposure Limits, biological exposures above the OSHA medical removal levels, and substantial property damage or personal

injury due to fire. Performance will consider all aspects of the program that enhance and promote program objectives and overall compliance.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated, however results fall short of the expectations for the "good" gradient.
Good	A list of operations with "high" or "medium" potential hazards is prepared by October 31, 1999. This list is developed from all Integrated Functional Appraisals conducted during FY99.
	A list, specific to LBNL operations, of all substance-specific sampling required by 29 CFR 1910 is prepared by October 31, 1999.
	All "substance-specific" exposure measurements are completed as required by 29 CFR 1910 during the contract period.
	IH exposure measurements (and corrective action) are completed for 90% of operations with "high" potential hazards.
	IH exposure measurements (and corrective action) are completed for 80% of operations with "medium" potential hazards.
Excellent	IH exposure measurements (and corrective action) are completed for 95% of operations with "high" potential hazards.
	IH exposure measurements (and corrective action) are completed for 90% of operations with "medium" potential hazards.
Outstanding	IH exposure measurements (and corrective action) are completed for 100% of operations with "high" potential hazards.
	IH exposure measurements (and corrective action) are completed for 100% of operations with "medium" potential hazards.
	The results of the completed sampling plan/yearly monitoring (for both Integrated Functional Appraisal sampling and substance-specific sampling) are used to update the Integrated Functional Appraisal hazard assessments and the Substance-specific Annual Sampling Plan.

Performance Narrative:

OSHA required sampling was conducted as required. All of the high and medium hazards from the 6 Divisions inspected last year were investigated, and 92 percent were reduced to low hazard or eliminated. All requirements of the performance measure were met in a timely manner.

Performance Rating (Adjectival)**: Outstanding**	96.00%

Performance Measure: 1.2.f Accident Prevention

The baseline period for comparison is CY 1997 data. The Lab's Severity and frequency (defined as Lost Workday Case Rate (LWC) and Total Recordable Case Rate (TRC) respectively) of accidents during the performance period will be compared to the baseline period. The number of Bureau of Labor Statistics reportable occurrences of these accidents will be tracked. A downward trend is expected as compared to the baseline year. The overall performance rating for this measure will factor in LWC and TRC rates and other accident prevention information identified below. **(Weight = 7%)**

Assumptions:

Laboratory statistics will be collected for the baseline for all Lab incidents including subcontractors as reported to CAIRS.

It is recognized that an initial increase may be experienced whenever a new prevention program is introduced and that some variability is expected which may not be indicative of a trend.

For FY 2000 and future years, baseline assumptions will be reviewed and if appropriate updated by mutual agreement of the local DOE office and the Laboratory.

Subcontractor operations/personnel are included for all subcontractors whose injury data are reported to CAIRS. Subcontractors are excluded if they are "servicing" the Laboratory (e.g., copy machine vendors or other transient workers).

The Lab's 5 year goal for reduction of LWC and TWC is derived from industry best in class in agreement with DOE.

Consideration will be given to the Lab's rank for LWC and TRC within the best in class peer group.

Establishment and reporting of upper and lower control limits to determine the significance of accident rate variation (caused variation vs. random variation) will be examined.

Consideration will be given if any targeted/focused accident prevention program to a sub-population within the Lab demonstrates effective intervention and/or improvement in the combined LWC and TRC score.

Consideration will be given upon demonstration of quantifiable return of investment (ROI) from implementation of accident prevention program initiatives.

Consideration will be given to the rate of annual rate of reduction for LWC and TRC using best in class as the benchmark and 1996 as the baseline year.

Gradients:

Progress toward reduction goals are evaluated using the following figures.

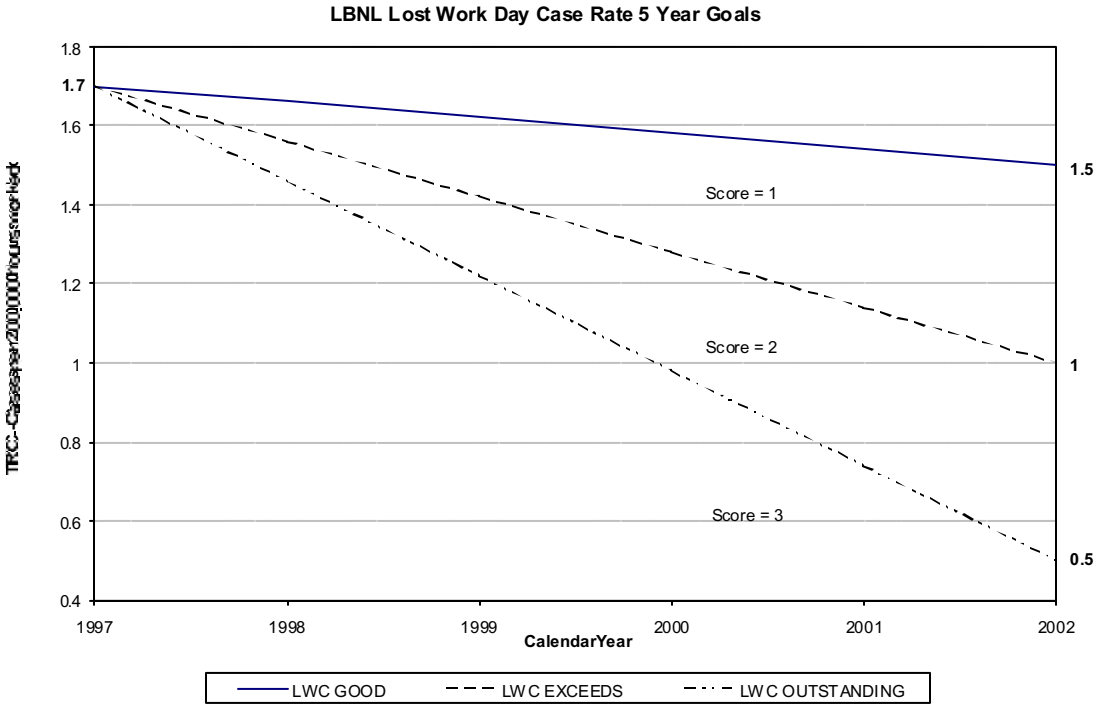


Figure 1: LBNL Lost Work Day Case Rate, 5 Year Goals

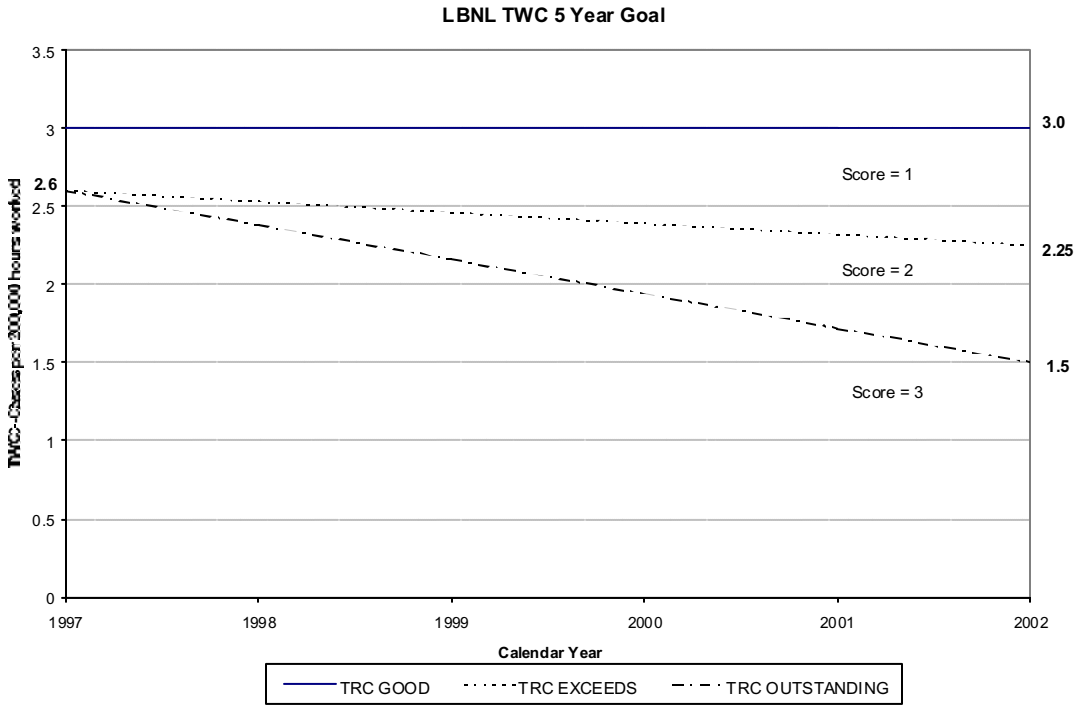


Figure 2: LBNL Total Recordable Case Rate, 5 Year Goals

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated, however results fall short of the expectations for the "good" gradient.
Good	Performance is charted for LWC and TRC and scored and then summed. The sum for this gradient is 2 or 3, with consideration for demonstrated achievements identified within the list of assumptions.
Excellent	Performance is charted for LWC and TRC and scored and then summed. The sum for this gradient is 4 or 5, with consideration for demonstrated achievements identified within the list of assumptions.
Outstanding	Performance is charted for LWC and TRC and scored and then summed. The sum for this gradient is 6, with consideration for demonstrated achievements identified within the list of assumptions.

Performance Narrative:

For the second year in a row LBNL has failed to meet its expectation in this metric. LBNL set very aggressive goals for this measure, with a five-year goal for reductions that meet or exceed those of the country's best companies. The Laboratory was unable to sustain the continued downward trend of

injuries and illnesses it had experience over the five-year period from 1994-1998. Accident and injury statistics showed a slight increase in total recordable cases (TRC) and a slight decrease in lost workday cases (LWC).

The Laboratory needs to continue its efforts to ensure that the progress made in prior years is not lost. The Laboratory has identified areas where the largest number of new cases arose and has targeted them for increased attention in the future.

Performance Rating (Adjectival)**: Marginal**	65.00%

Performance Measure: 1.2.g Occupational Safety and Health

Hazards are recognized during Occupational Safety and Health assessments and serious and imminent danger situations are appropriately mitigated. **(Weight = 7%)**

Assumptions:

Data will be collected for the period of July 1, 1999 through June 30, 2000.

Imminent Danger situations and Serious violations are as defined by the OSHA Field Inspection Reference Manual and by Section 13(a) of the Occupational Safety and Health Act.

Subcontractor operations/personnel are included if the subcontractor is performing part of the Laboratory's operations. Subcontractors are excluded if they are "servicing" the Laboratory (e.g., copy machine vendor or other transient workers).

Outcome Measure reports demonstrate how results are used to drive improvement or maintain current best management practices.

The severity of events is to be considered in the evaluation. Higher severity events include (but are not limited to): imminent danger situations [as defined by the Occupational Safety and Health Administration (OSHA)], worker exposures above OSHA Permissible Exposure Limits, biological exposures above the OSHA medical removal levels, and substantial property damage or personal injury due to fire. Performance will consider all aspects of the program that enhance and promote program objectives and overall compliance.

Gradients:

Unsatisfactory Little or no effort has been demonstrated towards achievement of the performance measure.

Marginal Some effort is demonstrated, however results fall short of the expectations for the "good" gradient.

Good 70% of operations have documented evidence of annual safety inspection. All high hazard operations are inspected annually.

Imminent Danger situations are mitigated immediately upon discovery.

All Serious Violations are mitigated or corrected within 5 working days or an agreed-upon schedule. Until mitigation, equivalent protection or abatement will be implemented to ensure protection of workers.

Excellent At least 90% of the scheduled formal self assessments have been completed and reports issued.

At least 90% of the corrective actions have been completed on schedule.

There is documented evidence that the lab has reviewed at least 90% of its workspaces, for those divisions reviewed in the current performance year, where there are hazards of medium and high level of concern as identified through the 1996 LBL IHA.

Outstanding One hundred percent (100%) of the scheduled formal self assessments have been completed and reports issued.

Corrective actions are consistently completed on schedule.

There is documented evidence that the lab has reviewed 100% of its workspaces, for those divisions reviewed in the current performance year, where there are hazards of medium and high level of concern as identified through the 1996 LBL IHA.

Performance Narrative:

Based on the information available to the BSO, overall divisional ES&H performance was deemed to be excellent. Full implementation and effectiveness of ISM were evident for all divisions. Most divisions continue to demonstrate gradual improvement of their ES&H programs and greater adherence to the principles of ISMS. All self-assessments were performed as scheduled. Most of the divisions have improved their performance from FY99, with regard to the ISM based performance. The divisions focused on key issues and weaknesses, and expectations were identified as opportunities for improvement in the FY 1999 Laboratory Self-Assessment. Corrective actions from self-assessments and internal audits are tracked, and the Laboratory reported 93 percent closed or on track for completion. Still, the use of the Laboratory Self-Assessment Database (LSAD), by divisions to track self-assessment corrective actions is uneven. Divisions are inconsistent in their assignment of Institutional and non-institutional findings and in their assessment of hazard levels of findings. The EH&S Division is developing a universal Web-based database that should insure consistent use Throughout the divisions.

In Outcome Measure 1.2.g, the Laboratory stated it had no OSHA imminent or serious situations for the year. In Process Measure 1.1.a (Appendix F Supplemental Report, October 26, 2000), the Laboratory stated it had "few moderate hazard situations (Hazard Level 2) requiring prompt corrective actions". The LSAD database did not have any Hazard Level 1 or 2 entries, which correlates to OSHA imminent and serious. However, several injuries reported at the Laboratory during FY 2000 have associated deficiencies that OSHA lists as examples or would cite as Serious. The Laboratory did not provide evidence of the time frame in which these were fixed. In the Self-Assessment Manual, LSAD Level 2, which correlates to OSHA Serious, requires correction within 10 working days. This is not in conformance with the performance measure requirement of correction within 5 working days. Through Operational Awareness and meetings, it appears that serious situations are generally corrected within five days, but the Laboratory did not provide the requested information which would support this (two requests were made). Through Operational Awareness, a sample of six situations (which would be considered "serious" by OSHA) was examined. Two of the six were situations which were known for longer than five days, but were not corrected prior to an accident.

Performance Rating (Adjectival): **Excellent**	85.00%

Performance Measure: 1.2.h Tracking Environmental Incidents

The number of environmental incidents will be measured. Environmental incidents include:

- violations resulting from regulatory inspections or regulatory reporting
- reportable occurrences of environmental releases exceeding regulatory or permitted levels established by Federal, State or Local agencies (authorized by Federal or State agencies to implement Federal or State environmental statutes). **(Weight = 9%)**

Assumptions:

Audit is defined as an external review of a program that results in a formal report to the Laboratory, with any findings tracked by the appropriate organizational group (e.g., LBNL-OAA).

Environmental releases or excursions that remain within compliance limits will not be counted as incidents by this measure.

The Laboratory has the option to apply a weighting factor to each incident, depending on its severity and magnitude. All environmental incidents that are serious will be given a weighing factor of 1, on a scale of 0 to 1. A release or violation is considered serious unless an alternate weighting factor is proposed by Berkeley Lab. The Laboratory and DOE technical counterparts will jointly agree upon the assignment of an appropriate weighting factor for non-serious releases.

Percent increase is based upon comparisons made to the average of the 3 previous years.

When the number of incidents is less than or equal to 3, scoring will be based solely on this number.

Outcome Measure reports demonstrate how results are used to drive improvement or maintain current best management practices

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated, however results fall short of the expectations for the "good" gradient.
Good	More than 3 incidents and an increase in incidents by less than or equal to 50%
Excellent	More than 1 and less than or equal to 3 incidents
Outstanding	1 incident or less.

Performance Narrative:

LBNL had no environmental incidents during the performance period with the notable exception of a Department of Health Services (DHS) inspection that resulted in 19 violations related to medical waste management. There were no other violations from numerous environmental inspections and environmental programs. The medical waste management violations are all considered minor or housekeeping issues. Approximately half of them are being contested by LBNL. Last year, DOE and LBNL jointly agreed upon weighting factors to be applied to incidents/violations based upon the

magnitude and severity of the violations. Applying the weighting factors to these violations resulted in an incident score of 4.66. This is above the incident threshold of 3 needed to qualify for a "Good" rating. LBNL's rating is therefore "**Marginal**". In light of the fact that LBNL's other environmental programs did so well, a performance score of 68% (near the high end of marginal) is considered appropriate.

Performance Rating (Adjectival)**: Marginal**	68.00%

Performance Measure: 1.2.i Waste Reduction and Recycling

The Laboratory continues to progress towards meeting the DOE's pollution prevention goals for the year 2005. **(Weight = 10 %)**

Assumptions:

By the year 2005, reduce non-hazardous, hazardous, low-level radioactive, and low-level mixed waste generation from routine operations by the following amounts, using 1993 as a baseline. The performance period is the DOE fiscal year (October 1-September 30).

Reduce non-hazardous waste by 67.7%. Parameter measured is routine sanitary waste sent to landfill (total minus recycled amount). Measured generation rate is adjusted annually for changes in the total LBNL operating budget. Includes low-level radioactive waste reclassified to sanitary waste after decay in place.

Reduce hazardous waste by 75%. Parameter measured is routine hazardous waste (RCRA and non-RCRA) shipped off site, regardless of destination. Includes secondary hazardous waste from decay in place of mixed waste or combined waste. Does not include TSCA, site restoration, site renovation, or other one-time wastes. Generation rates are adjusted annually for changes in the operating budgets of divisions or departments that generate routine hazardous waste.

Reduce low-level radioactive waste by 75%. Parameter measured is waste volumes/weights entering the HWHF, based on Shoebox reports. Excludes waste reclassified to sanitary after decay in place. Includes secondary radioactive waste from successful treatment of the hazardous constituents of low-level mixed wastes. Generation rates are adjusted annually for changes in the operating budgets of divisions or departments that generate routine low-level radioactive waste.

Reduce low-level mixed waste by 75%. Parameter measured is waste volumes/weights entering the HWHF, based on Shoebox reports. Excludes waste reclassified to hazardous after decay in place and waste reclassified to radioactive or combined after successful treatment to remove RCRA hazardous constituents. Generation rates are adjusted annually for changes in the operating budgets of divisions or departments that generate routine low-level mixed waste.

When a calendar year 2005 goal is met for any waste type, the new goal will be continuous improvement for that waste type.

Performance points will be awarded in the same fashion as for the FY1993-1999 Performance Measure, as shown in the charts below.

Outcome Measure reports demonstrate how results are used to drive improvement or maintain current best management practices.

Gradients:

Progress toward reduction goals are evaluated by either using the following charts or progress on an agreed- to "waste type" reduction plan:

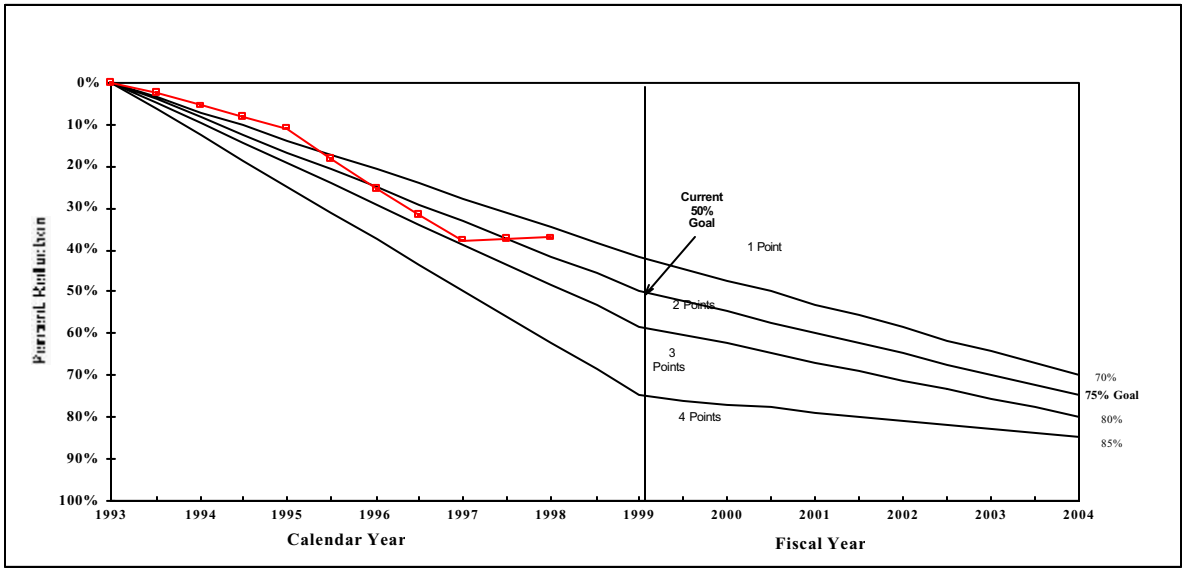


Figure 1. Chart to be used for routine sanitary waste reduction

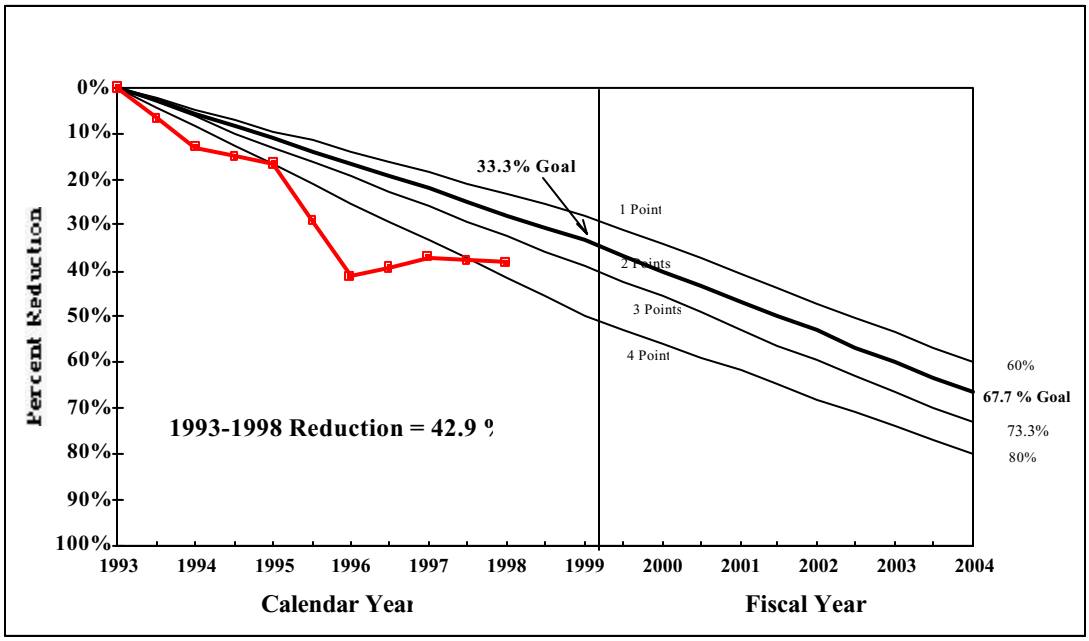


Figure 2. Chart to be used for routine hazardous, low-level radioactive, and low-level mixed waste reductions.

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated, however results fall short of the expectations for the "good" gradient.
Good	A reduction in generation of each waste type is calculated and scored (1 to 4 points) then summed. The sum for the four waste types is 7, 8 or 9 points.
Excellent	A reduction in generation of each waste type is calculated and scored (1 to 4 points) then summed. The sum for the four waste types is greater than 9 points but less then 12.
Outstanding	A reduction in generation of each waste type is calculated and scored (1 to 4 points) then summed. The sum for the four waste types is greater than 12 points and less than 16.

An annual increase in the types and amounts of wastes and materials recycled and/or reused onsite or offsite (after adjustment for source reduction).

Performance Narrative:

DOE OAK agrees with the Outstanding rating for Lawrence Berkeley National Laboratory (LBNL) based on continued significant waste reduction and dedication by staff and management to source reduction and reuse of legacy materials. LBNL has done an excellent job of prioritizing waste streams and emissions for reduction, working with generators to identify pollution prevention opportunities, and submitting Return-on-Investment (ROI) projects to DOE for funding consideration. Several ROI projects were funded in late FY2000 with waste management cost savings funding. In addition, the outreach and awareness activities concerning site-wide purchasing of environmentally-preferable and energy-efficient products and recycling continue to be strong. DOE OAK notes the continued management support of efforts related to the reuse of legacy materials which is evident in the reuse of Bevelac steel plate with LANL and planned deconstruction of the Bevelac, if funding becomes available.

Performance Rating (Adjectival): **Outstanding**	95.00%

Performance Area: FACILITIES MANAGEMENT

The University of California, in partnership with the Department of Energy, shall plan, acquire, operate, maintain, lease, and dispose of physical assets as valuable national resources. The management of physical assets from acquisition through operations and disposition shall be an integrated and seamless process linking the various life cycle phases. Stewardship of these physical assets during all phases of their life cycle shall be accomplished in a safe and cost-effective manner to meet the DOE mission and to ensure protection of workers, the public and the environment. This management of physical assets shall incorporate industry standards, a graded approach and these performance objectives.

General Note: Plans, lists, and milestones made a matter of record in the first month of the fiscal year may be revised during the year by mutual agreement between the Laboratory and DOE Facility Functional Managers.

Performance Objective: #1 Real Property Management

The Laboratory will effectively manage Real Property. **(Weight = 5%)**

Criterion: 1.1 Real Property Management

Real property is effectively managed consistent with mission, requirements, and DOE direction. **(Weight = 5%)**

Performance Measure: 1.1.a Program Implementation

Number of completed milestones/milestones scheduled for completion. **(Weight = 5%)**

Assumptions:

Intent is to measure the effectiveness, completeness, and timeliness of implementation of Real Property management actions. Milestones will be established in partnership with DOE and made a matter of record in the first month of the fiscal year. Milestones may be established for Facilities Information Management System completeness, office space utilization, substandard building space conversion, real property leases, etc.

Gradients:

Unsatisfactory	less than 0.60
Marginal	0.60
Good	0.70
Excellent	0.80
Outstanding	0.90

Performance Narrative:

All established LBNL FY 2000 milestones in the area of Facilities Information Management System (FIMS), Substandard/Excess Space, Space Utilization, and Off-Site Real Property Management for were meet for a performance ratio of 1.00.

Specifically, LBNL completed 18 Real Property Management milestones on or ahead of schedule. These milestones were developed in coordination with DOE counterparts at the beginning of the fiscal year and tracked quarterly.

By meeting these milestones, LBNL has improved its FIMS data, evaluated office and shop space utilization, conducted space and population surveys in all buildings, planned and converted substandard building space, developed reutilization plans for key buildings in high demand and ensured a smooth transition to a new space management system.

In addition, LBNL was the first Laboratory to migrate the data and reporting of the Energy Management System into FIMS. This was highlighted in the annual DOE sponsored FIMS workshop. Benefits included the elimination of several time consuming activities to maintain and reconcile separate databases. LBNL has also been proactive in making FIMS a more useful database for Laboratory purposes.

LBNL continued to consolidate off-site leased space by completing the move out of Building 934 at Aquatic Park. This action reduced our off-site space by 30,720 gross square feet (24,074 usable) at an annual cost savings of approximately $795,000. In order to provide replacement space for functions located in and planned for the Building 29 complex (declared structurally unsound), LBNL procured a five-year lease for 8,250 s.f. at 2000 Center Street in Berkeley (Building 941) at an annual cost of $223,000. Even with the unexpected need for Building 941, FY 2001 lease costs are planned to be approximately $250,000 less than actual FY 1999 costs.

Performance Rating (Adjectival): **Outstanding**	98.00%

Performance Objective: #2 Physical Assets Planning

The Comprehensive Integrated Planning Process should reflect current and future Laboratory needs. **(Weight = 14%)**

Criterion: 2.1 Comprehensive Integrated Planning Process

The Laboratory develops, documents, and maintains a comprehensive integrated planning process that is aligned with DOE mission needs **(Weight = 14%)**

Performance Measure: 2.1.a Effectiveness of Planning Process

Assess how the planning process is implemented to achieve maximum effectiveness in anticipating and articulating DOE and Laboratory needs. **(Weight = 14%)**

Assumptions:

The Laboratory will work with DOE counterparts in a cooperative effort to continuously evaluate the effectiveness of the comprehensive integrated planning process through the development of Laboratory specific planning elements/milestones. Site specific planning elements/milestones will be made a matter of record in the first month of the fiscal year.

Gradients:

Unsatisfactory	less than 0.60
Marginal	0.60
Good	0.70
Excellent	0.80
Outstanding	0.90

Performance Narrative:

In the area of Comprehensive Integrated Planning (CIP), DOE OAK rates Lawrence Berkeley National Laboratory (LBNL) activities for FY2000 as **outstanding** at 94.0. Activities conducted by the LBNL Facilities Planning Office during this evaluation period are: the successful execution of its work plan for CIP; submittal of the Strategic Facilities Plan (requested by DOE HQ); and the commencement of the Long Range Development Plan (LRDP) process as directed by the University

of California, Office of the President (UCOP). LBNL continues to be a viable site to DOE, the scientific community, user groups, commercial and public partnerships and to the University of California. Effective physical asset and land use planning will assure the continuation of LBNL's value to DOE and to the scientific community.

LBNL's Facilities Planning Office and DOE OAK agreed to accept a comprehensive work plan for FY2000 that contains eight major topical areas with a total of thirty-five (35) specific milestones as well as on-going activities. All milestones were completed on a timely basis and all on-going activities were satisfied. Significant accomplishments, with respect to the work plan, include: the continual update of the LBNL Comprehensive Facilities Plan (web-based); the continual implementation of the Vegetation Management Plan; and, the activation of the Geographical Information System (GIS) for LBNL (computer-based planning tool for asset management and environmental issues). Also of note is the continuation of the lab-wide signage program, the utilization of the Facilities and Planning website, the roadway assessment (which could significantly change the roadway usage at LBNL), and the addressing of requirements from the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

LBNL successfully addressed many activities that were not identified on the work plan, but were significant towards comprehensive planning. DOE HQ requested all Office of Science (SC) sites to submit a Strategic Facilities Plan. The plan focuses on modernizing the laboratory by 2012. LBNL completed and submitted their plan and also assisted DOE in the development of requirements to the plan. LBNL continues to face usable space issues. The topography of the LBNL site, the age of the facility (as a whole) and the lack of adequate funding for facilities pose unique challenges to utilize space effectively at LBNL. At one point, the Facilities Planning Office had declared the site as 100% full, or "no vacancy." It can only be assumed that the shortage of space will continue until funding issues are addressed.

The Facilities Planning Office was also tasked by UCOP to commence in the process of updating its Long Range Development Plan (LRDP). Although this plan is a UCOP requirement and not a DOE requirement, DOE OAK recognizes that its update (previous LRDP was completed in 1987) will significantly affect other planning documents developed and/or maintained by LBNL for DOE. The LDRP process is expected to take approximately two-and-half years to complete.

In FY2000, LBNL continued to execute both the intent and spirit of the LCAM Partnering Agreement and the Assessment Management Plan. Both documents represent DOE OAKs and LBNL's commitment to performance-based contracting. DOE OAK remained apprised of major activities through detailed quarterly reporting and by various operational awareness-type meetings throughout the year.

The format for this type of work plan/evaluation for future rating periods continues to be viable provided the milestones are detailed enough to assure of a successful product and adequately represents activities planned throughout the review period. Quarterly reporting and operational awareness meetings need to continue to assure the implementation of the work plan, to assure process improvements occur when and where possible and to assure effective asset and land use planning.

Performance Rating (Adjectival)**: Outstanding**	94.00%

Performance Objective: #3 Project Management

The Laboratory will complete construction projects within approved budgets, schedules and scopes. **(Weight = 33%)**

Criterion: 3.1 Construction Project Performance

Construction projects greater than $500K (regardless of type of funds) achieve project performance objectives. **(Weight = 20%)**

Performance Measure: 3.1.a Work Performed

Number of objectives completed/number of objectives planned for completion**. (Weight = 20%)**

Assumptions:

The intent is to measure actual progress against that planned for the fiscal year and for the Laboratory to execute projects and cost project funds in a timely manner. An objective list for all active projects will be negotiated with DOE and made a matter of record in the first month of the fiscal year. Only meaningful objectives will be listed, but each active project will have at least one objective per year. By mutual agreement between the Laboratory and DOE, objectives may be weighted for project significance, for project size/cost, for late/early completion, for improved/diminished scope, etc. Negotiated objectives are not to be interpreted as baseline change approval. At LBNL, milestones for the SNS project are selected from the Baseline/work package approved by the Oak Ridge National Laboratory (ORNL) and/or the DOE SNS Project Office at Oak Ridge, consistent with the SNS Project inter-Laboratory and DOE inter-Office Memoranda of Agreement.

Gradients:

Unsatisfactory	less than 0.70
Marginal	0.70
Good	0.80
Excellent	0.90
Outstanding	1.00

Performance Narrative:

Initially, 22 milestones were selected to measure the performance against baselines for construction projects greater than $500,000. Milestones for the following two Line Item projects, four GPPs and four Operating Funded projects, respectively, were used:

Blackberry Switching Station replacement
B77 Rehabilitation
Building 64 Highbay Renovation
B6 Second Floor Lab & Office Space
Radio Communications System Upgrade
B2 Ventilation Improvements
Oakland Scientific Facility (formerly called Berkeley Computing Facility)
JGI; Buildout of Leased Production Sequencing Facility
Dual-Axis Radiographic Hydrodynamic Test (DARHT)
Spallation Neutron Source (SNS)

NOTE:

Three of the 22 milestones were revised:

Radio Communications System Upgrade: the milestone "Complete Title I" was changed to read "Prepare Performance Requirements for DOE Award of Base Support Trunked radio System Site Design and Analysis Contract. The milestone date of April 2000 remained the same. This revision was concurred with by DOE in LBNL's letter dated February 8, 2000.

DARHT: the milestone date for "Accelerator Pulsed Power; Ship 8 Cell Drivers to LANL" was revised from March 2000 to August 2000. This revision had DOE concurrence in LBNL's letter dated March 16, 2000.

DARHT: the milestone date for "Accelerator Hardware; Ship 8 Injector Cells to LANL" was revised from March 2000 to August 2000. This revision had DOE concurrence in LBNL's letter dated March 16, 2000.

Of these 22 milestones, the milestone for the DARHT project – "Injector; MARX MMUs and Dome Delivered to LANL" – was moved to October, 2000 due to the massive fire at Los Alamos during the year. The new milestone date moved this reporting requirement to FY 2001. This revision was documented in DOE's concurrence with LBNL's letter dated July 20, 2000.

Therefore, there were a total of 21 milestones for FY 2000.

Project milestones completed on schedule / Project milestones scheduled for completion
= 21/21 = 1.00

LBNL met all 21 milestones. Thus, LBNL's performance in this area has remained **outstanding** as it has been for the past three years. As in previous years, this **outstanding** performance can be attributed to LBNL staff's proactive approach to project management and their continued efforts to keep DOE OAK informed well in advance of anticipated or impending problems.

Performance Rating (Adjectival)**: Outstanding**	96.00%

Criterion: 3.2 Construction Project Cost

Line-Item projects (including any project $5000K and over regardless of type of funds) meet cost baselines. **(Weight = 13%)**

Performance Measure: 3.2.a Total Estimated Cost (TEC)

Estimated cost at completion for all active projects/performance measure baseline TEC for all active projects. **(Weight = 13%)**

Assumptions:

The intent is to measure Laboratory performance in executing projects within the approved TEC. The performance measure baseline is the original approved baseline adjusted for allowed cost or work scope changes. DOE determines whether changes are allowed. The method of calculating estimated cost at completion, including or excluding contingency, will be made a matter of record in the first month of the fiscal year. Contingency and cost reductions will be reflected in the estimated cost at completion. Disposition of pending Baseline Change Proposals, for the purposes of this measure, will be made by mutual agreement. By mutual agreement, projects may be weighted for significance. At LBNL, for the SNS Project, the performance period Budgeted Cost of Work Schedule (BCWS) is that which is approved by the ORNL and the DOE SNS Project Office.

Gradients:

Unsatisfactory	greater than 1.01
Marginal	1.01
Good	1.00
Excellent	0.99
Outstanding	0.98

Performance Narrative:

Four projects were rated for FY 2000. The baseline estimated cost, the actual/estimated cost at completion and the performance measure baseline TEC for all active projects were as follows:

Project	Baseline TEC	Actual/Est	Performance TEC
Electrical Systems Rehabilitation, Phase IV	$6,500,000	$6,500,000	$6,500,000
B77 Rehab Bldg Structure & Systems	8,000,000	8,000,000	8,000,000
Spallation Neutron Source Front End	18,400,000	18,400,000	18,400,000
DARHT	49,269,000	49,269,000	49,269,000
Totals:	**$82,169,000**	**$82,169,000**	**$82,169,000**

NOTE:

The TEC for the Spallation Neutron Source Front End project does not include contingency held at ORNL. The TEC for the DARHT project does not include contingency held at LANL or pending Baseline Adjustment Requests.

The Current Baseline Total estimated Cost (TEC) and the Actual/Estimated Cost for the DARHT project was revised from $45,312,000 to $49,269,000 per DOE concurrence with LBNL's letter dated March 31, 2000.

Estimated cost at completion for all active projects / Performance baseline TEC for all active projects = $82,169,000 / $82,169,000 = 1.00

Therefore, the rating for FY 2000 remained at **good** as it was in FY 1999.

Performance Rating (Adjectival): **Good**	75.00%

Performance Objective: #4 Maintenance

The Laboratory will maintain capital assets to ensure reliable operations in a safe and cost-effective manner. **(Weight = 33%)**

Criterion: 4.1 Facility Management

Facility operations and maintenance are effectively managed consistent with mission, risks, and costs. **(Weight = 13%)**

Performance Measure: 4.1.a Program Implementation

Sum of completion percentages for all milestones worked/milestones scheduled for completion. **(Weight = 13%)**

Assumptions:

Intent is to measure the effectiveness and timeliness of the Laboratory's facility maintenance program. A list of mutually agreed milestones will be made a matter of record in the first month of the fiscal year. For multiple-facility milestones, completion percentage will be an average of the completion percentages for each facility included in the milestone. If no milestones are selected for the fiscal year, the weight of Performance Measure 4.1.a will be added to Performance Measure 4.2.a.

Gradients:

Unsatisfactory less than 60%
Marginal 60%
Good 70%
Excellent 80%
Outstanding 90%

Performance Narrative:

LBNL Maintenance Program Plan for FY 2000 included nineteen maintenance milestones. LBNL's facility management team continued to focus on activities designed to improve the quality of procedures and better track and manage maintenance requirements. The maintenance program milestones were established and documented in LBNL's letter of 28 October 1999. The milestones

included the development of annual and five year inspection and maintenance plans, property inspection reports, maintenance program improvements, and Y2K embedded systems determination. Additionally, four milestones specifically addressed improvements to the Preventive Maintenance (PM) program. Three milestones, designed to monitor and control radio communications, were added on February 8, 2000. All milestones were completed as scheduled for a ratio of 1.00. Noteworthy milestones included those designed to improve the PM program such as "going live" with new Maximo modules to improve job planning and training which contributed to an overall increase of PM actions completed as scheduled. Also of note are the property outsource inspection and maintenance planning milestones which demonstrate LBNL's continued commitment to providing reliable and accurate condition information and maintenance work plans. Considering the aggressive FY 2000 milestone selection and their overall effectiveness, a rating of 95% is justified for this performance measure.

Performance Rating (Adjectival)**: Outstanding**	95.00%

Criterion: 4.2 Maintenance Program

The facility maintenance program is effectively managed and performed. **(Weight = 20%)**

Performance Measure: 4.2.a Maintenance Index

Performance index based on selected Maintenance Performance Indicators. **(Weight = 20%)**

Assumptions:

A composite index will be calculated using a weighted average for selected performance indicators. The list of performance indicators, and the calculation algorithm will be made a matter of record in the first month of the fiscal year. Performance gradient calculations will consider Best-in-Class for comparable Energy Facility Contractors Group (EFCOG) benchmarking participants and the EFCOG average for comparable activities/sites.

Gradients:

Unsatisfactory	less than 0.60
Marginal	0.60
Good	0.70
Excellent	0.80
Outstanding	0.90

Performance Narrative:

LBNL's Facility Maintenance Program composite index was .90 for FY 2000. This rates LBNL's overall maintenance performance **outstanding** comparable to the "Best-in-Class" among the Energy Facility Contractors Group (EFCOG) benchmarking participants for the selected performance indicators. Of particular noteworthiness is LBNL's plant stewardship benchmark performance. This benchmark measures mission critical backlog as a percent of real plant value which is an indicator of overall plant condition. LBNL's score matches EFCOG's best value, which is LBNL's FY 1999 performance value. LBNL has also utilized benchmark data to further improve their Preventive Maintenance Program resulting in over 10% improvement in PM execution. In addition, LBNL joined the EFCOG Benchmarking committee which has contributed to improved definitions and calculation algorithms to further enhance the validity of index values. LBNL's overall maintenance performance and proactive membership in the EFCOG committee warrants an overall rating of 95% for this performance measure.

Performance Rating (Adjectival)**: Outstanding** 95.00%

Performance Objective: #5 Utilities/Energy Conservation

The Laboratory will maintain a reliable utility system and conserve energy. **(Weight = 15%)**

Criterion: 5.1 Reliable Utility Service

Maintain reliable utility service. **(Weight = 8%)**

Performance Measure: 5.1.a Electric Service

Total number of customer hours of electric service less the number of customer hours of unplanned outages/total customer hours. **(Weight = 8%)**

Assumptions:

Unplanned outages that are caused by occurrences outside the boundary of the Laboratory's utility system may be excluded. A 12-month running average will be reported.

Gradients:

Unsatisfactory	less than 99.974%
Marginal	99.974%
Good	99.982%
Excellent	99.990%
Outstanding	99.995%

Performance Narrative:

Electrical utility service reliability reflected an increase in unplanned outages and achieved an average reliability of 99.984%. Assigned rating is **Good**. Last year LBNL had no unplanned outages and received a rating of Outstanding. This year LBNL had two outages and received a rating of Good. To Improve their rating for next year the laboratory must avoid unplanned outages through a combination of system maintenance, emergency response, and luck.

Performance Rating (Adjectival)**: Good** 78.00%

Criterion: 5.2 Energy Consumption

Effectively manage energy usage. **(Weight = 2%)**

Performance Measure: 5.2.a Building Energy

The reduction in energy usage from FY85 levels in BTUs per gross square feet of building expressed as a percent of FY85 energy usage. **(Weight = 2%)**

Assumptions:

Current year reduction goals interpolated from the DOE goal of a 30% reduction from FY85 levels by FY2005. Utility loads associated with experimental or industrial processes may be excluded from this measure by mutual agreement.

Gradients:

Unsatisfactory	less than 21.0%
Marginal	21.0%
Good	22.5%
Excellent	24.0%
Outstanding	25.5%

Performance Narrative:

LBNL's FY 2000 reduction in building energy consumption per gross square foot was 36.6%, compared to FY 1985. This far exceeds both LBNL's FY 2000 target of 22.5% and the federal government goal of a 30% reduction by FY 2005.

Performance Rating (Adjectival)**: Outstanding** 98.00%

Criterion: 5.3 Energy Management

Energy initiatives are managed consistent with a comprehensive energy management plan.
(Weight = 5%)

Performance Measure: 5.3.a Energy Goals

Energy goals accomplished/goals scheduled to be accomplished in accordance with the plan.
(Weight = 5%)

Assumptions:

The energy management plan will be made a matter of record in the first month of the fiscal year.

Gradients:

Unsatisfactory	less than 0.60
Marginal	less than 0.60
Good	0.70
Excellent	0.80
Outstanding	0.90

Performance Narrative:

All fourteen goals in LBNL's FY 2000 Energy Management Plan were accomplished. These goals included energy efficiency studies, retrofit projects, construction design reviews, improvements in maintenance and operations, progress toward procurement of energy efficient products (including 20 electric vehicles), building screening for qualification for EPA Energy Star Labels, and employee energy awareness.

Performance Rating (Adjectival)**: Outstanding** 98.00%

Performance Area: FINANCIAL MANAGEMENT

Performance Objective: #1 Customer Focus and Satisfaction

Financial Management's practices are customer oriented. **(Weight = 10%)**

Criterion: 1.1 Methods to Evaluate Customer Expectations

Maintain systematic methods/programs to collect information and determine internal and external customer needs and levels of satisfaction. **(Weight = 5%)**

Performance Measure: 1.1.a Effectiveness of Methods

Degree to which effective and systematic methods to collect, document, and use customer feedback information are defined and deployed. **(Weight = 5%)**

Assumptions:

Identify internal and external customer groups. Describe what and how information is collected, frequency and methods of collection, and how the finance and budget organizations evaluate and improve their processes for determining customer satisfaction, requirements, expectations, and preferences in support of missions.

Gradients:

An Unsatisfactory rating will be given when no systematic approach is evident.

A Marginal rating will be given when a systematic approach is in the beginning stages and major gaps exist in deployment that would inhibit progress in learning from customers.

A Good rating is achieved by developing and implementing the capability for systematically obtaining customer feedback.

Factors that will be considered for a higher rating include:
? How well coverage of customer groups is identified.
? Methods used are effective customer communication tools.
? Customer learning strategies have continuity and are consistently deployed.
? Customer feedback is used to improve products/services provided to customers.

? Frequent/ongoing collection of customer feedback information.
? Formal processes used to collect, document, and use customer feedback information.
? Methods used are tailored to customer groups identified.
? Meaningful customer feedback obtained.

An Excellent rating is achieved by demonstrating that a fact-based customer improvement process is used with clear evidence that processes for gathering customer information have been improved over time.

An Outstanding rating is achieved by demonstrating that a very-strong, fact-based process is used with strong refinement and integration that is backed by outstanding analysis. In addition, the approach is deployed without any significant shortfalls.

Performance Narrative:

LBNL exceeds the expectations for this measure. They continue to successfully identify their customer groups and improve their comprehensive and systematic approach for understanding their needs and requirements. LBNL successfully accomplished this through customer outreach, maintaining an open agenda item log, and increased customer training and workshops. With this approach, LBNL is able to maintain the strategy that segments customers and identifies specific needs and expectations, also allowing the flexibility to adjust to customer requests. The CFO emphasized quality customer service in their internal values, making it a foundation of its work ethic. This was included as requirements in its job description, subsequently evaluated and measured for performance reviews

Performance Rating (Adjectival)**: Outstanding**	93.00%

Criterion: 1.2 Customer Satisfaction

Improved levels of customer satisfaction. **(Weight = 5%)**

Performance Measure: 1.2.a Customer Satisfaction Results

Improved levels of customer satisfaction over time. **(Weight = 5%)**

Assumptions:

Describe most current levels and trends in key measures and/or indicators of customer satisfaction and dissatisfaction.

Gradients:

An Unsatisfactory rating will be given when no results or negative internal and external customer satisfaction trends are reported

A Marginal rating will be given when results show early stages of trend development with only some improvements and/or good performance levels in a few areas. Results are not reported for many to most areas of importance to customers.

A Good rating is achieved by demonstrating that internal and external customers are satisfied with the products and services provided.

Factors that will be considered for a higher rating include:

? Demonstrated improved or sustained high levels customer satisfaction.
? Customer satisfaction is maintained across most customer groups.
? No general dissatisfaction exists with primary products/services provided.

An Excellent rating is achieved by demonstrating that current performance is excellent in most areas of importance to the customers' key business requirements. Most improvement trends and/or performance levels are sustained at a very good relative performance level.

An Outstanding rating is achieved by demonstrating that current performance is outstanding in most areas of importance to the customers' key business requirements with outstanding improvement trends and/or sustained outstanding performance levels.

Performance Narrative:

LBNL exceeds the expectations for this measure. Feedback from the internal customers indicated they are very satisfied with the level of service provided. The CFO's Budget Office conducted a survey of internal and external customers, with a resulting rating of 3.6 (of a possible 5.0). The Budget office then developed and implemented plans to provide more efficient customer service. With DOE OAK interactions with CFO customers during meetings and other operational awareness activities, it is apparent that the customers have become much more satisfied with the Controller's services.

Rating is based on OAK CFO staff regular interaction with Laboratory CFO staff who were consistently responsive to OAK information requests. In addition to the normal recurring financial information updates and reports, during FY 2000 there were revisions to the procedures for processing and recording deposits, and reporting of accounts receivable. There were also new Department requirements or changes in financial data codes. Response from Laboratory CFO staff was excellent. Because of staffing changes and constraints the Laboratory was slow to complete the requirement to insert Other Party Identification codes in certain receivable and liability accounts, but was able to complete the project before the final deadline. New deposit procedures and Quarterly Accounts Receivable reporting improved during the year as both Laboratory and OAK staff became familiar with the revised process.

Of particular note were the following timely and accurate reports:

- The Laboratory's consistently timely--often early--monthly data submission to DOE's Management Analysis and Reporting System.
- Analyses and reports prepared and the end of FY 1999 and 2000 to date
- Annual Costs Incurred and Claimed Report for FY 1999
- Annual Financial Management Systems Plan
- Quarterly Accounts Receivable and banking reports
- Work for Others Bridge Funding analyses

Performance Rating (Adjectival): **Outstanding**	92.00%

Performance Objective: #2 Decision Support and Operational Effectiveness

Provide business information, expertise, analysis, and tools to enable effective managerial decision making and achieve cost effective and efficient financial management operations. **(Weight = 40%)**

Criterion: 2.1 Proactive Decision Support Activities

Provide decision support products, services, processes, and systems that promote effective managerial decisions. **(Weight = 25%)**

Performance Measures: 2.1.a Quality Products and Services

Budgets and financial reports, and information, analyses, estimates, and proposals submitted will be evaluated for timeliness, accuracy, completeness, usefulness, clarity, and added value to decision making**.** **(Weight = 8%)**

Assumptions:

Routine Reports: The annual budget deliverables and internal and external standard periodic reports and analyses will be measured for timeliness, accuracy, completeness, usefulness, clarity, and added value to decision making. The Laboratory and DOE will identify key internal and external periodic reports and analyses that will be measured, and document as a Protocol, by December 1, 1999. During the year, additional reports may be jointly agreed to as necessary. A narrative will be provided to describe the products and services selected, continuous improvements, internal processes used for validation, and proactive activities related to this Performance Measure.

Gradients:

An Unsatisfactory rating will be given when no results or poor results with respect to both timeliness and quality of products and services are reported.

A Marginal rating will be given when results trend toward less timely performance rates, results are inconsistent, and/or results demonstrate a lack of effective decision support to management.

A Good rating is achieved by meeting customer needs and due dates for the products and services provided.

Factors that will be considered for a higher rating include:

? Proactive activities such as training and development of Financial Management's staff and customers, and coordination with other divisions/ organizations to address financial concerns.
? Good customer feedback, level of recognition, and other relevant information.
? Early submission of accurate and complete reports as identified.
? High quality information provided to management to make effective decisions.
? Demonstrated degree of influence on outcomes.
? Scope and degree of impact.

An Excellent rating is achieved by demonstrating improvement trends and/or performance levels that are sustained at high levels in some areas.

An Outstanding rating is achieved by demonstrating improvement trends and/or sustained outstanding performance levels in most areas. Quality is high in most areas of importance to the customers' key business requirements.

Assumptions:

Ad Hoc Requests: The measurement will include internal and external ad hoc requests regarding budgets, financial information, analyses, estimates, and proposals submitted and proactive analyses and reports for executive and operational use. Products and services provided will be measured for timeliness, accuracy, completeness, usefulness, clarity, and added value to decision making.

Gradients:

An Unsatisfactory rating will be given when no results or poor results with respect to both timeliness and quality of products and services are reported.

A Marginal rating will be given when results trend toward less timely performance rates, results are inconsistent, and/or results demonstrate a lack of effective decision support to management.

A Good rating is achieved by meeting customer needs with a 90% on-time performance for ad hoc requests.

Factors that will be considered for a higher rating include:

? On-time performance greater than 90% for ad hoc requests.
? Good customer feedback, level of recognition, and other relevant information.
? Handling a higher volume or more complex requests.
? Proactive activities such as training and development of Financial Management's staff and customers, and coordination with other divisions/ organizations to address financial concerns.
? High quality, useful information provided to management to make effective decisions.
? Demonstrated degree of influence on outcomes.
? Scope and degree of impact.
? Proactiveness of providing analysis and reports for executive and operational use and DOE initiatives.

An Excellent rating is achieved by demonstrating that current performance is on time or early more than 90% of the time, and quality and usefulness is high in some areas of importance to the customers' key business requirements. Improvement trends and/or high performance levels are sustained in some areas.

An Outstanding rating is achieved by demonstrating that current performance is on time or early more than 95% of the time, and quality and usefulness is high in most areas of importance to the customers' key business requirements. Improvement trends and/or high performance levels are sustained in most areas. Demonstrated significant impact on management decisions and effective analysis.

Performance Narrative:

LBNL exceeds the expectations for this measure. LBNL submitted their FY 2002 Budget Submission on time and consistently responded to DOE OAK periodic and ad hoc requests timely, with 100% on-time ratio and almost 65% of them early. The upgrade of the LBNL Financial Management System (FMS) has resulted in more consistent and accurate information for both internal customers and DOE OAK transmissions. The improvements have provided Web interface capability, with enhanced reporting tools, improved functions and enhanced capacity issues. The FMS continues to realize improvements in reducing cycle time, enhancing report quality and timeliness and providing additional financial controls within the Laboratory.

A significant number of proactive training and workshops were provided by the CFO. With the implementation of all their new financial systems, training was essential to enable LBNL management and staff to utilize the advanced systems made available to improve performance.

The new financial system implemented at the Laboratory resulted in higher quality reports that inform Senior Management the information to make prudent and sound financial decision.

Performance Rating (Adjectival)**: Outstanding**	94.00%

Performance Measure: 2.1.b Leadership in Financial Information Systems and Decision Support Tools

Proactive leadership in improving financial information systems and decision support tools, in support of DOE and Laboratory initiatives. **(Weight = 12%)**

Assumptions:

A narrative will be provided to describe the Laboratory's progress in support of this criterion, to include the Financial Management Systems (FMS) plan and new or improved planning and/or decision support tools.

Gradients:

An Unsatisfactory rating will be given when no results or poor results are provided.

A Marginal rating will be given when only minor performance improvements are shown, results are inconsistent, and/or results demonstrate a lack of effective decision support to management and/or do not comply with DOE requirements.

Factors that will be considered for Good rating include:

? Timeliness of the FMS plan with acceptable quality as determined by customer feedback.
? Efforts are directed at initiatives which are most value added.
? Involvement in DOE's initiatives.
? Progress towards short-term initiatives.
? Demonstrated initiatives that improve decision support capabilities.

Factors considered for a higher rating include:

? Progress towards long-term initiatives.
? Proactiveness in seeking opportunities for supporting DOE initiatives.
? Improved capacities, capabilities, and/or cost efficiencies for other financial processes not addressed in measure 2.2.
? Positive customer feedback.
? Demonstrated advances in quality, accuracy, reliability, and usefulness of financial systems and decision support tools.
? Demonstrated degree of influence on outcomes.
? Scope and degree of impact.

An Excellent rating is achieved by demonstrating progress towards improving financial systems and/or decision support tools and long-term initiatives in most areas of importance to the customers' key business requirements, and proactiveness in supporting DOE initiatives.

An Outstanding rating is achieved by demonstrating improved capacities, capabilities, and/or cost efficiencies of financial information systems and/or decision support tools that are areas of importance to the customers' key business requirements. The financial systems and/or decision support tool improvements are linked to outcomes, results, and/or the degree of influence or impact on decision making.

Performance Narrative:

The Laboratory submitted a timely and comprehensive Financial Management Information Systems Plan as required by the DOE/UC contract and this measure. The plan and the Laboratory's recent Self-Assessment describes major projects and enhancements indicating judicious use of current technology to meet the Laboratory's and DOE's information needs . A new budget system, Janus, provides a number of new capabilities to facilitate budgeting at the Laboratory and to support the DOE Budget process.

The Laboratory sited several reports or analyses specifically addressing new DOE information needs in its Self-Assessment Report and OAK recognizes the multiple requirements placed on Laboratory systems to provide internal Laboratory Managers information to support decisions, Manage the available resources, and meet DOE's reporting requirements. Laboratory systems successfully meet these needs. However, the different coding structure of the Laboratory General Ledger and DOE's account structure makes it imperative that conversion tables are diligently maintained. During FY 2000 there were indications, for example, inactive work order numbers, inappropriate balances for accounts receivable and lag in inserting OPI codes, that tables are not being maintained current. OAK concludes the Laboratory only partly meets the gradient for excellent in the measure.

Performance Rating (Adjectival): **Excellent**	85.00%

Performance Measure: 2.1.c Quality Processes

Evaluation of decision support processes for effectiveness in achieving outcomes and results. Showcase areas of excellence. **(Weight = 5%)**

Assumptions:

Narrative will describe how the processes add value, are timely, usable, and accessible. Areas to be showcased include financial management planning and execution processes in support of:

? Lab-wide federal budget development.
? Institutional budget development and forecasting (direct and indirect).
? Workforce planning.
? Ad hoc analyses.

Gradients:

An Unsatisfactory rating will be given if no results or poor results are reported.

A Marginal rating will be given when results demonstrate inconsistency, and/or results demonstrate a lack of effective decision support to management, and/or do not comply with DOE requirements.

Factors to achieve a Good rating include:

? Evidence that established processes are available to impact decisions,
? Efforts are directed at initiatives with most value added, and
? Processes ensure timeliness.

Factors considered for a higher rating include:

? Proactiveness in seeking opportunities for supporting DOE and Laboratory initiatives on decision making.
? Demonstration of progress towards long term initiatives.
? Demonstration of process improvements.
? Positive customer feedback, level of recognition, and other relevant information.
? Demonstration of progress towards effectiveness and efficiency.
? Demonstration of degree of influence on outcomes.
? Scope and degree of impact.

An Excellent rating is achieved by demonstrating progress towards decision support process improvements and long-term initiatives that are areas of importance to the customers' key business requirements, and proactiveness in supporting DOE initiatives.

An Outstanding rating is achieved by demonstrating improved capacities, capabilities, and/or cost efficiencies of decision support processes that are areas of importance to customers' key business

requirements. The decision process improvements are linked to outcomes, results, and/or the degree of influence or impact on decision making. Sound systematic approaches to supporting management's decision making activities are demonstrated with strong fact based analysis. Improvement processes and strong learning and sharing tools are extensively deployed.

Performance Narrative:

Laboratory program managers and OAK CFO staff have increased confidence and expanded their reliance on Laboratory financial systems. The Laboratory continues to improve or upgrade existing systems and applications for budgeting, project costing and tracking, travel, and work management. These changes are reflected in the PMTS and Janus Budget Systems. New services or products provide useful decision support information to key internal and external customers. The feedback form customers has been positive.

Performance Rating (Adjectival)**: Outstanding**	92.00%

Criterion: 2.2 Transaction Processing Improvements

Reduce cycle times and/or costs. **(Weight = 15%)**

Performance Measure: 2.2.a Demonstration of Improvement

Evaluation of improvement trends for processes selected for improvement towards best practices as compared with benchmarking information. Showcase areas of excellence. **(Weight = 15%)**

Assumptions:

The Laboratory's finance and budget organizations will conduct benchmarking studies every two years. The Laboratory will analyze the benchmarking results and select processes to be measured and improved prior to the next benchmarking study. The Laboratory will present its study findings and areas selected for improvement to DOE and UC for concurrence. Additional improvement processes may be selected in conjunction with the DOE and UC. The Laboratory will also use the benchmarking information to select and demonstrate areas of excellence to feature in its self-assessment. Where necessary and appropriate, benchmarking measures will be augmented with qualitative information and other performance indicators for the selected processes. The selected processes will be measured and featured in the annual self-assessments using a gauge-reporting model during the two years between benchmarking studies.

Gradients:

2.2.a.1 Accounts Payable
(Weight = 6%)

2.2.a.1.a Percentage of Discount Dollars Taken
(Weight = 2%)

Unsatisfactory	62.59% or less
Marginal	62.60% - 71.69%
Good	71.70% - 80.79%
Excellent	80.80% - 89.89%
Outstanding	89.90% or more

2.2.a.1.b Percentage of Vendor Payments Made According to Order Terms
(Weight = 2%)

Unsatisfactory	59.99% or less

Marginal	60.00% - 69.99%
Good	70.00% - 79.99%
Excellent	80.00% - 89.99%
Outstanding	90.00% or more

2.2.a.1.c Cost Per Transaction (number of invoice lines)
(Weight = 2%)

Unsatisfactory	$8.57 or more
Marginal	$8.56 - $7.67
Good	$7.66 - $6.77
Excellent	$6.76 - $5.87
Outstanding	$5.86 or less

2.2.a.2 Payroll
(Weight = 4%)

2.2.a.2.a Cost Per Payroll Check or Notice Issued
(Weight = 2%)

Unsatisfactory	$7.10 or more
Marginal	$7.09 - $6.50
Good	$6.49 - $5.90
Excellent	$5.89 - $5.30
Outstanding	$5.29 or less

2.2.a.2.b Percentage of Employees Utilizing Electronic Deposit
(Weight = 2%)

Unsatisfactory	71.8% or less
Marginal	71.9% - 76.8%
Good	76.9% - 81.8%
Excellent	81.9% - 86.8%
Outstanding	86.9% or more

2.2.a.3 Travel
(Weight = 3%)

2.2.a.3.a Percentage of Travel Claims Processed Within Seven Days
(Weight = 1%)

Unsatisfactory	85.69% or less
Marginal	85.70% - 88.79%
Good	88.80% - 91.89%
Excellent	91.90% - 94.99%
Outstanding	95.00% or more

2.2.a.3.b Number of Days to Process Travel Claims
(Weight = 1%)

Unsatisfactory	8.01 or more
Marginal	8.00 – 6.51
Good	6.50 – 5.01
Excellent	5.00 – 3.51
Outstanding	3.50 or less

2.2.a.3.c Unit Cost per Travel Claim Processed
(Weight = 1%)

Unsatisfactory	$37.68 or more
Marginal	$37.67 - $34.58
Good	$34.57 - $31.48
Excellent	$31.47 - $28.38
Outstanding	$28.37 or less

2.2.a.4 General Accounting
(Weight = 2%)

2.2.a.4.b Number of Days to Close Ledger
(Weight = 2%)

Unsatisfactory	7.04 or more
Marginal	7.03 – 5.54
Good	5.53 – 4.04
Excellent	4.03 – 2.54
Outstanding	2.53 or less

Performance Narrative:

Performance of transaction processing improvements is measured according to the ranges (gradients) mutually agreed upon by the Laboratory, DOE and U. C. in advance. The Laboratory achieved outstanding results in these measures for FY 2000. Included are three measures of cost effectiveness where the Laboratory received 100%. This is at least partly due to the fact that Laboratory CFO staff

has decreased over the last several years. While this fact results in outstanding rating in this area, it appears that there's negative impact in other areas. This would seem logical, as decreased staff may not be able to devote adequate and timely effort to all tasks.

Computation of Transaction Processing				
Gauged Measures Scores				
		Score per Gauge	Weight	Calculation
A/P	Discounts taken	88.90	2	177.80
	Per order terms	97.40	2	194.80
	Cost per Transaction	100.00	2	200.00
P/R	Cost per ck.	100.00	2	200.00
	Dir. Dep.	95.00	2	190.00
Travel	Within 7 days	100.00	1	100.00
	Ave. days to process	100.00	1	100.00
	Cost per claim	100.00	1	100.00
Ledger	Days to close ledger	93.00	2	186.00
			15	1,448.60
Overall Section Score				96.57

Performance Rating (Adjectival)**: Outstanding**	96.60%

Performance Objective: #3 Financial Stewardship and Integrity

Financial Management's practices provide for financial stewardship, including compliance and data integrity. **(Weight = 40%)**

Criterion: 3.1 Costs and Commitments are Managed Properly

Ensure that all costs and commitments are within DOE-authorized funding levels and that costs and commitments expected to be in excess of such levels are properly reported and recorded. **(Weight = 10%)**

Performance Measures: 3.1.a Costs and Commitments are Controlled to Appropriate Funding Levels

Effectiveness of the Laboratory to control costs to B&R Level 9 and control costs plus commitments within authorized major funding levels (Obligation Control Level). **(Weight = 5%)**

Assumptions:

"Within funding levels" is defined as within identified funding in the contract modifications.

"Commitments" are defined as uncosted balances under contracts awarded by the Laboratory that are set aside or encumbered, including purchase orders issued; contracts and subcontracts awarded, including the full liability under lease purchases and capital leases; termination cost for incrementally funded firm fixed price contracts, operating lease agreements, and multi-year service contracts that contain termination clauses; and other agreements for the acquisition of goods and services not yet received and uncosted balances related to other integrated M&O contractor liabilities.

Meeting the objective of this performance measure is applicable only at year-end for Construction, Operating, and Capital Equipment funds. Line item capital equipment and construction is applicable monthly. A narrative will be written to describe the Laboratory's performance relative to this measure. The narrative will identify the number of Obligation Control Level (OCL), B&R Level 9, line item capital equipment, and construction funding categories being measured.

Gradients:

An Unsatisfactory rating will be given when significant funds control problems are reported (i.e., an anti-deficiency violation occurred; or an OCL was exceeded).

A Marginal rating will be given when funds control results show two or more administrative control violations per program.
A Good rating is achieved by staying within funding levels as defined above.

Factors that will be considered for a higher rating include:

? Other proactive activities that improve the effectiveness of the Laboratory to manage and control funds.
? Controlling costs within funding levels identified in the contract modification for each accounting period.

An Excellent rating is achieved by demonstrating a sound, systematic method for managing and controlling expenditures and commitments against funding levels with clear evidence of refinement and improved integration.

An Outstanding rating is achieved by demonstrating a sound, systematic method for managing and controlling expenditures and commitments against funding levels with a very-strong, fact-based improvement process and strong refinement and integration.

Performance Narrative:

LBNL meets the objectives of this measure. However, one of the Reimbursable B&R's reflected administrative control violations with costs exceeding available funding and one Construction B&R was costed in an incorrect fund type.

The control and reporting levels for the contract were identified in a letter dated December 15, 1999 from DOE OAK Budget Director. It specifically states the control levels for Reimbursable Work (40,60,65) is at "each individual line item identified on your AFP Detail Pages". On March 2, 2000, OAK received a letter from the LBNL Controller identifying several problems in the Reimbursable area. The first was a need for more staff attention to WFO. That was supposed to have been resolved in December 1999 with the hiring of an analyst specifically to monitor Reimbursable work. The second matter involved the timing of when to obligate funds. After discussions with CFO Management, OAK suggested several options LBNL could employ to accelerate budgetary resource receipt and coverage.

At year-end, LBNL was overcosted at the obligational control level in the following B&R's:

400407000 $ 764.11
39DP0100 $ 167.70 (fund type WA)

LB used "bridge funding" to cover overages in the WFO area, but only at the B&R level. Since the reporting level for WFO is at the proposal level, that is how the bridge funding should have been distributed.

LBNL has been proactive in other process improvements, including the negotiation and implementation of electronic submission of the contract modification as an Excel spreadsheet. This enabled the Budget Office to increase funds control, accuracy and consistency. It also made the process more efficient and timely.

Performance Rating (Adjectival)**: Good**	75.00%

Performance Measure: 3.1.b Control of Funds

Evaluation of proactive activities designed for control of funds. **(Weight = 5%)**

Assumptions:

Narrative describing initiatives

Gradients:

An Unsatisfactory rating will be given when no systematic approach is evident.

A Marginal rating will be given when a systematic approach is in the beginning stages and major gaps exist in deployment that would inhibit improvement of funds control processes.

A Good rating is achieved by implementing an effective, systematic process for mitigating administrative control of funds violations.

Factors that will be considered for a higher rating include:

? Process improvements.
? Control improvements and enhancements.
? Timely notification to DOE of significant changes in projected year-end uncosted balances.

An Excellent rating is achieved by demonstrating a sound, systematic method for managing and controlling expenditures against funding levels and administrative control levels with clear evidence of refinement and improved integration.

An Outstanding rating is achieved by demonstrating a sound, systematic method for managing and controlling expenditures against funding levels and administrative control levels with a very-strong, fact-based improvement process and strong refinement and integration.

Performance Narrative:

LBNL meets the objectives of this performance measure by demonstrating they have a process in place to avoid funds control violations. However, the system has shown some serious flaws by not preventing the problem overcosting discussed in measure 3.1.a. DOE OAK expects an effective, systematic system and process in place that warns of potential fund control violations, and establishes preventative measures.

Unfortunately, for the second year in a row, a B&R was overcosted at year-end. This could be attributed to the continual turnover of personnel in the Budget office and new personnel responsible

for the Reimbursable Program. A sound, systematic method for controlling expenditures against funding levels and administrative control levels would have prevented these occurrences.

Even though LBNL has a system in place, it still requires some refinement and improvements. Discrepancies in the system do not allow for the proper controlling of expenditures against funding level.

Performance Rating (Adjectival)**: Good**	70.00%

Criterion: 3.2 Financial Management Practices

Ensure that financial management and reporting practices fully disclose the results of operations and contain accurate, useful, timely information for program and fiscal management needs.

(Weight = 15%)

Performance Measure: 3.2.a Financial Policies, Practices, Data, and Reports

Evaluation of the level to which the Laboratory's financial policies, practices, data, and reports comply with applicable DOE requirements. **(Weight = 15%)**

Assumptions:

Provide a narrative description of the effectiveness of the financial management and reporting practices performed to better manage DOE's requirements. Primary emphasis will be on the following accounts, activities, processes, initiatives, or reports identified by the Laboratory and DOE as high risk areas:

- Annual Financial Statements and Footnote Analysis.
- Annual Statement of Cost Incurred and Claimed Certification.
- Implementation of new and the continued application of existing Federal Financial Accounting Standards.
- Internal and External Account Reconciliations.
- Indirect Rate Management.
- Cost Accounting Standards (CAS) Practices and Disclosure Statement.
- Updated Contractor Financial Policies and Procedures.
- WFO Cost Overrun Management.
- Management of Delinquent Receivables.

Gradients:

An Unsatisfactory rating will be given when no systematic approach is evident and/or significant noncompliance with DOE requirements is reported (i.e. augmentation, anti-deficiency, loss of Government assets/funds, violations or appropriation law, DOE financial statement qualifications, and fraud, waste, and abuse).

A Marginal rating will be given when a systematic approach is in the beginning stages and major gaps exist in deployment that would increase the Laboratory's risks relative to augmentation, anti-deficiency, loss of Government assets/funds, violations of appropriation law, DOE financial statement qualifications, and fraud, waste, and abuse.

A Good rating is achieved by demonstrating that a sound systematic method is deployed for managing financial management and reporting practices for all financial processes with emphasis on the high-risk areas to ensure that financial practices data, and reports are consistent with DOE requirements.

Factors that will be considered for a higher rating include:

? Positive results from internal/external audits.
? Proactiveness in monitoring the effectiveness of the Laboratory's current financial policies, procedures, and practices to ensure compliance with DOE requirements.
? Significant improvement in the financial practices of high risk accounts or processes.
? Improvement in the financial practices of other low risk accounts while maintaining effective practices for high risk accounts.
? Proactive interaction with the DOE with respect to financial management matters.

An Excellent rating is achieved by demonstrating that a sound, systematic method is fully deployed for managing all financial management and reporting practices in accordance with DOE requirements, with significant improvement or a sustained high level of performance in the practices of high risk areas, and proactive interaction with DOE with respect to financial matters.

An Outstanding rating is achieved by demonstrating that effective management practices exist over financial management and reporting practices. These practices ensure compliance with DOE requirements, proactiveness in self-monitoring, significant improvements in low risk areas while maintaining effective practices for high-risk areas. Documentation is maintained as a general practice to substantiate the effectiveness of the practices employed and to support the positive results from internal and external audits.

Performance Narrative:

This measure broadly measures the extent of the Laboratory's compliance with various DOE requirements. Among other topics, it specifically addresses: annual financial statements and footnote requirements, the annual Statement of Costs Incurred and Claimed, management of delinquent receivables, account reconciliation, and work for others cost management.

The Laboratory excelled in the preparation of FY 1999 annual financial statements. Required analyses and additional footnote disclosures were timely, complete and correct. Laboratory staff was very helpful in providing additional information made necessary when all OAK organizations were consolidated. Similarly, the FY 1999 Statement of Costs Incurred and Claimed was submitted early providing adequate time to review, revise and transmit to the Office of Inspector General.

The Laboratory's quarterly Accounts Receivable Reports and Self-Assessment Report showed excellent management of delinquent receivables, both Federal and non-Federal. The highest amount of total delinquent receivables over 180 past due, which was less than $70,000, occurred at the end of June. Other months were substantially lower.

In addition to the excellent performance on managing accounts receivable, monthly reports tracking the number and amount of work for others projects which must be funded by U.C. due to inadequate advance funding show that Berkeley Laboratory is monitoring these projects closely and avoiding putting DOE resources at risk.

There is still an indication, however, that detailed Laboratory subsidiary records and DOE Management Analysis and Reporting System (MAARS) data are not completely in agreement. In FY 1999, the Laboratory implemented a new DOE requirement to attach work order numbers to work for others. Detail Laboratory data transmitted to DOE's MARS system does not appear correct. A comparison of funding balances for Non-federal work orders at the end of FY 1999 with FY 2000 ending balances showed no activity in 25% to 30% of orders. This indicates a problem with the order number codes or failure to close and de-obligate funds for closed orders.

Cost Accounting Standards (CAS) Practices and Disclosure Statement

During FY 2000, LBNL revised Part IV, Indirect Cost, of its CAS Disclosure Statement. The revisions made reflected accounting practice changes approved by DOE OAK or other necessary disclosures not involving accounting practice changes.

During the year, periodic liaison meetings were conducted between Financial Services/Cost Compliance and Analysis staff and OAK Business Evaluation and Performance Division.

LBNL is continuing to explore ways to streamline and reduce the complexity of its cost distribution practices. Potential changes are discussed during liaison meetings. Further analysis and consideration of impacts is being calculated and assessed by LBNL. Also, based on concerns expressed regarding implementation of accounting practice changes, according to contract requirements, CAS change proposals should be submitted 60 days before the effective date

As in past year's, LBNL continues to take measures to make available electronically and train employees in CAS practices. LBNL Financial Services self-assessment indicates CAS compliance was discussed with division personnel and reviewed in staff meetings. The self-assessment, however, doesn't indicate the extent of testing and documentation reviewed to assure actual financial practices are consistent with disclosed practices. DOE OAK's overhead review completed in FY 2000, concluded LBNL has a CAS Disclosure Statement which is considered adequate and overall results in a fundamentally sound basis for the distribution of costs at the laboratory, except for a noncompliance with its disclosed practice for the determination and disposition of material indirect cost/rate variances.

Indirect Rate Management

During FY 2000 LBNL successfully implemented a provision of the FY 2000 Energy and Water Development Appropriations Act which stipulated none of the Environmental Management program funds are available for Laboratory Directed Research and Development (LDRD). As a result, through collaboration with DOE OAK, LBNL established a general and administrative (G&A) rate for EM programs which excluded LDRD.

During our review of LBNL's FY 2000 Provisional Indirect Cost Rates, DOE OAK noted the inclusion of $3,000,000 in forecasted G&A expenditures for what appeared to be capitalizable leasehold improvements. Subsequent to numerous meetings and discussions, it was determined that only about one third of these costs were appropriate indirect costs.

Also, during FY 2000 at the request of the DOE Chief Financial Officer, we completed a review of LBNL's Overhead Expenditures for Fiscal Year 1999. LBNL's Financial Services staff were very cooperative and supportive of this major effort during our on site review and during the DOE HQ Team review at OAK. Our review concluded that the overhead categories of costs were reasonable,

appropriate and in accordance with Congressional mandates and Departmental fiscal policy except for the unresolved items of costs relative to the appropriate use of overhead funds for selected non-capital alterations and institutional initiatives. The methodologies used by LBNL to allocate indirect costs as described in its CAS Disclosure Statement are appropriate and in accordance with CAS except for LBNL's noncompliance with its disclosed practice for the determination and disposition of material variances. Our report recommended LBNL develop and implement a policy which defines a material versus a non-material cost/rate variance by indirect expense pool and implement actual practices compliant with LBNL's disclosed practice to allocate material variances back to the projects in proportion to the initial charges received.

Performance Rating (Adjectival)**: Excellent**	80.00%

Criterion: 3.3 Effective Internal Controls and Compliance

Provide for effective internal controls and ensure timely and effective resolution of identified weaknesses. **(Weight = 15%)**

Performance Measure: 3.3.a Internal Controls and Compliance Process Management

Degree to which an effective system for identifying, reviewing, and correcting (if identified) financial management internal control and compliance processes is maintained. **(Weight = 15%)**

Assumptions:

Describe and self-assess the internal controls and financial management techniques employed to minimize and mitigate risks for the major financial management processes. The Laboratory will perform the self-assessment according to Oakland Operations Office, Assessment Management Plans (AMPS). To avoid duplication, the finance organization will either self-assess or rely on recent internal or external audits, reviews, or assessments of relevant activities.

Gradients:

An Unsatisfactory rating will be given when no systematic approach is evident and significant internal control weaknesses are reported.
A Marginal rating will be given when a systematic approach is in the beginning stages and major gaps exist in deployment that would increase the Laboratory's risks relative to internal controls weaknesses with respect to compliance with DOE requirements and Federal regulations.

A Good rating is achieved by describing the existing systems and processes that are utilized for identifying, prioritizing, and validating the effectiveness of the internal controls and ensuring compliance in accordance with DOE requirements. Internal control weaknesses and corrective actions taken are identified.

Factors that will be considered for a higher rating include:

- Demonstrated process improvements.
- Aggressiveness in resolving identified findings and weaknesses.
- Effective process for identifying and validating key internal controls and ensuring compliance with DOE requirements.
- Proactive leadership in self-disclosing and correcting internal control weaknesses and internal audit findings.

An Excellent rating is achieved by demonstrating a well documented process for identifying and validating the effectiveness of key internal controls and process for ensuring compliance and the proactiveness in resolving identified findings and weaknesses.

An Outstanding rating is achieved by demonstrating that an effective process is maintained to prevent and detect major risks and/or process improvements are linked to positive results, and the aggressiveness of resolving control weaknesses and findings.

Performance Narrative:

LBNL Internal Audit Services (IAS) completed and issued the following audit reports during FY 2000. DOE OAK's comments on the reports are as follows:

1. Electronic Funds Transfer. IAS conducted an audit to determine the adequacy and effectiveness of internal controls over electronic payments. About $13 million in electronic payments were made from October 1998 through July 1999, which represented 18% of total payable payments. The audit concluded that essential elements are in place to effectively maintain financial controls over the system. Testing of transactions showed payments were valid, accurate, and made in a timely manner. Payments were transmitted through a secure channel, properly reported by Bank of America and completed transactions were recorded in a timely manner in Accounting System General and Subsidiary Ledgers. The report recommended LBNL General Accounting adopt a planned and systematic approach to the inclusion of EFT procurement into an integrated Enterprise Accounting system in order for the full benefits of electronic payment systems to be realized. IAS also recommended:

    - Increased usage of current EFT system
    - Evaluation of current EFT controls for inclusion in specifications for a new system
    - Increase efficiency of systems and timely recording of reconciling items

2. Year-End Reporting-Fiscal Year 1998. IAS reviewed selected balance sheet accounts in the financial statements and reports of LBNL for fiscal year ended September 30, 1998 and bank reconciliation reports for May 1999 to determine accuracy, timeliness, operational efficiency, and proper recording and classification of revenues, expenses, assets and liabilities accounts. The audit concluded that balances for accounts receivable, prepaid expenses and inventory accounts appeared to be properly stated in the financial statements. However, IAS became aware of a discrepancy in the accounts payable reconciliation; a lack of reconciliation for certain property and payroll accounts; and untimely resolution of reconciling items. To correct the conditions, Financial Services needed to complete the reconciliations and to prevent reoccurrence, FSD needs to establish control procedures to provide indicators that systems are providing complete and accurate information to those systems which support the general ledger balances.

3. Accounts Payable. IAS conducted an audit to assess adequacy of established internal controls and procedures that ensure payments are authorized, timely, and accurate. IAS found satisfactory internal controls and procedures over Accounts Payable (AP) activities. AP management has implemented effective procedures to focus departmental efforts on critical operational activities and made progress towards reconciling the AP Liability General Ledger control accounts to the Accounts Payable System (APS) subledger. In January 2000 an entry resulted in a seven (7)

percent net reduction of the AP liability to $34.2 million and a corresponding reduction/credit to overhead expense. The audit report, however, indicates in May 2000 AP reversed the initial credit to overhead expense to isolate the $2.5 million credit in a vendor liability balance sheet account.

4. Personal Property. IAS conducted an audit to assess adequacy of established internal controls and procedures within the property management system. IAS concluded satisfactory controls and procedures are in place for property management activities. However, audit comments were made to enhance controls, reduce exposure, and improve procedures. Specific recommendations involved:

   - Ensuring input data are validated and edited
   - Assessing property assigned to terminated employees
   - Revising procedures for borrowing equipment and materials from other organizations
   - Conducting periodic training for Property Custodians to ensure timely updates are made to the Asset Management System.

   The Property Management Group has been reporting to the Facilities Department since its transfer from Financial Services in February 1999.

5. Cost Allowability-Fiscal Year 1999. IAS conducted this audit to review LBNL's compliance with the allowable cost provisions of Contract 98 in effect for FY 1999. The audit confirmed LBNL's management assertion on the Statement of Costs Incurred and Claimed FY 1999 that all costs were allowable and reasonable in accordance with contract requirements. The internal control procedures for selected costs incurred in FY 1999 were found to be adequate to ensure that unallowable costs were not claimed by LBNL. The audit found, although no costs exceeded contractual limitations, presently procedures are not in place to systematically accumulate certain costs that would become unallowable if these costs exceed contractual limitations. The audit recommended that new resource categories be added that would easily distinguish such costs.

In addition to the internal audit reports, LBNL's self assessment addressed process improvements, resolution of findings, the process for identifying and validating controls and leadership in self-disclosing internal control weaknesses.

Demonstrated Process Improvements

To ensure compliance with DOE requirements, LBNL maintains awareness by systematically monitoring changes to financial standards and regulations. Also, a Budget Analyst was hired to manage the task of reconciling each reimbursable work order to DOE's Status of Obligations Report. The Contractor Travel Report was developed to accurately track and manage travel costs relative to DOE established targets.

Aggressiveness in Resolving Identified Findings and Weaknesses

The Controller's Office monitors and tracks audits. Audit findings are reviewed and evaluated for correction, compliance or improvement. The self-assessment did not present or address any aggregate statistical data on the timeliness of resolving findings, weaknesses or improvements.

Effective Process for Identifying and Validating Key Internal Controls and Ensuring Compliance with DOE Requirements

Specific functions and processes within General Accounting and Accounts Payable were categorized and rated according to the level of risk associated with each function. The functional manager submits a monthly analysis and verification statement to the Controller, rating each item according to its risk

exposure (high, medium or low). We noted that those processes which required additional effort to reduce financial risk exposure were highlighted and being tracked through this monthly process. We also noted that Budget and Cost Accounting and Compliance, which are part of the Controller's organization, do not participate in the Risk Prioritization System.

Proactive Leadership in Self-Disclosing and Correcting Internal Control Weaknesses and Internal Audit Findings

LBNL's self-assessment indicated a log is maintained of all audits conducted in the Controller's Office and the five audits completed through June were positive with no negative findings. In our opinion, some of the findings disclosed were fundamental internal control issues/concerns. Also, as a proactive measure, LBNL limited the number of Accounts Payable staff members with security access.

Overall, while most IAS reports concluded satisfactory controls exist, the Year End Reporting audit did not. Based on the issues and concerns identified some fundamental control issues exist regarding validations and reconciliations. While LBNL has focused concerted effort in these areas it appears the issues came to light as a result of audits by non-Financial Services staff rather than being generated through the Financial Services risk prioritization system or self-disclosure.

Performance Rating (Adjectival)**: Good**	72.00%

Performance Objective: #4 Learning and Growth

Managing the work force in a manner that ensures personnel are qualified and effective.
(Weight = 10%)

Criterion: 4.1 Work Force Management

Develop and maintain an effective Financial Management work force**.** **(Weight = 10%)**

Performance Measure: 4.1.a Effective Work Force Management

Evaluation of Financial Management organization and processes resulting in an effective work force.
(Weight = 10%)

Assumptions:

Narrative that describes the Financial Management organization structure, work force development plans, training activities within the Financial Management organization, employee satisfaction, staffing and skills mix plans, strategic planning, and other activities resulting in improving the work force.

Gradients:

An Unsatisfactory rating will be given when no systematic approach is evident, when only anecdotal information is provided, and no results are reported.

A Marginal rating will be given when a systematic approach is in the beginning stages and major gaps exist in deployment that would inhibit improvement of work force management practices, with only some improvements.

A Good rating is achieved by establishing and maintaining a systematic approach to effective financial work force management, with employee productivity improvement trends in many areas.

Factors that will be considered for a higher rating include:

? Merging of related functions.
? Training and development activities of non-financial organizations and other institution-wide initiatives.
? Major cost and staffing reductions not negatively effecting performance.

? High level of employee productivity is maintained.

An Excellent rating is achieved by demonstrating a sound, systematic method for effectively managing the Financial work force with clear evidence of refinement and improved integration, with employee productivity trends in most areas.

An Outstanding rating is achieved by demonstrating a sound, systematic method for effectively managing the Financial work force with a very strong, fact-based improvement process and strong refinement and integration, with a high level of employee productivity maintained.

General Assumptions For All Financial Management Performance Measures

Assumptions

Where appropriate incorporate, in the self-assessment, historical trends as the data becomes available.

Note: Laboratory-wide cost savings initiatives require the highest level of visibility and Laboratory commitment. For this reason, Performance Objectives, Criteria and Measures (POCMs) addressing cost savings are included in the Laboratory Management POCMs instead of here in the Financial Management section.

Performance Narrative:

Organization Structure, Staffing and Skill Mix

The Controller's Office is comprised of Accounts Payable, Budget, Cost Accounting and Compliance, and General Accounting. The headcount for FY 2000 was 37 employees, which represents a 21 percent reduction from 47 employees in FY 1994. The number of employees has been relatively stable since reaching 38 employees in 1996. The major change has been in the proportion of employees in transaction processing versus decision support positions. Currently, 25 employees (or 68%) are in decision support positions and 12 are in transaction processing activities. In FY 1996 the mix was 20 decision support (53%) and 18 transaction processing positions. LBNL attributes the changes to system improvement processes and streamlined procedures.

Over half of the employees have college degrees, including six with Masters' degrees and 14 with Bachelors' degrees.

Since 1994, the Controller's Office costs as a percentage of total LBNL costs decreased from .93% to .64%. The most substantial decrease occurred between 1994 and 1996, which was from .93% and .72%, respectively.

Work Force Development/Strategic Management Plan

The Controller's Office plans are to develop a productive, efficient and satisfied workforce. Work force development strategies include:

- Increased employee satisfaction, support and motivation
- Utilization of technology

- Compliance with sound financial practices
- Internal promotions and opportunities for advancement
- Continued education and training

Also, cross-training has become an established process which allowed the organization to manage several staffing changes due to resignations, retirements, transfers and the hiring of new employees.

Training Activities within the Financial Management Organization
Managers received professional training in areas such as: Leadership, Time Management, Customer Service, and Intermediate level FMS Query. Staff also was encouraged to improve their knowledge and skills. They received training in areas such as: Time Management, Customer Service Budget Systems, Advanced Query, Project Setup and Resource Adjustments.

Other noteworthy accomplishments were the Accounts Payable employees attended a one-day seminar on "How to deliver Exceptional Customer Service" and many employees in the Controller's Office attended a time management and planning seminar on "What Matters Most."

Employee Satisfaction
For the first time, in FY 2000 LBNL implemented a method to ascertain employee satisfaction in the Controller's Office. A "Realization Survey" was used to obtain quality feedback on employee satisfaction, concerns, and improvements for the future. The survey encouraged one-on-one discussions and developed positive interactions between management and staff. The survey included questions such as:

- What do you value about your job?
- What would you like to change about your job?
- Are there functions within the unit that you are interested in performing?

Employee performance was recognized in performance reviews which resulted in employees in each unit receiving promotions. Also, six employees received Spot Awards in recognition of excellent performance while two employees received Outstanding Performance Awards in acknowledgement of exceptional performance.

Merging of Related Functions
In FY 2000 General Accounting had two resignations. Their work was redistributed to restructure the staff and provide a smooth transition. Cross-training facilitated this job consolidation. Also, the functions of a budget analyst who retired were provided to another analyst.

Training and Development Activities of Non-financial Organizations and Other Institution-wide Initiatives.
Financial Management System classes are offered on a continuous basis to all employees. Internal training in FMS includes courses in:

- Resource Adjustments
- Project Setup
- Query

The addition of Web-based training was offered for non-financial organizations. Courses include the Federal Budget Process and Unallowable Costs. Other courses under development include Capital Equipment, Construction Funding Management, Financial Management Overview, Indirect Budgets, Resource Stewardship, Ledger Responsibilities and Work for Others.

Major Cost and Staffing Reductions Not Negatively Affecting Performance

The implementation of system improvements, streamlined processes, cross training, effective management and the utilization of technology have allowed the organization to reduce costs, time and effort while continuing to provide a high level of products and services.

A specific example of a cost savings was not hiring a temporary employee to assist in assembling budget books for submission to DOE. However, LBNL is anticipating a rise in the number of Controller Office employees due to complexity of DOE regulations and increased workload.

Overall, LBNL has demonstrated a sound, systematic approach for effectively managing the Financial work force. Improvement processes are in place, the costs as a percent of laboratory costs has trended downward and the skill mix has been transitioning to decision support.

Performance Rating (Adjectival)**: Outstanding**	92.00%

Performance Area: HUMAN RESOURCES

Performance Objective: #1 Cost Effectiveness and Efficiency of Operations

The Laboratory will strive to achieve cost effective and efficient HR systems and practices. **(Weight = 34%)**

Criterion: 1.1 Review and Evaluation of HR Systems and Processes

HR systems and processes are reviewed and evaluated in order to optimize the delivery of services with respect to quality and cost **(Weight = 18%)**

Performance Measures: 1.1.a Evaluation of HR Systems and Processes

Evaluate HR systems and process improvements and associated results. **(Weight = 18%)**

Assumptions:

The Laboratory will use a variety of techniques in evaluating HR systems and processes. These techniques may include internal customer feedback mechanisms, cost benefit analysis, work flow analysis, process mapping, and/or benchmarking, etc. The purpose of these techniques is to streamline, reengineer, outsource, or eliminate existing systems and processes or implement new initiatives. Results may include accomplishments made in multi-year projects.

By 1/1/2000 the Laboratory will discuss with DOE/OAK the systems/ processes identified for review.

Gradients:

Unsatisfactory Little or no effort has been demonstrated towards achievement of the performance measure.

Marginal Some effort is demonstrated however results fall short of the expectations for the "good" gradient.

Good Project plans are developed for one or two major systems or processes, action is initiated, and there is measurable progress or actions taken. Notification to DOE will

include a statement of the current status of the system/process and baseline data against which results will be measured.

Excellent — As a result of process improvements or other actions, added improvements are achieved over the prior year as evidenced by internal customer feedback, benchmarking earlier outcomes vs. current outcomes, cost benefit analysis, or comparisons with other organizations which have made similar efforts, cost savings, etc.

Outstanding — In addition, significant improvements are achieved, such as completion ahead of schedule, or conclusion of unusually complex projects, or can serve as a model for other organizations.

Performance Narrative:

LBNL identified two processes to evaluate under this measure for FY2000. As required by the measure, LBNL's notification to OAK included project plans and baseline data against which to measure results. Techniques utilized by LBNL in evaluating these processes included customer feedback and benchmarking.

Improvements to each process were evident through the results or status at the end of the assessment period.

- **Searchable Web-based Current Job Opening (CJO)**: Upon feedback from the Laboratory scientific community that the employment process was too lengthy, Human Resources examined techniques utilized by competitor organizations to streamline the application process. As a result, LBNL implemented a system which facilitates the review of LBNL vacancies by applicants on-line. Applicants can search through various paths (i.e., job function, key work, organization,etc) and submit a resume through the web. Implementation of this system has resulted in a savings of 1 FTE, or approximately $50,000.
- **Benefits Delivery System**: As a result of customer feedback, LBNL identified the necessity to enhance the means by which benefits information was distributed and improve its responsiveness to employee inquiries. The Laboratory , therefore, developed a Benefits Master Plan, including staffing a benefits team, implementing a system to count and monitor calls, dedicating an individual to providing customer service over the phone, and launching a campaign to communicate the new benefits system.

LLNL has achieved an Outstanding rating under this measure given the efficiency by which the searchable CJO process was implemented, which resulted in completion two weeks ahead of schedule, and its responsiveness to the needs of hiring managers for the timely referral of relevant resumes for consideration. In addition, SLAC has indicated interest in modeling a process similar to that of LBNL. Also, although the improved efficiency under the Benefits Delivery System did not require a highly complex solution, the result was a significant improvement over the condition of the process at the beginning of the assessment period, and reflects a high level of effort dedicated to achieve improvements on a short timeline.

Performance Rating (Adjectival): **Outstanding**	92.00%

Criterion: 1.2 Compensation

Compensation is administered in a cost competitive manner that takes into account market considerations and internal equity. **(Weight = 16%)**

Performance Measure: 1.2.a Cost Competitive Compensation

The Laboratory has a cost competitive compensation system which contributes to attracting and retaining a quality workforce. **(Weight = 12%)**

Assumptions:

Human Resources, in collaboration with DOE OAK and UCOP, will begin a systematic process to validate the appropriateness and competitiveness of its compensation program. The validation process will include a review of targeted job families to ensure the right number of levels exists, that identified levels are appropriately documented and delineated, and that the family is competitively priced. A project plan will be developed that outlines the validation process for the following:

- Scientists and Engineers on the Davis Curve. A review will be conducted on LBNL's use of the Davis Curve with specific emphasis on what data cuts should be used and how salaries should be tracked. Supplemental survey information may be incorporated, as an additional reference point, in determining LBNL's cost-to-market.
- Other Targeted Job Families (in priority order). For one or more of the following families, Human Resources will continue to work closely with Division customers to validate the appropriateness and competitiveness of the job family with respect to the number of levels, documentation and competitive pricing. Additionally, the Lab may identify additional, supplemental surveys. If additional survey sources are identified, a determination will be made as to which surveys and what data elements from each survey will be used in calculating the cost-to-market.
- Computer Scientists and Engineers/Information Technology Professionals
- Exempt Administrators and Administrative Specialists
- Engineering and EH&S Professionals

Gradients:

Unsatisfactory Little or no effort has been demonstrated towards achievement of the performance measure.

Marginal Some effort is demonstrated however results fall short of the expectations for the "good" gradient.

Good Project plan for the S&E job family is implemented.

Excellent — As a result of the above, measurable improvement is reflected in the S&E job family alignment to market, or the accuracy of market alignment is validated. "Measurable improvement" does not necessarily imply a lower cost-to-market initially. Improvement could be demonstrated through improved benchmarking. The project plan for at least one of the remaining structures is initiated.

Outstanding — In 2 or more job families, measurable improvement is reflected in the alignment to market, or the accuracy of market alignment is validated. "Measurable improvement" does not necessarily imply a lower cost-to-market initially. Improvement could be demonstrated through improved benchmarking.

Performance Narrative:

The requirements of this measure reflect the highest priorities of the Compensation function for FY2000. The Laboratory went beyond examination of, first the Scientist and Engineers (S&E) structure, and then, the other job families indicated, to validation of multiple job families simultaneously. Consultants were utilized to review the S&E's, Computer Scientists/Information Technology professionals, and Environmental Health and Safety professionals, and non-research Engineers. In each of the job families, improved benchmarking was attained, resulting in cost-to-market calculations more accurately reflecting LBNL's position relative to its competitors, although LBNL and DOE are continuing to discuss some consultant recommendations.

Performance Rating (Adjectival): **Outstanding**	92.00%

Performance Measure: 1.2.b Compensation Increase Plan (CIP)

Evaluation of the comprehensiveness and timeliness of Compensation Increase Plan (CIP) proposal.
(Weight = 4%)

Assumptions:

An underlying principle of this measure is that the compensation program is market driven and rewards performance and productivity.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated however results fall short of the expectations for the "good" gradient.
Good	CIP addresses all of the elements specified in the Appendix A and meets the agreed upon time requirements.
Excellent	CIP incorporates agreements reached for improvements from the previous cycle's CIP, and identifies early efforts at resolution of any special problem areas.
Outstanding	CIP thoroughly addresses all of the elements specified in Appendix A and includes other relevant issues not previously specified, meets or exceeds in the agreed upon time requirements, and the CIP proposal can serve as a model for other organizations.

Performance Narrative:

The Compensation Increase Plan (CIP) for LBNL reflected significant improvement over previous years in terms of its ability to support its assessment of the markets in which it competes. As discussed under POCM 1.2.a, several consultants were retained to examine LBNL's S&E, Computer Scientist, Engineering, and Environmental Health and Safety job families. The analyses provided by these consultants were made available for OAK to review, and allowed for a more comprehensive perspective of LBNL's various markets in terms of the benchmarks, comparator organizations, and cost-to-market methodologies . In addition, LBNL has identified its next steps in implementing the recommendations of the various consultants, including establishing separate structures for several families to ensure market alignment is maintained accurately.

Submission of the CIP was slightly delayed, however all the elements of Appendix A were addressed, and the areas identified as issues from the FY1999 CIP had been discussed throughout the assessment period. Although not all of these issues were addressed in the FY2001 CIP, OAK was aware prior to the CIP submission that priority was being placed on those job families reviewed by the consultants.

Performance Rating (Adjectival)**: Excellent** 88.00%

Performance Objective: #2 Work Force Excellence

The Laboratory will develop and motivate its work force to excel in meeting programmatic needs of the Laboratory and its customers. **(Weight = 26%)**

Criterion: 2.2 Workforce Planning/Staffing

The Laboratory has an effective, integrated workforce planning system. **(Weight = 4%)**

Performance Measure: 2.2a Workforce Planning/Staffing

Evaluation of the effectiveness of HR's contribution to the Lab's workforce planning and/or staffing efforts. **(Weight = 4%)**

Assumptions:

? HR will collect data about workforce demographics (job classification, appointment status, gender, age, reported reasons for termination, and tenure by division/department) and analyze this data for current and potential turnover. This information will be given to Laboratory Management and the major programmatic divisions.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated however results fall short of the expectations for the "good" gradient.
Good	Workforce analyses are conducted regularly.
Excellent	In addition, trends are identified and communicated. HR recruiting objectives reflect issues identified through HR's analysis.
Outstanding	In addition, HR will partner with at least one Division/ Department to address issues identified.

Performance Narrative:

Negotiation of this measure occurred at mid-year, establishing an effective date of April 1, 2000. LBNL, therefore, was unable to perform the full scope of the measure during this performance cycle. LBNL-HR produced demographic data for each division, however did not perform an analysis for current and potential turnover as required under Assumptions. Divisions were requested to contact LBNL-HR if further analysis was needed, or if additional information was needed for Divisions to perform analysis. Human Resources also provided the data to the Laboratory Staff Committee to utilize in discussions of broader work force planning, such as succession planning.

LBNL did not address in its self-assessment whether the data provided was well received or utilized by the various divisions. This effort was the first initiated by Human Resources and establishes a service with high potential for adding value if provided on a regular basis.

Performance Rating (Adjectival)**: Good**	75.00%

Criterion: 2.3 Effectiveness of Employee/ Labor Relations

The Laboratory has effective employee/labor relations programs. **(Weight = 22%)**

Performance Measure: 2.3.a Employee and Labor Relations

Evaluate the effectiveness of the Laboratory's approach in addressing employee and labor relations cases. **(Weight = 7%)**

Assumptions:

Data on Employee and Labor Relations cases that are both formal and informal will be summarized and reported to management on a regular basis. HR staff will review and evaluate the information collected to determine whether problem areas exist and whether proactive interventions are required. Interventions including supervisory and management training and/or corrective action will be developed and implemented as appropriate.

The Laboratory will trend formal complaints from employees by type of complaint and division/department, in order to identify problem areas in need of corrective action. If statistically significant, the lab will identify other demographic factors. Trending may include data from previous fiscal years for which data is available. Formal complaints include administrative reviews, grievances, formal mediation, unfair labor practice charges, litigation and external agency charges. It is acknowledged that formal complaints may result from multiple causes.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated however results fall short of the expectations for the "good" gradient.
Good	Summary and Trend Data is collected in a formal manner and presented to management.
Excellent	The data will be analyzed for trends that may reflect problems, e.g., poor business practice, or liability exposure. Trending may include data from previous fiscal years for which data are available.
Outstanding	Based on the trend analysis, feedback is provided to Lab Management, and if applicable, Division/Department Management. Also, if applicable, HR will develop a recommendation for corrective action.

Performance Narrative:

The Labor and Employee Relations (LER) staff at LBNL collects case data on a quarterly basis, allowing for analysis of formal and informal complaints, issues and organizational origin of complaint. For FY2000, 203 cases were filed, an increase of 24% over FY1999, with 63, or 31%, of the cases filed in the fourth quarter. Analysis was conducted of trends occurring within the fiscal year and in comparison to FY1999. Although within one division the number of cases warranted a more intensive trend analysis, it was ultimately concluded that there were no trends that required corrective action by management. Results of these trend analyses were provided to Division managers under the Operations Department.

Performance Rating (Adjectival)**: Outstanding**	92.00%

Performance Measure: 2.3.b Labor Relations

Evaluation of the effectiveness of the Laboratory's Labor Relations Program **(Weight = 15%)**

The following will be addressed in LBNL's self-assessment for this measure:

- LBNL role and impact in achieving timely agreement in collective bargaining.
- Analysis of the timeliness of grievance and PERB complaint processing.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated however results fall short of the expectations for the "good" gradient.
Good	Timeframes for processing of grievances, PERB complaints and collective bargaining are met at least 85% of the time
Excellent	In addition, there is an analysis of the processing and quality of these activities to determine the need, if any, for corrective action. If corrective action is necessary, it is effectively advocated.
Outstanding	In addition, the Laboratory effectively concludes negotiations, PERB cases, and union grievances.

Performance Narrative:

The "Assumption" for this measure emphasizes timeliness of Labor Relations actions, both in achieving "timely agreement" in collective bargaining and in the processing of grievances and complaints. While the self-assessment asserts that the 85% timeliness requirement under the "Good" gradient has been met or exceeded, the "timely agreement" under collective bargaining can only be fully ascertained through the analysis required under the "Excellent" gradient. LBNL's self-assessment lacks this analysis, except in describing its general approach to collective bargaining, and stating that it provided timely responses to 34 information requests from the unions. The analysis anticipated by this gradient cannot be achieved without addressing whether LBNL's strategy in collective bargaining, in hindsight, served to encourage or hinder the timely resolution of issues, and whether there were lessons learned that will lead to corrective actions in future negotiations. LBNL's statement that no corrective action is necessary is not responsive to the gradient requirements without some level of discussion that supports that conclusion.

LBNL's performance under this measure warrants a rating of "Good".

Performance Rating (Adjectival)**: Good** 75.00%

Performance Objective: #3 Equal Opportunity

Strengthen the commitment to and accountability for equal opportunity, affirmative action and work force diversity. **(Weight = 20%)**

Criterion: 3.1 Employment of Minorities and Women

Undertake good faith recruitment efforts to improve the representation of minorities and/or women in the workforce. **(Weight = 10%)**

Performance Measure: 3.1.a Employment of Women and Minorities

An assessment of planning and implementation of good faith efforts designed to improve recruitment and selection of minorities and/or women in high priority underutilized job groups. **(Weight = 10%)**

Assumptions:

- "High priority" underutilized groups will be selected at the beginning of the assessment period by each laboratory. The following factors may be utilized for the designation of "high priority" areas: underutilization levels, availability levels, projected placement opportunities and typical size and diversity of applicant pools.
- The Laboratory will develop a General Plan for Targeted Recruitment with the purpose of improving organizational performance in the recruitment and selection of minorities and/or women in the selected "high priority" areas. The General Plan will be the framework for the development of specific plans designed to enhance the Lab's ability to recruit and select minorities and/or women in high priority, underutilized job groups. The General Plan shall address the following:
- Lab management's support of targeted recruitment objectives
- The responsibility of Division/Department leadership to partner with HR and the WFDO regarding targeted recruitment
- Identification of HR and WFDO responsibilities regarding the recruitment and selection of minorities and/or women in high priority, underutilized groups
- Assessment Period: The assessment period for LBNL: for this Performance Measure will January 1, 2000 through September 30, 2000.
- Targeting of High Priority Underutilized Groups: High priority underutilized groups for the Laboratory will be selected by the Laboratory no later than December 17, 1999. The General Plan will be due to DOE-OAK by January 31, 2000.
- "Applicant" is defined as anyone who submits a resume and/or application that meets the minimum qualifications for any open position.

? Workforce Diversity Office (WFDO) will conduct statistical analyses assessing the representation of women and/or minorities in applicant pools, offers and hires, as well as an analysis of sources for these areas.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated however results fall short of the expectations for the "good" gradient.
Good	High priority, underutilized job groups are identified in the agreed upon timeline. A General Plan is developed which clearly communicates the Laboratory's commitment and investment in carrying out its "good faith" efforts to develop strategies and actions to improve the recruitment and selection of women and/or minorities in "high priority" underutilized job groups.
Excellent	Targeted recruitment plans as identified in the General Plan were carried out substantially in the manner identified.
Outstanding	As a result of Lab efforts, the representation of women and/or minority offer recipients and/or hires is approximately equal to their availability in half or more of the "high priority" underutilized job groups.

Performance Narrative:

FY 2000 is the fourth year for measurement of LBNL's planning and implementation of good faith efforts designed to improve recruitment and selection of minorities and women in high priority underutilized job groups (HPUGs). For FY 1997, 1998 and 1999, performance results have been most inconsistent. In FY 1997, the Laboratory's performance under this measure was at the Meets Expectations level; for FY 1998, performance was improved to the Excellent level; for FY 1999, the result was a significant decrease in performance rating, to the Marginal level.

For FY 2000 the overall rating for this measure is Good, below midpoint of the gradient.

For the past several years, LBNL's inability to consistently develop and implement viable strategies to improve the representation of minorities and women in the HPUGs has been a source of concern for OAK. For FY2000, the Laboratory established a "new approach" to this measure having acknowledged that "prior efforts to recruit and select minorities and women have not been as successful as desired." The Laboratory's new approach resulted in the establishment of a "General Plan for Targeted Recruitment", which served as the framework for development of targeted plans at the Division level, designed to improve recruitment and selection. OAK considered the plan to establish a Recruitment Unit and the hiring of a Recruitment Manager positive steps. The promulgation of Management's support and involvement and the establishment of accountability at the Division level were also considered positive steps.

LBNL identified the establishment of a Recruitment Unit within the LBNL-HR organization as the most critical component to the success of the General Plan for Targeted Recruitment. The Recruitment Manager, hired to head this unit, terminated after only 3 months. Thus, for six months of the FY 2000 assessment period, this "critical component" was without the leadership expected by the General Plan, although a staff of 5 recruiters was established.

Revised Targeted Recruitment Plans were submitted to OAK by LBNL letter dated August 1, 2000. Thus, revised targeted plans for the three HPUGs for FY 2000 were available for implementation for only two months during the Self-assessment period.

While the Laboratory viewed the establishment of the Recruitment Unit and launching of the targeted recruitment planning effort a success, OAK's primary and continuing concern is the Laboratory's failure, over four years, to bring continuity to planning and implementation which yields positive results. This is clearly evident in the Laboratory's experience with the CO2 HPUG. Despite the high-priority status of this job group, and the "targeted" recruitment of women, the Laboratory was unable to recruit any women applicants during the FY99 performance period and none during the FY00 performance period. LBNL's experience in the CO3 HPUG during this appraisal period, however, is an indication that the Laboratory is making efforts to address this trend.

Performance Rating (Adjectival)**: Good**	75.00%

Criterion: 3.2 Strategic Alignment of Diversity Programs

Design and implement Workforce Diversity programs such that the programs strongly support the Laboratory's strategic goals. **(Weight = 10%)**

Performance Measure: 3.2.a Strategic Alignment of Diversity Programs

Assess the degree to which Diversity Program efforts directly or indirectly support initiatives and goals identified as being of major, strategic importance to the Laboratory. **(Weight = 10%)**

Assumptions:

Definition of Diversity

"Workforce Diversity" and or "Diversity" as used here and in other documents relevant to this measure refers to "Systemic actions taken to improve the effectiveness, efficiency, and overall performance of all groups and individual members of the workforce." Such efforts are designed to be respectful of employee and group differences such as race, ethnicity, gender, disability status, sexual orientation, job classification, thinking styles, and other factors of difference.

The Laboratory will identify and document the Workforce Diversity initiatives that are relevant to the institution's major strategic goals. These goals should serve as guiding principles for Diversity program efforts (for example, the Laboratory may identify becoming an "Employer of choice" for all employees, including women and minorities. A strategically aligned diversity action for this goal may be to conduct focus groups or in-depth exit interviews with these groups to better identify what issues are most important to them). This document will cover the same time period as the Recruitment/Outreach Plan, and will be provided to DOE-OAK at the same the Recruitment/Outreach Plan is transmitted.

Gradients:

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated however results fall short of the expectations for the "good" gradient.
Good	Identification of Strategic Objectives. The Diversity Program Office shows clear linkage of its programs to the institution's strategic goals as identified and described in the Workforce Initiatives document.
Excellent	In addition, diversity programs identified as strategically linked to institutional goals demonstrate having a role in the achievement of a Laboratory strategic goal.

Outstanding In addition, strategically linked Diversity programs play a role in helping to achieve multiple institutional strategic goals.

Performance Narrative:

LBNL was required under this measure to "identify and document the Work Force Diversity initiatives that are relevant to the institution's major strategic goals." In the Laboratory's Work Force Diversity Initiatives document, dated March 24, 2000 (revised) the "Labs overall institutional objectives for diversity, as outlined in the Institutional Plan 2000", were provided, as follows:

- "More educational opportunities and job-related training – and a wider awareness of these opportunities…."
- "Our goal is the career growth of all Berkeley Laboratory employees, facilitated by a responsive management."
- "The Laboratory is working to improve minority recruitment in key areas through targeted outreach efforts and long term School to Work program."

The 3/24/2000 Work Force Diversity Initiatives document included narrative which described how the Work Force Diversity Office (WFDO) would develop and implement specific diversity initiatives that support the institutional diversity goals described above. Each of these diversity initiatives was linked with deliverables (actions to be completed by the WFDO) for FY 2000. These initiatives, identified below, show clear linkage with the Laboratory's institutional goals:

- **Integrated Diversity Management Plan (IDMP):** This initiative was designed "to ensure diversity's relevance to and integration with the Lab's major strategic goals." This initiative was also designed to help strengthen "responsive management" in the area of diversity, through the requirement for division diversity plans.
- **Technician School to Career Outreach and Training/Developme nt Initiative:** Implementation of this initiative was expected to enhance the achievement of diversity institutional objectives in the areas of minority recruitment, targeted outreach efforts and long-term school to work program.
- **Lab-sponsored Women's Issues Forum:** This initiative was expected to support the Laboratory's goal to improve the recruitment of women and the enhancement of career development and growth.
- **Exit Interview Data Assessment Initiatives:** LBNL objectives in the areas of career development and growth and job related training were expected to become effective solutions to diversity and retention issues identified in exit interview data.

LBNL's Self-Assessment report did not demonstrate that deliverables under WFDO's initiatives were completed as planned for FY 2000.

The number or quality of completed Divisional plans, required under the Integrated Diversity Management Plan, and due to the Director by September 1, 2000, was not addressed in the Self-

Assessment report. In addition, the report does not address the status of the survey that was to be conducted, whether the diversity management best practices were identified, nor the status of the "communications plan" cited under deliverables. Actual implementation of the IDMP is expected to be in FY 2001.

Completion of the Technician School to Career Outreach and Training/ Development Program is not expected until sometime in FY 2001. In FY2000, career development opportunities were discussed with Technical Services managers, outreach to community and technical colleges was initiated, and entry level electronic technician and mechanical technician positions were established. The assessment of actions to groom technicians and the analysis of the high turnover rate were not completed however.

Status of deliverables under the "Laboratory Sponsored Women's Issues Forum" was not addressed in the Self-Assessment report. The Laboratory did report that resource limitations in the WFDO resulted in limited activity (not identified) around this initiative. It is not clear if this initiative will be pursued in FY 2001.

Finally, no action was taken by WFDO on deliverables under the Exit Interview Data Assessment initiative. LBNL reports that "given the fact that Human Resources was reviewing the Exit Questionnaires as part of 4.1.a, WFDO decided not to pursue this initiative.

Under Assumptions, it was expected that the Diversity Initiatives document would cover the same time period as the Recruitment/Outreach Plan and would be provided to DOE-OAK at the same time, January 31, 2000. The Diversity Initiatives document, for the period January 1, 2000, through September 30, 2000, was faxed to OAK on January 31, 2000 with the Recruitment/Outreach Plan. However, after concerns were received from OAK, the document was revised and resubmitted on March 24, 2000.

Performance Rating (Adjectival): **Good**	75.00%

Performance Objective: #4 Customer Needs

Human Resources identifies evaluates and responds to customer needs. **(Weight = 10%)**

Criterion: 4.1 Customer Needs Analysis

Requirements, expectations and preferences of customers are collected and addressed. Strategies to evaluate and anticipate needs are in place. **(Weight = 10%)**

Performance Measure: 4.1.a Customer Needs Input Strategy

Evaluation of customer input mechanisms, implementation strategies, and response. **(Weight = 10%)**

Assumptions:

Mechanisms will be used to gather customer input regarding HR practices. Practices could be policies, services, programs, systems, processes, and procedures. These mechanisms are varied and could include customer surveys, focus groups, customer feedback forms, ongoing meetings and forums, etc. Measurement will include customer communication. Measurement deliverable will be a narrative description of how HR addresses the performance measure.

HR will conduct surveys regarding recruitment tools and new employee starts, HR will refine and collect Exit questionnaires, and HR will obtain HRIS training evaluations. Once the data is obtained through the above mechanisms, HR will evaluate the data. After data evaluation, HR will undertake the following: regarding the recruitment and new employee start surveys and the HRIS training evaluations, changes to existing practices, or new practices, are clearly linked to feedback results and are communicated to the customers. Regarding Exit questionnaires, HR will communicate significant adverse trends to Division/Department management and the WFDO, and, if applicable, develop recommendation(s) for corrective action.

Gradients:

Unsatisfactory Little or no effort has been demonstrated towards achievement of the performance measure.

Marginal Some effort is demonstrated however results fall short of the expectations for the "good" gradient.

Good	Internal and external customer input mechanisms exist and are utilized to evaluate and improve human resources practices. Input and any changes to practices, whether resulting from feedback or not, are communicated to the customers, as appropriate.
Excellent	Internal and external customer requirements, expectations and preferences are collected in a methodical manner to evaluate and improve human resources practices. Methodical manner means the information sought from customer feedback mechanisms and the frequency of collection are clearly defined. Changes to existing practices, or new practices, are clearly linked to customer feedback, and are evaluated for effectiveness as appropriate.
Outstanding	In addition to the items identified under Excellent; other data such as industry standards and HR practices, utilization of services and operational effectiveness indicators are collected and taken into consideration.

Performance Narrative:

LBNL has demonstrated that it utilizes internal and external customer mechanisms to assess its Human Resources (HR) practices. Examples of mechanisms used in FY2000, both methodical and ad hoc, include:

- training evaluations of each Human Resources Information System (HRIS) course;
- anecdotal input on two HRIS courses
- monthly HRIS Discussion Group meetings
- feedback from the Computing and Communications Services Advisory Committee (CSAC), which led to the revision of the web access of the Current Job Openings ;
- a survey for new-hires to examine the orientation process;
- an external survey of LBNL competitors to examine recruitment tools utilized in the market.
- Exit questionnaires

LBNL utilizes a variety of methods for communicating back to customers the changes resulting from customer input, including an HRIS bi-weekly e-mail update, the Headlines publication, and direct communication to those most affected by the change.

LBNL's performance under this measure warrants a rating of Excellent, based on its use of several methodical customer input mechanisms, the linkage between the changes to HR practices and the feedback, and the effort to evaluate the effectiveness of the Individual New Start process and exit questionnaires.

Performance Rating (Adjectival): **Excellent**	85.00%

Performance Objective: #5 HR Leadership in Deploying Mission/Business Strategy

HR aligns its practices with the Laboratory's strategic direction or institutional plan.
(Weight = 10%)

Criterion: 5.1 Alignment of HR Programs

HR programs and practices are aligned with the Laboratory strategic direction or institutional plan.
(Weight = 10%)

Performance Measure: 5.1.a Deployment of Strategy

Implementation of HR programs and practices that align with the Laboratory's strategic direction or institutional plan. Measurement will also include communication with employees, supervisors and managers regarding HR programs and practices. **(Weight = 10%)**

Assumptions:

Narrative will address actions identified by HR as necessary to support Laboratory priorities and actions taken to implement them.

"A" lists will constitute HR's alignment with the Lab's strategic direction or institutional plan.

Unsatisfactory	Little or no effort has been demonstrated towards achievement of the performance measure.
Marginal	Some effort is demonstrated however results fall short of the expectations for the "good" gradient.
Good	HR staff/programs/practices are aligned to address Laboratory strategic requirements.
Excellent	In addition, strategies are developed and deployed.
Outstanding	In addition, a variety of data and/or feedback mechanisms demonstrate the impact of actions taken.

Performance Narrative:

LBNL demonstrates alignment with Laboratory strategic objectives through development of an "A List", an outline of goals approved for Human Resources by the Deputy Director for Operations. For

FY2000, this list included the following seven items, each of which have been deployed to varying extents:

1. Develop a solid working relationship with the Administrative Services Department - The HR Department Head and Head of the Administrative Services Department meet weekly, in addition to a second weekly meeting that includes their staffs.
2. Analyze and make recommendations about S&E lag to market – Consultants were hired to validate the market position of LBNL's S&E population, as well as that of other structures. Results were incorporated into the Compensation Increase Plan.
3. Establish a Recruitment Unit – Organizationally, a Recruitment Unit is established, although it lacks a permanent manager.
4. Launch targeted recruitment for high-priority, underutilized job groups - targeted recruitment plans were developed for each high-priority, underutilized job group, although implementation did not commence until August, 2000.
5. Improve the delivery of benefits information – As discussed under POCM 1.1.a, significant effort was placed on improving responsiveness to customer inquiries as well as the communication of benefit programs.
6. Have the HR Department Head meet with division directors to assess HR needs. – The HR Department Head met with eleven division managers.
7. Make IRSO less dependent on UCB and/or outside attorneys – In an effort to reduce legal costs and dependence on University of California, Berkeley, HR obtained authority to process J1 visas in-house and staffed the responsible Unit sufficiently to process both the J1 and H1B visas.

The development and deployment of the activities described above support a rating of Excellent.

Performance Rating (Adjectival): **Excellent**	85.00%

Performance Area: INFORMATION MANAGEMENT

Performance Objective: #1 Information Management Program

The Laboratory manages information resources on a corporate basis to improve the quality of its products, to add value to scientific programs and customer services, and to improve the Laboratory's work processes. **(Weight = 100%)**

Criterion: 1.1 Operational Effectiveness

The IM program provides cost-effective products and improved services. **(Weight = 30%)**

Performance Measure: 1.1a Operational Effectiveness

Evaluation of measurable improvements and cost-effective operations. **(Weight = 30%)**

Assumptions:

Measurement deliverable - description of the information management program's accomplishments which have resulted in measurable improvements in the provision of cost-effective products and services. The description may be accomplished through reference to accessible work products or other existing Laboratory documentation.

"Operations" means the delivery of products and services.

Gradients:

Unsatisfactory	No results are demonstrated and little or no effort has been expended in establishing effective processes towards achievement of the performance measure.
Marginal	Results fall short of the expectations for the "good" gradient however some effort has been made to establish effective processes
Good	Examples that demonstrate measurable improvement and cost-effective, IM services and products.
Excellent	Demonstrated results that contribute to institutional cost-efficiencies, savings, and improved operations.
Outstanding	External recognition of operational effectiveness or benchmarking that indicates best-in-class performance.

Performance Narrative:

The IM organizations continue to do an **outstanding** job in providing cost-effective products and improved services to its Laboratory customers. The Laboratory Information Management Organizations have shown aggressive efforts to modernize, reduce operating costs, and improve their operational effectiveness. Results from each of the IM Organizations follow.

Telephone Service Center (TSC)

The Telephone Service Center (TSC) did an outstanding job in demonstrating cost effective and innovative approaches to improving the products and services. New technology has been instrumental in creating measurable improvements that reduce cost and/or add information management capabilities. TSC demonstrated results that contribute to institutional cost efficiencies, savings, and improved operations. Also, benchmarking has shown that its rates are comparable to or less than other Laboratories, universities, and corporations. Total cost savings and avoidance for FY00 was $544K

The TSC realized an annual cost savings of $14K by taking advantage of various discounts from local and long distance carriers.
By continuing to re-engineer call distribution, TSC reduced its trunking cost by $17K.

By establishing standards for contract installers and benchmarking against those standards to reduce the cost to perform add, moves, and changes, TSC realized a cost savings of $137K.

By repairing telephone sets in-house, TSC realized cost savings of $14K. Additionally, by containing the number of repeats of like repairs, TSC realized cost savings of $10K.

By reducing the amount of paper telephone directories, TSC saves $37K annually.

TSC continue to realize substantial savings from the three-year contract negotiated with Cellular One last year. Year two savings for the wireless system and Cellular One users at the Laboratory will be $210K. TSC has decreased the cost per service order from $99.96 in the first quarter of FY97 to $60.76 in the 3rd quarter of FY00, resulting in a 41% cost reduction.

TSC benchmarking against other Laboratories, universities, and corporations indicate that LBNL TSC rates are among the lowest for monthly line charges, single line sets, 10/12 button sets, average cost per service order, and hourly labor rates. TSC is still the only organization that does not charge a monthly rate for voice mail, demonstrating its ability to provide emerging and required services at a minimal cost. TSC is operating a state-of-the-art, highly cost-effective Telephone service with best-in-class performance.

Computing Infrastructure Support (CIS)/Information Systems and Services (ISS)

CIS/ISS has made an outstanding effort in modernization its information systems over the last several years, and this year's efforts continue that trend. The Laboratory's strategy is based on the establishment of robust client/server and relational database capabilities coupled with the best available application software packages and the innovative use of Web technologies. ISS has been a leader in successfully implementing the powerful PeopleSoft Payroll/Human Resources

InformationSystem. The Laboratory was among the first to make effective use of the PeopleSoft financial applications, and it has developed a unique, exceptionally effective data warehouse capability, and has eliminated expensive, in-house IBM, DEC and Univac computing facilities. These efforts have also resulted in substantial cost savings and avoidance.

Specific examples of institutional cost-efficiencies, savings and important operations during the past year include the following.

The legacy Work for Others (WRW) system was replaced this year by the PeopleSoft Billing and Accounts Receivable systems. These two new systems provide the benefits of tight integration with the financial management systems, and offer in new on-line capabilities that will eliminate about 33,000 printed invoice copies per year. Labor costs will be reduced by $21,000 per year and outside processing costs of $15,000 per year will be eliminated.

Improvements to the legacy Accounts Payable system have reduced storage and printing requirements, added 14 new on-line users to the system, and eliminated 17 printed monthly reports by implementing CD ROM capability. The total savings of these efforts is estimated at $22,000/year.

Additional automated alert capability was added to the Oracle Purchasing system, and the expanded use of Electronic Funds Transfer (EFT) for vendor payments has led to cost reductions estimated at $13,000/year.

The development and implementation of the Lab's new Odyssey Space System enabled the legacy Focus-based system to be eliminated. The Odyssey system is highly integrated with other institutional systems, which provide real-time validation of user input to eliminate the large number of erroneous data entries and corrections which were characteristic of the legacy system. The elimination of the legacy system support is estimated to provide an annual savings of $61K, while improved accuracy and functionality are estimated to save the Lab 1 FTE.

Continued deployment of standard hardware and software on PC's has resulted in significant cost savings in the effort required to install and maintain these systems. Approximately 400 standard PCs were acquired using aBasic Ordering Agreements (BOAs) negotiated with Micron and Dell (for laptop computers). These acquisitions resulted in a savings $100,000.

The Interscan Virus Wall installed on the Lab's main E-mail server has stopped more than 1000 viruses this year. The virus wall saves a minimum of 1 FTE effort just for the cleaning of these viruses. If these infections had spread then the savings would be much greater. ISS also has blocked 193,000 SPAM messages since last July at an estimated savings of $80K per year in wasted employee time needed to deal with these messages, as well as the storage resources which these messages would have consumed.

The Environmental Health and Safety (EH&S) computing environment has reduced the number of EH&S NT servers from 11 to 6, Unix servers from 4 to 2, and Macintosh servers from 4 to 1. This has improved overall reliability and reduced risks, and has resulted in a net operational savings of $129K per year.

The replacement of the legacy materials planning system by the Maximo Plan Materials System during the past year resulted in savings of $110K per year. The increased functionality provided by the Maximo PM functions will save Facilities 1 to 2 FTE's.

ISS continues to maintain an outstanding record in its use of standard software. The number of site-wide software licenses has grown to 16, which encompass MAC, PC and Sun software with a cost of $773K this year, $2,828K below the GSA/list price for individual licenses for this software.

ISS's in-house developed IRIS data warehouse system represents the leading edge implementation of data warehouse capabilities. The number of information requests which are created and distributed electronically through this system has continued to grow dramatically during the past year, to more than 60,000 accesses and 6,000 reports per month. This has resulted in the complete phase out of all centrally produced printed reports that consisted of 450,000 pages per month. Savings from this effort are $375,000 per year.

Considerable effort has been directed to further improving the effectiveness of the consolidated Help Desk formed several years ago. The first-call resolution rate during the past year has risen from about 50% to 65%. This trend enables ISS's Tier 2 personnel to concentrate on the most difficult problems, and has saved its customers an estimated $110K in terms of reduced on-site support visits.

Starting in FY1998, the LBNL Computing Infrastructure Support (CIS) Department introduced support for the LINUX operating system. LINUX is a free modern UNIX operating system that runs on commodity PC hardware. During the past year the number of LINUX systems at the Lab has increased by 50. The estimated cost savings have been $140K for hardware and $4K for software.

Based on the above, the Laboratory has clearly moved into a leadership position in the implementation of best-of-class administrative information system capabilities, and has achieved outstanding success in obtaining operational efficiencies and cost savings.

Technical and Electronic Information Department (TEID)

Records Management

In the area of Records Management, TEID demonstrated Excellent results that contribute to institutional cost-efficiencies, savings, and improved operations by the introduction of a new web page which contributed to greatly improved operations in TEID. As a result of the LBNL's Internal Audit Department request for Archives and Records to increase the monitoring of requests made for inactive records, a new web-based form was developed to give customers the ability to request records without having to call or email an ARO employee. The unique system is comprised of a web-based form that communicates with both the Lab's e-mail system and the Human Resources' employee file. The new TEID web-based page contributed to greatly improved operations and provided customers with an easier and more efficient means to use TEID's services. The streamlining of procedures, downsizing, and the introduction of new software resulted in estimated savings of $22,000 per year.

In an effort to reduce costs to the Laboratory and comply with the Federal Records Center (FRC) and Audit requirements, ARO continued its multiyear task of reprocessing and rescheduling LBNL accessions stored at the Storage facility. This effort should result in a minimum of $5,000 decrease in storage costs next year. TEID has contributed to institutional cost-efficiencies, savings, and improved operations by continuously reengineering its work processes to provide cost-effective products and services.

Printing

In the area of Printing, Technical and Electronic Information Department (TEID) did an outstanding job in operational Effectiveness. TEID constantly reengineering work processes to provide cost-effective products and services as indicated below.

Ninety-nine percent of LBNL's four-color publications are being revised at the proofing state. What this means is that the films are being burned more than once for most documents. However, the Printing Coordinator decided to look at a new digital proofing system and determined that it would be more efficient to use that new technology. The digital proofing system was so successful that Printing Services now uses that system exclusively for all four-color work on the 2990-S contract. Last year $15,000 was spent on corrections. However, using this new digital proofing, system, the Printing Services is expecting the correction cost to be less than half of last years.

Due to new travel restrictions TEID partnered with LANL to have them represent LBNL at the press inspections when necessary. This will provide LBNL customers with significant cost savings plus it fosters a working relationship between LBNL and LANL.

In downsizing the operations of one the copy centers, the Printing Services excessed one color copier resulting a saving of $8,724 a year on maintenance fees plus cost for supplies for the equipment.

Printing Services successfully worked with the Report Coordination to produce a new web-base printing request that captures information that is already in the report database, thus saving considerable duplicate inputting by the customer. Because information is automatically input, there is much less chance for error and the time required to create the print order is significantly reduced.

Unclassified Computer Security

The Laboratory has achieved outstanding results in its cyber computer security program this year. Through continued upgrades to its virus wall and spam filtering systems, the Laboratory has been able to achieve a potentially significant cost savings by reducing the number of successful virus infections and the amount of time and resources needed to deal with junk email. For example, many organizations were severely impacted by several well-publicized new viruses this year (such as "I Love You" and "Melissa"), requiring them to shut down their email systems in order to contain and remove the viruses. However, due to the Laboratory's effectively implemented, layered protection mechanisms, LBNL did not experience any disruptions from these viruses. A similar situation was seen early this year in the area of Internet attacks, when many Internet-based businesses were disrupted by various denial-of-service (DOS) attacks. These attacks brought so much attention, the President asked Departments and Agency heads to renew their efforts to safeguard their computer systems. And, again, due to the Laboratory's effective increased use of and enhancements to its BRO intrusion detection systems, LBNL has successfully blocked such DOS attacks against its computing resources. Such successes were noted during various external reviews of the Laboratory's cyber security program that took place over the last year, when close-out statements by reviewers noted LBNL as being among the top DOE facilities for their intrusion detection capabilities, incident reporting, and overall effectiveness of their cyber security program.

Performance Rating (Adjectival): **Outstanding**	94.00%

Criterion: 1.2 Customer Focus

IM products and services meet customer requirements. **(Weight = 30%)**

Performance Measure: 1.2a Level of Customer Satisfaction

Evaluation of customer satisfaction reviews and implementation of activities toward improvement. **(Weight = 30%)**

Assumptions:

Measurement deliverable results of the customer satisfaction reviews.

Gradients:

Unsatisfactory	No results are demonstrated and little or no effort has been expended in establishing effective processes towards achievement of the performance measure.
Marginal	Results fall short of the expectations for the "good" gradient however some effort has been made to establish effective processes.
Good	A systematic approach to the measurement of customer satisfaction. Evidence of meeting commitments to customer's requirements.
Excellent	Cost effective and/or innovative approaches to measuring customer satisfaction, customer involvement throughout life cycle of information management activities, and evidence of improvement in customer satisfaction.
Outstanding	Sustained high level of customer satisfaction.

Performance Narrative:

IM organizations have done an **outstanding** job in gaining customer involvement into the decision making process. These efforts include getting customer feedback, performing customer satisfaction surveys, and obtaining top management input. The IM organizations metrics show a high level of customer satisfaction. The IM Organizations are using cost effective and organizationally relevant approaches.

Telephone Service Center (TSC)

The Telephone Service Center (TSC) did an outstanding job in meeting customer requirements. TSC has a systematic approach to the measurement of customer satisfaction and has provided evidence of

meeting commitments to customer's requirements. TSC uses cost effective and innovative approaches to measuring customer satisfaction, and has obtained with customer involvement throughout the process. TSC has demonstrated a sustained high level of customer satisfaction.

The TSC has an ongoing program to measure customer satisfaction through customer satisfaction surveys and produces reports that assess the progress of the services provided. To assess the quality of service, the TSC customer surveys measure the promptness of service, cost of service, products offered and overall quality. Customer feedback mechanisms are used, such as the Telephone Service Advisory Advisory Committee (TSAC), with representatives from each division at the Laboratory.

TSC continually monitor its systems. One example is the tracking of repair requests to determine trouble history. TSC has also put measures in place to prevent compromise of the telecommunication system. The TSC Fraud Report tracks the 25 frequently called numbers and check for long duration calls. Daily, weekly, and monthly diagnostic and hardware reports are in place to identify problems with user's mailboxes, voice mail system problems, and also to prevent compromise of the voice mail system. The above measures ensured that the telephone switch and voice mail system were not compromised or hacked.

The TSC procedures, telephone features, and voice mail instructions are on the TSC web site. This fiscal year TSC has included the new web based form for ordering audio conference bridge services, and updated the voice mail web pages and provided a new hard copy of the voice mail user guide as a result of input from TSAC members.

Because of the cross training and increased coverage, the TSC provided a higher level of service, as indicated by the 150 percent increase in the excellent category in quality of service. FY1999 results in this category were 59 percent. FY2000 results show that 85 percent of its customers believe that the TSC provide excellent service. The TSC survey results also show a 60 percent increase in the excellent category of service response. Forty-one percent of the customers felt that that the TSC responded immediately in FY1999. FY2000 results indicate that 62 percent think the TSC responds immediately to customer requests. The TSC has shown sustained high level of customer satisfaction.

Computing Infrastructure Support (CIS)/Information Systems and Services (ISS)

ISS/CIS employs many methods for assessing, identifying improvement opportunities and assuring customer satisfaction. These include surveys, service level metrics and regular interaction with customers at all levels. ISS/CIS has made major efforts this past year to analyze, improve and enhance CIS support services and to reach out to the scientific Divisions.

The CIS Help Desk offers centralized computer-related support for all LBNL employees. The Help Desk receives about 2,200 phone calls per month (with a high of 2,715 in one month). They resolve about 65% of the problems on the phone with the customer. The rest are entered into the Remedy Trouble Ticket system and assigned to a Tier II support group. Customer requests are also received by e-mail and from a Web form. Over the past 12 months, there have been almost 22,000 Remedy tickets generated.

The Trouble Busters team is a group contains representatives from the Help Desk and Tier II organizations. They review all tickets that were not completed in a specified number of days or that had unsatisfactory ratings. The goal is to identify common process-based problems and develop solutions. An example of their success is they found that the number one reason for delays was the

need to order parts. CIS now stocks parts has reduced the average time to resolve difficult problems from 5 to 3 days.

CIS has developed new and innovative methods for monitoring and controlling workload over the past year using control charts, with statistically derived upper and lower control bounds that define a range of values that are consistent with a process that is "in control". When measurements go outside the limits, management becomes aware that a fundamental change in the process may be required.

CIS has installed a new phone system (Automated Call Distribution) that measures call volume. It can measure the total number of calls, the number of voice mails left, the number of hang-ups, etc., for each Help Desk engineer.

A Suggestion Box has been added to the Help Desk Web Page. Employees can click on the link and respond to the question "How can we improve the services CIS provides"? Each suggestion is monitored by the Help Desk Lead, and individual supervisors are responsible for responding to the customer.

The annual ISS/CIS Customer Satisfaction Survey was replaced this year with an innovative and comprehensive effort to measure customer satisfaction and solicit customer requirements. To create a new IT Strategic Computing Plan for the Laboratory, managers from ISS/CIS held feedback meetings with all of the organizations at the Lab, soliciting ideas about where computing services can be added or improved to meet the needs of a particular organization. ISS also solicited feedback about satisfaction with current products and services. The attendees at these meetings include Department Heads, Divisional and Departmental managers, Principal Investigators and administrative staff. These meetings have given ISS/CIS a more in-depth view of the needs of the Laboratory and how our services can be of more benefit.
Other methods employed by ISS/CIS to obtain feedback and interact with customers includes the MIS Management Steering Committee meetings, ISS application group leaders meeting formally several times throughout the year with the management of the functional business unit that they support , and ISS/CIS offers Laboratory-wide town hall meetings and specific training for rollouts of institutional products.

CIS continues to sustain high ratings for customer satisfaction. In fact, the numbers have gone up from last year's baseline. Results of the CIS surveys from July 1, 1999 through June 30, 2000 show a high level of satisfaction. The results from 3392 surveys show the following:

Ease of Contact	8.99
Professionalism	9.30
Met commitments	9.09
Time of resolution	8.90
Overall satisfaction	9.10

ISS/CIS tracking of the availability of its major infrastructure systems provides metrics that show a high reliability of their systems. For example, the availability of the e-mail system has been essentially 100%.

Technical and Electronic Information Department (TEID)

Records Management

In the area of Records Management, TEID did an excellent job in meeting its performance objectives in Customer Satisfaction. Archives and Records sent out one hundred sixty-five web-based survey forms and the results were automatically collected in an Excel spreadsheet. The results of the survey showed 91% of the respondents rated ARO services as Excellent. In response to customer concerns that they were not aware of the services provided by the Archives and Records Office, new web pages were developed to provide more information about the unit's services, links to schedules, and new web-based forms. These new sites provide customers with a readily available, updated, and a central source of information about all the groups within TEID.

In the area of printing, Technical and Electronic Information Department (TEID) has done an outstanding job with Customer Satisfaction. TEID continues to periodically meet with customers to discuss new services and receive feedback about ongoing services. The results from these discussions are incorporated into the Department's weekly meetings and become part of the planning process just as in the previous reporting period. In addition, during the report period, the Department Head and Account Representative made presentations to various groups at the Lab. The purpose of these meetings was to familiarize customers with the services that TEID provided and to get feedback about services that the customers had already received. The feedback was discussed at the Group Leaders' meeting and changes were made in procedures if possible.

Printing Services customer satisfaction questionnaires resulted in positive results. The ratings were 93% excellent and good, 6% adequate, 1% poor. This showed a slight improvement over last year's score which was 91% excellent and good, 9% adequate, 0% poor. Comments from the questionnaires show that customers are still very happy with the turn-around time for internal printing services. However, TEID continues to work with the Government Printing Office (GPO) to decrease turn-around time of some of those jobs.

Performance Rating (Adjectival)**: Outstanding**	92.00%

Criterion: 1.3 IM Stewardship

The IM program manages compliance to requirements and negotiated commitments in specific focus areas. **(Weight 20%)**

Performance Measure: 1.3.a Effective Management of Compliance and Commitments in specific focus areas.

Evaluation of effectiveness of compliance management for contractual, legal and regulatory requirements, operational practices and internal controls. **(Weight 20%)**

Assumptions:

Measurement Deliverable
Evaluation of the Information Management focus areas and any compliance issue appropriate to the laboratory. The Laboratory and its DOE Operations office will agree on IM focus areas.
"Compliance" refers to requirements of law, regulations, and applicable DOE directives.

The agreed to Information Management focus areas for FY00:

? Unclassified Computer Security
? Year 2000

Gradients:

Unsatisfactory No results are demonstrated and little or no effort has been expended in establishing effective processes towards achievement of the performance measure.

Marginal Results fall short of the expectations for the "good" gradient however some effort has been made to establish effective processes.

Good Management techniques are employed to assess the effectiveness of IM Focus Areas performance in support of programmatic and institutional information management needs including internal process controls.

Objective evidence demonstrates progress in identifying and correcting performance and compliance issues. Previous deficiencies have been corrected or have corrective action plans in place.

Excellent There is a sound, systematic approach responsive to the overall purpose of managing assessment processes and implementing corrective actions. Deficiencies in compliance and performance are self-identified and all corrective actions are completed or planned.

Outstanding The Laboratory has institutionalized an evaluation process that effectively identifies performance and compliance issues and corrects weaknesses. Compliance and performance deficiencies are identified and corrected on schedule.

Performance Narrative:

The Laboratory did an **outstanding** job in meeting its Stewardship focus areas. In the area of Year 2000 (Y2K), the laboratory demonstrated a sound, systematic approach responsive to the overall needs of the Laboratory, which resulted in an uneventful Y2K rollover weekend. In the area of Unclassified Computer Security (UCS), the laboratory demonstrated a sound program for protecting the Laboratory's IM resources.

Y2K

The Laboratory made an outstanding multi-year effort in preparing for Y2K that resulted in a problem-free rollover period.

During 1998 and 1999, the Laboratory identified 14 core systems that were subsequently modified, updated and thoroughly tested to assure they meet Y2K requirements. In addition, extensive efforts were focused in all other server and desktop hardware and software systems, with particular emphasis on the Laboratory's Environmental, Health, and Safety systems, in which ISS took the lead role in the compliance efforts. The Telephone System was also tested to ensure Y2K compliance. Preparation included the testing of all of the active versions of the Oracle RDBMS to ensure they were Y2K certified. Maestro scheduling software was also upgraded to version 6.1 in order to achieve Y2K compliance. A detailed inventory of the components of the remaining legacy financial systems was done. ISS analyzed over 1200 system components for Y2K vulnerability, and found that approximately 10%, or 122, required remediation to successfully make the transition from 1999 to 2000.

ISS also verified that its commercial, off-the-shelf systems, including PeopleSoft General Ledger and Projects, and Oracle Purchasing, were certified by their respective vendors as Y2K-ready. This included a review of system interfaces and other program extensions developed in-house. ISS performed testing simulating Y2K runtime conditions. For the IBM mainframe applications, ISS used Princeton Software's Hourglass 2000 product to manipulate the IBM system's clock settings to simulate various runtime environments between December 1999 and March 2000. For Unix-based applications, ISS used the dedicated Y2K test system, ISSY2K, and manipulated the system clock as needed.

ISS invested considerable time and resources on preparing our EH&S systems for Y2K. Old legacy applications, old hardware and old operating systems were upgraded as required, all of the applications were tested, and corrective actions were taken where needed. The effort required the analysis of about 30 commercial and locally developed embedded objects, serving a wide variety of functions, including automated site access, hazardous substance monitoring, remote detection, data acquisition, meteorological monitoring, logging, and emergency first aid. Most of these could not be tested directly, and required communication with the vendors to obtain the necessary Y2K certifications. A significant number of subsystems required replacement with newer, Y2K certified models. In response to these preparation efforts, EH&S was specifically commended in the report issued by the Department of Energy's Y2K onsite review.

Significant monitoring activities were performed by ISS and CIS staff during the year-end holidays. After the initial transition to 2000 was complete, Laboratory staff returned after the Holiday shutdown

on January 4 to fully operational systems. Additional monitoring was performed on other critical dates early in 2000, including January 31 (the first Y2K month-end), February 29 (leap day), and March 31 (the first quarter-end). The telephone system also worked without a flaw. The Laboratory's Y2K efforts resulted in a successful rollover with no problems.

Unclassified Computer Security

The Laboratory did an excellent job managing its compliance requirements for Unclassified Computer Security. During this rating period DOE issued several new cyber security-related policies which the Laboratory worked diligently to successfully implement. Of major importance was completion of the Laboratory's Cyber Security Program Plan (CSPP), in compliance with DOE Notice 205.1, and an associated Implementation Plan. In addition, the Laboratory developed protection plans for the NERSC, ESnet, and ISS, due to their unique mission and computer resource requirements. And the Laboratory effectively focused additional cyber security attention to its financial systems by correcting vulnerabilities found through the use of specific scanning efforts. Final implementation of a firewall for production systems containing financial data was also completed, which successfully addressed a 1998 Inspector General finding. The Laboratory has done an excellent job of performing custom developed scans for specific high-risk vulnerabilities in order to find and correct potential problems before such vulnerabilities can be exploited. Additionally, as the Laboratory continues to develop and enhance its plans for more systematic scanning using their commercial scanning tool, LBNL's risk analysis project will play a key role in helping to prioritize the corrective actions for newly identified vulnerabilities.

Performance Rating (Adjectival): **Outstanding**	90.00%

Criterion: 1.4 Strategic and Tactical Planning

IM plans and practices are aligned with Laboratory strategic and tactical requirements.

(Weight = 20%)

Performance Measure: 1.4.a Planning Initiatives

Evaluation of evidence that Information Management is aligned with the Laboratory's missions.

(Weight = 20%)

Assumptions:

Measurement deliverable IM plans or descriptions of IM initiatives that support the mission and plans of the Laboratory. Reference may be made to accessible work products or other existing Laboratory documentation

Gradients:

Unsatisfactory	No results are demonstrated and little or no effort has been expended in establishing effective processes towards achievement of the performance measure.
Marginal	Results fall short of the expectations for the "good" gradient however some effort has been made to establish effective processes
Good	Evidence of a planning process exists that drives IM practices to align with the Laboratory's missions.
Excellent	Objective evidence has been provided to demonstrate that IM activities provide effective support for the Laboratory's missions.
Outstanding	Evidence that the IM planning process can adapt to changing conditions, employs sophisticated methods or planning tools, and has received external recognition or benchmarking that indicates best-in-class performance.

Performance Narrative:

Measure 4

The IM Organizations did an **outstanding** job in strategic and tactical planning. The Planning process aligns IM practices to Laboratory's missions. In addition, the IM activities provide effective support for the Laboratory's missions by returning cost avoidance and savings to the programmatic mission. The IM planning process is extensive and has been shown capable of adapting to changing conditions.

The planning process employs sophisticated methods of planning and has resulted in a state of the art IM environment.

Telephone Service Center (TSC)

The Telephone Service Center (TSC) did an outstanding job in its planning efforts. TSC has a planning process that drives its practices to align with the Laboratory's missions. TSC has demonstrated that its activities provide effective support for the Laboratory's missions. TSC's planning process employs sophisticated methods and has demonstrated successes as a result of its planning efforts.

The Telephone Service Center's overall goals are based on the Laboratory's Strategic Plan for Operations and Infrastructure outlined in the Berkeley Lab Institutional Plan. The TSC objective is to support the Laboratory's mission and goals by integrating Telephony technology seamlessly with the Laboratory's scientific research and support functions. This is aligned with Berkeley Lab's efforts in Information Management to provide cost-effective, technologically appropriate support for the programmatic mission and administrative functioning of the Berkeley Lab. A number of these objectives depend upon new technology which are in early stages of release by telecom vendors and other suppliers. TSC has created a proritized list of TSC objectives:

- Emerging Technologies Evaluation
- PBX Replacement Project
- FTS 2001 Transition
- Audio Conference Bridge
- Joint Genome Institute (JGI) Voice Communication Installation Phase II
- Oakland Scientific Facility Planning
- Annual Coordinator Training
- Telemanagement Web Integration
- Local, Long Distance and International Review
- Voice over IP (VoIP) analysis and evaluation
- Audit of billed equipment not used

The most critical objectives for FY2000 were the evaluation of the replacement of the Laboratory's PBX, FTS2001 Transition, the audio conference bridge, and the second phase of the Joint Genome Institute (JGI).

The TSC demonstrated extensive planning in replacing its Private Branch Exchange (PBX), an Intecom IBX S/80 installed in 1988 and nearing the end of its life cycle

TSC conducted market research in order to gain a thorough understanding of the marketplace for large-scale next generation PBXs or as an alternative, other emerging telecommunication technologies, such as Voice over IP (VoIP) and wireless. The requirements of LBNL's were used as the basis of the research. The process used to research the market included researching LBNL's requirements, conducting technical site visits of all PBX manufacturers capable of supporting LBNL, responding to vendor questions, clarifying and evaluating vendor responses, and preparing the market research report. As a result, TSC determined that it would be more cost effective to upgrade the existing PBX to an Intecom E 14 and recommended a phased implementation, which will provide greater flexibility during installation. TSC has prepared the scope of work and issued and RFP to purchase this system.

Another successful planning effort was the transition to FTS 2001. TSC participated in several activities to transition to FTS 2001. The TSC ensured that there was enough trunking capacity in the PBX switch, as dual service was required during the transition. Phased transition was done off-hours. This contract also changed telecom vendors from AT&T to MCI Worldcom, which required that the TSC change out the facilities to provide long distance and international services. As a result, LBNL will be one of the first Laboratories to transition to FTS2001

Another success due to TSC planning was the Phase II of the Joint Genome Institute (JGI) which involved the relocation and addition of personnel that were to be located Building 400 in Walnut Creek. The TSC was tasked to provide technical assistance on the design and reconfiguration of the PBX and voice mail to accommodate the additional staff. The TSC installed test lines, ordered and installed additional cards for the Option 11C PBX, coordinated the installation of telecommunication equipment and trained JGI staff on the telephone and voice mail systems changes.

Finally, The TSC in conjunction with LBLnet and Communication Facilities is in the process of developing a Networking and Telecommunication five year strategic plan to develop recommendations regarding communication strategies to be undertaken in support of the Laboratory's mission and objectives.

Computing Infrastructure Support (CIS)/Information Systems and Services (ISS)

CIS/ISS has done an outstanding job in ensuring that its planning supports the Laboratory's mission. The planning process employs sophisticated methods and planning tools. CIS/ISS planning documents include the LBNL Institutional Plan, Financial Systems Plan, ISS Strategic Plan, and CIS/ISS's Objectives where the "critical few" objectives are identified, which have the greatest impact on the fulfillment of the CIS/ISS Strategic Plan and greatest impact on the Laboratory mission. CIS/ISS's long-range plans and objectives are based on the Laboratory's Strategic Plan for Institutional Processing, which was issued in January 1995. Considerable customer input and review of CIS/ISS plans is done through the MIS Management Steering Committee, which was established specifically to help align CIS/ISS plans with the Laboratory mission and customer requirements. This group is chaired by the Associate Laboratory Director for Operations and includes all of the Operations Division Directors and Department Heads along with key members of their staff and the Business Managers for each of LBNL's Scientific Divisions.

A major component of the planning effort is the development of long range system plans for each of the Operations departments. These plans delineate the new systems requirements and improvements needed by each of ISS's customer organizations and identifies funding needs, both those which can be met with existing resources and those which will require additional funding. Each Operations department presents its plans to the MIS Steering Committee. The individual plans are then consolidated into an overall long-range development and funding plan for the entire Operations organization, which is reviewed by the senior Operations management staff. This plan is backed up by each department's detailed plans and represents a very specific view of the future.

The CIS/ISS management team and senior technical staff conduct annual off-site conferences to review the results of our customer's planning efforts and to set specific objectives for our work. CIS/ISS established 19 objectives for the past year, seven of which were the critical few. The seven critical few objectives were

1) Complete Y2K Compliance
2) Develop new budget system.

3) Evaluate and implement additional computer security.
4) Replace Work for Others legacy system with new Billing and A/R systems.
5) Complete replacement of the Travel System with the Extensity web-based system.
6) Develop Oracle replacement for the Space System.
7) Develop a consolidated computing strategic plan for the Laboratory.

Five of the seven objectives were accomplished. The replacement of the Travel System has been delayed owing to substantial problems which both LBNL and LLNL have encountered with the Extensity system. The updating of the Lab's computing strategic plan was slowed by vacancy of the Division Director's position in ICSD. Computing Sciences requested that completion of this effort be deferred until a new Division Director is named to enable him/her to influence the directions of the plan.

The majority of the lower-priority goals on the above list have also been completed and the remainder has been carried forward to next year's priorities. In particular, considerable progress was achieved with improving the Lab's staff recruitment process through the implementation of the Restrac system and the development of new web capability for publishing job openings and attracting applicants. The Preventative Maintenance system was replaced with Maximo, the PMTS system from Oak Ridge was implemented for automating the Field Task Proposal process and all CIS/ISS use of Focus was eliminated. This latter accomplishment is particularly significant since Focus was used by ISS for more than ten years to develop numerous in-house applications, which have now been replaced. The CIS/ISS Disaster Recovery Plan was finalized, tested and issued, and as discussed elsewhere in this report good progress has been made in further improving the problem resolution process.

CIS/ISS has established its objectives for fy2001 and include 19 objectives, 8 of which are considered the "critical few." The critical few objectives are

1) Develop new Funding System
2) Replace the Sponsored Proposal and Project Tracking system
3) Fully implement the Extensity Travel System
4) Develop comprehensive plan for Electronic Commerce, including:
   - Replacement/upgrade of the Oracle Purchasing System
   - Web-based front end for purchasing card and systems contracts
   - Replacement of the A/P system
5) Complete the revision of the Strategic Plan for Computing
6) Revise and document the CIS/ISS Technical architecture
7) Implement move of systems to Oakland data center
8) Develop and implement Web Lets enhancements

<u>Technical and Electronic Information Department (TEID)</u>

Records Management

In the area of Records Management, TEID demonstrates excellent support of the Laboratory's mission and goals by providing timely, high quality, and cost-effective services that help the scientific staff communicate Berkeley Lab's world-class science. Specific evidence demonstrating that TEID provides effective support for the Laboratory's mission is:
• Compliance with recommendations from LBNL Audit Department ARO developed a unique web-based form for requesting records.

• ARO worked with the Environmental Health and Safety Division on a project to all tritium-related records. As a result of this work the Laboratory was able to demonstrate that the radiation from the early Bevatron had been overestimated, which resulted in a Spot Award for one of the ARO employees.
• As a result of the Internal Audit report the Laboratory began reprocessing and rescheduling records stored at the Federal Records Center, and has rescheduled 2,384 containers, with 1,887 ready for destruction.
• The Archives and Records Office works in close cooperation with the National Archives and Records Administration (NARA's) Pacific Region Records Facility to preserve, maintain, and provide access to Laboratory records.

Printing

In the area of Printing, Technical and Electronic Information Department (TEID) has an outstanding planning process that is in align with the Laboratory's mission which is described in Section 5.04 of the Laboratory's Regulations and Procedures Manual. Each year the Printing section prepares a Printing and Publishing Activities Three-Year Plan that is required by the Joint Committee on Printing (JCP). This report contains data on unit volumes, revenues, and costs. This aids in tracking printing and duplicating activity and costs. The completed report is sent to the Oakland's Operations Office per request. TEID management continues to periodically meet with the customers to understand the client's needs and concerns. In turn, the TEID Group Leaders meet weekly to discuss production planning, customer feedback and service improvements, prioritize and implement projects, and follow through with projects until successful completion. The results from these discussions are incorporated into the strategic plan.

Unclassified Computer Security

The Laboratory has done an outstanding job of upgrading and expanding its cyber security program, as a result of the strategic and tactical planning efforts of previous years. Those efforts have resulted in significant expansions of the Laboratory's intrusion detection and blocking capabilities, virus detection, vulnerability scanning, and other critical elements of an effective cyber security program. As noted in Measure 1.3.a, the Laboratory has done an excellent job in rapidly implementing several new DOE cyber security policies that were issued during this rating period. In particular, a significant effort was expended in planning and development of the LBNL CSPP and associated documents. The Laboratory has also continued to effectively utilize the expert skills of various personnel that make up LBNL's Computer and Communications Security Committee and the Systems and Network Security Team. In addition, several new initiatives (incident database and risk assessment model development) currently in the early planning stages should provide Laboratory management with a much clearer understanding of LBNL's cyber security posture.

Performance Rating (Adjectival): **Outstanding**	92.00%

Performance Area: PROCUREMENT

Performance Objective: #1 Management of Internal Business Processes

The Laboratory shall have systems in place to ensure Procurement programs operate in accordance with policies and procedures approved by DOE and which ensure that business is conducted at an optimum operational effectiveness level. **(Weight = 70%)**

Criterion: 1.1 System Evaluation

The Laboratory conducts, documents, and reports annually, the results of a successful assessment of its purchasing system against established evaluation criteria. **(Weight = 30%)**

Performance Measure: 1.1.a Assessing System Operations

The Laboratory shall develop and submit a risk-based system evaluation plan (protocol) to DOE and UC no later than October 1, 1999, for review and concurrence. The procurement system shall be assessed against system evaluation criteria as identified in the plan. In addition, an aggressive, cost effective management plan for resolution of system deficiencies and opportunities for process improvement shall be developed. Management of the results of the system assessment shall be evaluated. System deficiencies will include those identified by the Laboratory, internal Laboratory organizations, and external organizations. **(Weight = 30%)**

Assumption:

The Procurement organization will provide in their annual self-assessment report, for information purposes only, the number and a brief description of critical processes reengineered/redesigned/revalidated. Such input will not be part of the rating process and will be used for Balanced Scorecard reporting purposes.

Gradients:

Unsatisfactory There is not an approach to the primary purpose of the system evaluation and there are major gaps in deployment of the assessment process. Cost benefit analyses and risk assessments are not accomplished and opportunities for improvement are not addressed. Leadership involvement is not evident.

Marginal There is a basic approach to the primary purpose of the system evaluation. Cost benefit analyses and risk assessments are applied to some deficiencies and opportunities for

	improvement are generally addressed. Remedial actions are pursued and leadership involvement is evident in some cases.
Good	There is a sound, systematic approach, responsive to the primary purpose of the system evaluation. Cost benefit analyses and risk assessments are good when addressing deficiencies and/or opportunities for improvement. Remedial actions are appropriate and demonstrate responsible leadership in many to most cases.
Excellent	The requirements for a "good" rating are met. In addition, the approach is responsive to the overall purpose of the system evaluation and cost benefit analyses and risk assessments are good to excellent when addressing deficiencies and/or opportunities for improvement. Remedial actions are sound and demonstrate responsible leadership in most cases.
Outstanding	The requirements for an "excellent" rating are met. In addition, the approach is fully responsive to all the requirements of the system evaluation and cost benefit analyses and risk assessments are excellent when addressing deficiencies and/or opportunities for improvement. Remedial actions are sound and demonstrate strong leadership in most cases.

Performance Narrative:

LBNL has a well-developed and proven approach to systems evaluation. The methodology is comprehensive and fully responds to the risk-based system evaluation plan approved by DOE. The Procurement system assessments are conducted in accordance with the laboratory Procurement System Evaluation Standards criteria, which incorporates elements of the Balance Scorecard and best commercial practice principles and functions.

In FY 2000, the laboratory conducted on-going system evaluation in the following four areas: (1) Procurement Card purchases; (2) Policies and Procedures (Standard Clauses); (3) Consultant/Personal Services Agreements; and, (4) Miscellaneous Subcontracts. No deficiencies were noted in the areas of Procurement Card Purchases or Miscellaneous Subcontracts. In the Policies and Procedures (Standard Clauses), and Consultation/Personal Services Agreements areas, a total of five findings were identified. Risk and cost benefit analyses were performed for each finding to address system improvements and corrective actions. Findings for the Standard Clauses indicated the need for clearer internal guidance and corrections to Federal Acquisition Regulations title numbers incorrectly referenced in Standard Practices and contract provisions. The laboratory Procurement Manager determined the findings essential (high risk), and therefore accepted and implemented the recommendations. A risk assessment was deemed unnecessary. This resulted in revisions to the laboratory's general provisions, and administrative corrections to the procurement flowdown matrix. In addition, the Procurement Manager has worked to improve coordination between his department, UCLAO and IPOC to manage regulatory reference changes in policies and provisions. Assessment of the Consultant/Personal Services Agreements resulted in one recommendation on the lack of written guidance on use of the Patent Certification and Data Statement form. The cost to implement the recommendation was considered minimal, and the benefit resulted in improved procurement efficiency and reduced risk. Corrective actions were scheduled and completed on time except for one.

LBNL continues to perform effectively and efficiently in meeting scheduled assessment dates, evaluating, identifying findings, addressing system deficiencies, analyzing root cause and cost benefits, and prioritizing corrective actions. The laboratory continues to maintain a sound and

outstanding procurement evaluation system, as demonstrated by the strong leadership of the laboratory Procurement Manager, and the collaborative effort of his staff and external organizations.

Performance Rating (Adjectival)**: Outstanding**	95.00%

Criterion: 1.2 Pursuing Best Practices

The Laboratory compares its operational effectiveness to benchmarking data and industry standards and establishes goals and gradients accordingly. **(Weight = 20%)**

Performance Measure: 1.2.a Measuring Effectiveness

The Laboratory will be measured against benchmarks and industry standards for cycle time and utilization of alternative procurement approaches/techniques [e.g. Purchasing Cards, Verbal Orders, Just-in-Time (JIT) Contracts, Material Release System (MRS), Electronic Data Interchange (EDI), Blanket Orders, Leveraged Buys, Stores, and Low Value Purchases]. **(Weight = 20%)**

Assumptions:

The following formula shall be applied to measure the utilization of alternative procurement approaches/techniques:
Utilization of Alternative Procurement Approaches/Techniques =

$$\frac{\text{Number Of Transactions Placed Outside Of Procurement}}{\text{Total Number of Transactions}}$$

Gradients:

Cycle Time

Unsatisfactory > 16.9 Days
Marginal 16.0 – 16.9 Days
Good 15.0 – 15.9 Days
Excellent 13.0 – 14.9 Days
Outstanding 10.5 – 12.9 Days

Alternative Procurement Approaches

Unsatisfactory < 70.0%
Marginal 70.0% – 74.9%
Good 75.0% – 79.9%
Excellent 80.0% – 84.9%
Outstanding $\geq$ 85.0%

Performance Narrative:

LBNL exceeded the established goals for cycle time. Lab result of 7 days compares favorably with the Center for Advanced Procurement Studies (CAPS) DOE Contractor benchmark of 10.5 days. The laboratory also reduced their FY 1999 result from 7.2 days to 7.0 days. This was achieved despite the expanded effort to decentralize low value procurements via Alternate Procurement Approaches (APA).

The APA for this review period was 90.3 percent. This was accomplished, by an increase in the number of procurement transactions awarded by individuals outside of the Procurement office thus allowing Procurement to focus on more complex-subcontracting actions. The laboratory's total cumulative APA include orders issued by Division Field Buyers, Procurement Cardholders, and System Contract Users of which Procurement Cardholders account for the majority of the APA transactions.

In FY 2000 a total of 63,139 procurement transactions were processed compared to a total of 45,900 transactions in FY 1999. Of the 63,139 transactions, the APA in FY 2000 is 56,984, in comparison to 47,669 total APA in FY 1999.

Performance Rating (Adjectival)**: Outstanding**	95.00%

Criterion: 1.3 Supplier Performance

The Laboratory shall manage its suppliers in such a manner as to ensure that the goods and services provided meet the Laboratory's requirements. **(Weight = 15%)**

Performance Measure: 1.3.a Measuring Supplier Performance

The Laboratory shall measure the performance of its key suppliers. Supplier performance will be measured against goals and gradients agreed to below. **(Weight = 15%)**

Gradients:

Measuring Key Suppliers of Commodities

Unsatisfactory	< 76.0%
Marginal	76.0% – 80.9%
Good	81.0% – 85.9%
Excellent	86.0% – 90.9%
Outstanding	≥ 91.0%

Performance Narrative:

LBNL achieved an aggregate on-time delivery of 86.1 percent, a reduction from the FY 1999 achievement of 88 percent. The laboratory sought to improve and maintain the aggregate delivery performance of key suppliers defined as commodity vendors who received a minimum of 20 orders and over $100,000 worth of laboratory business in FY 1999. The baseline was established at 88 percent based on their FY 1999 performance. Laboratory Procurement raised the on-time results from a marginal through the second and third quarters, to an excellent rating in the last quarter of the fiscal year. Procurement and the Laboratory need to promote more effort to obtain supplies on time. Procurement stated that, improvements to delivery performance of key suppliers are anticipated during the next evaluation period due to the hiring of a new Commodity Section Team Leader who will focus greater attention on supplier management activities. The Procurement office plans to (1) establish and maintain good supplier relations; (2) diligently monitor the delivery of orders; and (3) effectively demonstrate contract administration efforts by buyers in both the pre-award and post-award phases for FY 2001.

Performance Rating (Adjectival)**: Excellent** 80.00%

Criterion: 1.4 Socioeconomic Subcontracting

The Laboratory shall support and promote socioeconomic subcontracting programs.

(Weight = 5%)

Performance Measure: 1.4.a Meeting Socioeconomic Commitments

The percentage of actual subcontract dollar obligations (not subcontract face value) in the following four categories will be compared against goals negotiated under Appendix D of the Prime Contract for FY 2000.

(a) Small Business
(b) Small Business Set-Asides
(c) Small Disadvantaged Business
(d) Women-Owned Small Business

The Laboratory will propose and provide supporting rationale and statistical support for socioeconomic goals by October 1, 1999. **(Weight = 5%)**

Assumptions:

It is recognized that pursuit of cost effectiveness and best business practices may have an impact on the establishment of socioeconomic goals and/or on the final achievement of such goals. Consideration will be given to this impact during forecasting and mid-year updates of goals and during evaluation of self-assessments.

Obligations qualifying in more than one category may be counted in more than one category, e.g., Small Business and Small Business Set-Asides. Lower tier subcontracts cannot be counted toward the primary goal, but may be goaled and reported separately.

The purchasing base for purposes of this measure is all obligations incurred during the fiscal year period, excluding: (1) Subcontracts with foreign corporations which will be performed entirely outside of the United States; (2) Utilities (gas, sewer, water, steam, electricity and regulated telecommunications services); (3) Federal Supply Schedule Orders when all terms of the GSA contract apply; (4) GSA Orders when all terms of the GSA contract apply; (5) Agreements with DOE management and operating contractors and University campuses; (6) Federal government and DOE mandatory sources of supply; Federal prison industries, industries of the blind and handicapped; and (7) Procurement card purchases.

Gradients:

Unsatisfactory Meets none of the goals with consideration given to changes in funding profiles, changes in forecast, deletion of requirements, etc.

Marginal Meets some but not all goals with consideration given to changes in funding profiles, changes in forecast, deletion of requirements, etc.

Good Meets all goals with consideration given to changes in funding profiles, changes in forecast, deletion of requirements, etc., should goals not be met.

Excellent Exceeds three of the four goals and meets the fourth goal. Consideration will be given to regional/local outreach programs, Good Neighbor Program, awards/recognition, pilot program participation, and/or other support for DOE socioeconomic programs when the Laboratory is borderline to meeting a goal that leads to a rating of Excellent.

Outstanding Exceeds all goals. Consideration will be given to regional/local outreach programs, Good Neighbor Program, awards/recognition, pilot program participation, and/or other support for DOE socioeconomic programs when the Laboratory is borderline to meeting a goal that leads to a rating of Outstanding.

Performance Narrative:

Category	Goals	Results	Dollars
Small Business	38.0 percent	56.8 percent	$71.5M
Small Business Set-Asides	21.0 percent	25.3 percent	$31.8M
Small Disadvantaged Business	10.0 percent	14.4 percent	$18.1M
Women-Owned Small Business	5.0 percent	5.1 percent	$ 6.4M

In accordance with Appendix D of the Prime contract, increases in the capital equipment for the Oakland computing center and the Advanced Light Source resulted in a mid-year adjustment increase to the small business and the small business set-aside goals. Based on the FY 2000 achievement with a total procurement base of $125.9 million, the laboratory exceeded all four socioeconomic goals. The Small Disadvantaged Business goal of 14.4 percent or $18.1 million dollars achievement is particularly noteworthy since this goal was not met in FY 1999. The achievements are commendable, and directly related to the laboratory's outreach efforts. Once again improvement is needed in forecasting method given the inability of the current system to adequately project goals.

Performance Rating (Adjectival): **Outstanding**	93.00%

Performance Objective: #2 Customer Satisfaction

The Laboratory shall periodically assess the degree of satisfaction with Procurement's ability to meet customer needs in terms of timeliness, quality, and communications. **(Weight = 10%)**

Criterion: 2.1 Customer Feedback

As a continuous indicator of overall customer satisfaction, the Procurement function shall survey the needs and satisfaction of its Laboratory customers relative to its purchasing systems and methods. **(Weight = 10%)**

Performance Measure: 2.1.a Customer Satisfaction Rating

A customer satisfaction rating for the Procurement function shall be created from the results of transactional surveys. The satisfaction rating is to be tracked and trended. The Parties will coordinate on the acceptability of the surveying process and contents. **(Weight = 10%)**

Assumptions:

Included in the evaluation will be a summary describing the activities that support the score achieved. Consideration will be given to activities/efforts taken to improve customer satisfaction.

The following formula shall be applied to measure customer satisfaction using transactional surveys:

$$\text{Customer Satisfaction Rating} = \frac{\text{Number of Satisfied Customers}}{\text{Total Number of Customers Surveyed}}$$

Gradients:

Unsatisfactory $< 60\%$ of customers responding to transactional surveys are satisfied.
Marginal 60% - 69.9% of customers responding to transactional surveys are satisfied.
Good 70% - 79.9% of customers responding to transactional surveys are satisfied.
Excellent 80% - 89.9% of customers responding to transactional surveys are satisfied.
Outstanding $\geq 90\%$ of customers responding to transactional surveys are satisfied.

Performance Narrative:

LBNL achieved a 93.8 percent for customer satisfaction earning an outstanding rating. The results of the Customer Satisfaction survey were based on the transactional surveys conducted on internal customers, in lieu of climate surveys in FY 1999. FY 2000 survey totals indicate that 45 out of 48 respondents were satisfied with the manner in which a recent procurement was processed. The outstanding rating is credited to the laboratory efforts to improve and simplify systems, and more customer focus and involvement to resolve problems and improve processes. Significant improvements and more convenience to users in laboratory procurements are due to a great extent to the new Oracle-based purchase order alert system, NetReq, the new improved IRIS II data warehouse, and faster on-line system contract reports.

Performance Rating (Adjectival)**: Outstanding**	90.00%

Performance Objective: #3 Learning and Growth

The Laboratory shall ensure that information and feedback mechanisms are available to procurement employees to enhance continued successful procurement operations. **(Weight = 10%)**

Criterion: 3.1 Employee Feedback

The Laboratory shall foster improvement of processes and performance by assessing and pursuing improvements in employee satisfaction. **(Weight = 5%)**

Performance Measure: 3.1.a Employee Satisfaction Rating

A Procurement employee satisfaction rating shall be created from the results of an employee survey. The satisfaction rating is to be tracked and trended. The Parties will coordinate on the acceptability of the surveying process and contents. **(Weight = 5%)**

Assumptions:

Included in the evaluation will be a summary describing the activities that support the employee satisfaction rating achieved. Consideration will be given to activities/efforts taken to improve employee satisfaction.

The following formula shall be applied to measure employee satisfaction:

$$\text{Employee Satisfaction Rating} = \frac{\text{Number of Satisfied Employees}}{\text{Total Number of Employees Surveyed}}$$

The Procurement organization will provide in their annual self-assessment report, for information purposes only, percent of employees aligned. Such input will not be part of the rating process and will be used for Balanced Scorecard reporting purposes.

Gradients:

Unsatisfactory $< 50\%$ of employees responding to survey are satisfied.
Marginal 50% - 59.9% of employees responding to survey are satisfied.
Good 60% - 69.9% of employees responding to survey are satisfied.
Excellent 70% - 79.9% of employees responding to survey are satisfied.
Outstanding $\geq 80\%$ of employees responding to survey are satisfied.

Performance Narrative:

Employee Satisfaction was based on the use of a questionnaire revised this rating year, distributed to all regular and indeterminate Procurement employees. The FY 2000 result of 90 percent indicates that a total of 27 out of 30 respondents were positive about their work and felt pride in their accomplishments, and in having the appropriate materials and equipment to perform their work. This result is a significant improvement of 81.2 percent in FY 1999. Some notable survey comments were: (1) procurement is understaffed; (2) building heating problem; and, (3) the need for cross training and more promotions. In response to procurement being understaffed, one full-time employee was hired and contract labor employees were hired to help with the fiscal year-end workload. Also, Procurement has implemented a cross-training program for employees interested in expanding their job skills. Other reasons for employee satisfaction include improved information availability, telecommuting, performance awards, and new or improved on-line reports.

Performance Rating (Adjectival)**: Outstanding**	93.00%

Criterion: 3.2 Information Availability

The Laboratory shall make readily available to its employees current information important to the successful performance of their procurement related functions. **(Weight = 5%)**

Performance Measure: 3.2.a Measuring Availability of Information

The Laboratory will track and trend the level of information available to Procurement employees. **(Weight = 5%)**

Assumptions:

Information is considered available if it is current or requires only minor revision and the information is in compliance with Prime Contract requirements.

The following formula shall be applied to measure the level of information availability:

$$\text{Level of Information Availability} = \frac{\text{Number of Information Items Available}}{\text{Number of Information Items Needed}}$$

Gradients:

Unsatisfactory	< 94.0%
Marginal	94.0% - 94.9%
Good	95.0% - 95.9%
Excellent	96.0% - 96.9%
Outstanding	≥ 97.0%

Performance Narrative:

The laboratory continues to successfully monitor the availability of Procurement information and completed gap-reduction efforts under its deployment plan. The laboratory completed four of five FY 2000 milestones, and has identified and completed one additional item. As a result, 100 out of 101 items needed (or 99 percent) are currently available. Procurement achieved an outstanding rating.

In FY 2000 the laboratory counted the entire Standard and Laboratory Practices as one element of information. For FY 2001, the laboratory agreed to count each Standard Practice as a single information element.

Performance Rating (Adjectival)**: Outstanding** 93.00%

Performance Objective: #4 Managing Financial Aspects

The Laboratory shall ensure optimum cost efficiency of purchasing operations. **(Weight = 10%)**

Criterion: 4.1 Process Cost

The Laboratory compares its operating costs as a percentage of total procurement dollars obligated to benchmarking data and industry standards and establishes goals and gradients accordingly.
(Weight = 10%)

Performance Measure: 4.1.a Cost to Spend Ratio

Operating costs as a percentage of total procurement dollars obligated will be computed. The Laboratory's operating costs (labor plus overhead) shall be divided by purchasing obligations.
(Weight = 10%)

Assumptions

The following formula shall be applied to measure the cost to spend ratio:

$$\text{Cost to Spend Ratio} = \frac{\text{Purchasing Organization Cost}}{\text{Total Purchasing Obligations}}$$

Gradients:

Unsatisfactory	> 2.50%
Marginal	2.21% – 2.50%
Good	1.96% – 2.20%
Excellent	1.70% – 1.95%
Outstanding	< 1.70%

Performance Narrative:

CAPS data was used exclusively for the first time this year in benchmarking cost to spend ratio. The result of 1.13 percent compare favorably against the CAPS DOE Contractor benchmark of 2.9 percent. The positive result confirms the Procurement organization operates efficiently. The laboratory

continues to be one of the best within DOE for contractors with similar size and mission. This is directly attributed to the Procurement Manager managing his resources effectively and efficiently.

Performance Rating (Adjectival)**: Outstanding**	95.00%

Performance Area: PROPERTY

Property Management will employ the Property Performance Assessment Model (PPAM) for Fiscal Year 2000. The Property Management organization will finalize its final assessment plan with DOE and UC by October 1, 1999. This plan will cover performance thresholds, performance ranges (gradients), specific scoring criteria, and frequency of reporting.

In this Model, points are used to determine the score for each activity. Weights and the corresponding points are shown below at the Objective, Criteria, and Performance Measure levels. At the Basis for Rating level, the total possible points for each activity are shown. Overall ratings will be based on the following (where a total weight of 100% is equal to 500 points):

< 352 Unsatisfactory
>= 352 Marginal
>= 400 Good
>= 450 Excellent
>= 475 Outstanding

The Adjectival Rating and Contractual Score will be assigned using the following scoring table:

Property Management
Scoring Table

PPAM Points Earned	Translation to Appendix F Contractual Scoring	Adjectival Rating
304-319	52	**Unsatisfactory**
320-335	55	
336-351	58	
352-367	62	**Marginal**
368-383	65	
384-399	68	
400-416	72	**Good**
417-432	75	
433-449	78	
450-459	82	**Excellent**
460-468	85	
469-474	88	
475-483	92	**Outstanding**
484-492	95	
493-500	98	

Performance Objective: #1 Accountability for Equipment, Sensitive Property, and Precious Metals

The Laboratory shall ensure accountability for equipment and sensitive personal property and precious metals. **(Weight = 55% / Total Points = 275)**

Criterion: 1.1 Accountability for Equipment, Sensitive Property, and Precious Metals

The Laboratory shall conduct successful personal property and precious metal inventories as established in its inventory planning. **(Weight = 40% / Total Points = 200)**

Performance Measure: 1.1.a Property and Precious Metals Accounted For

The percentage of personal property and precious metals accounted for, as described in the approved inventory plans, will be measured. **(Weight = 40% / Total Points = 200)**

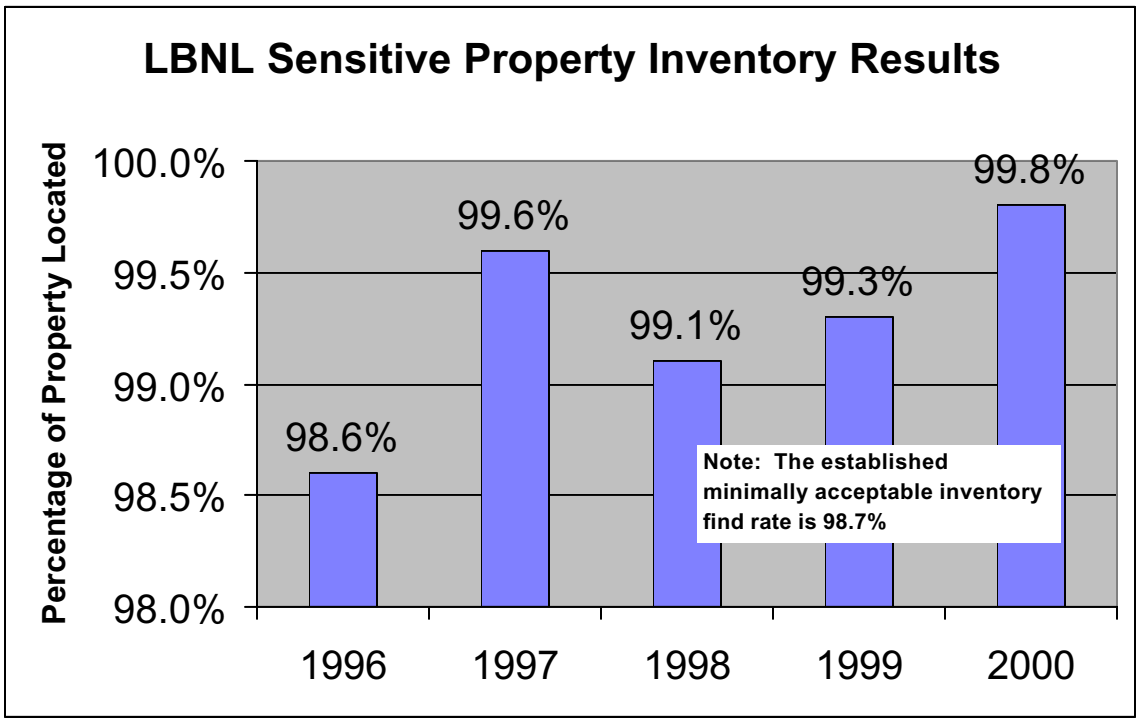
Basis for Rating:

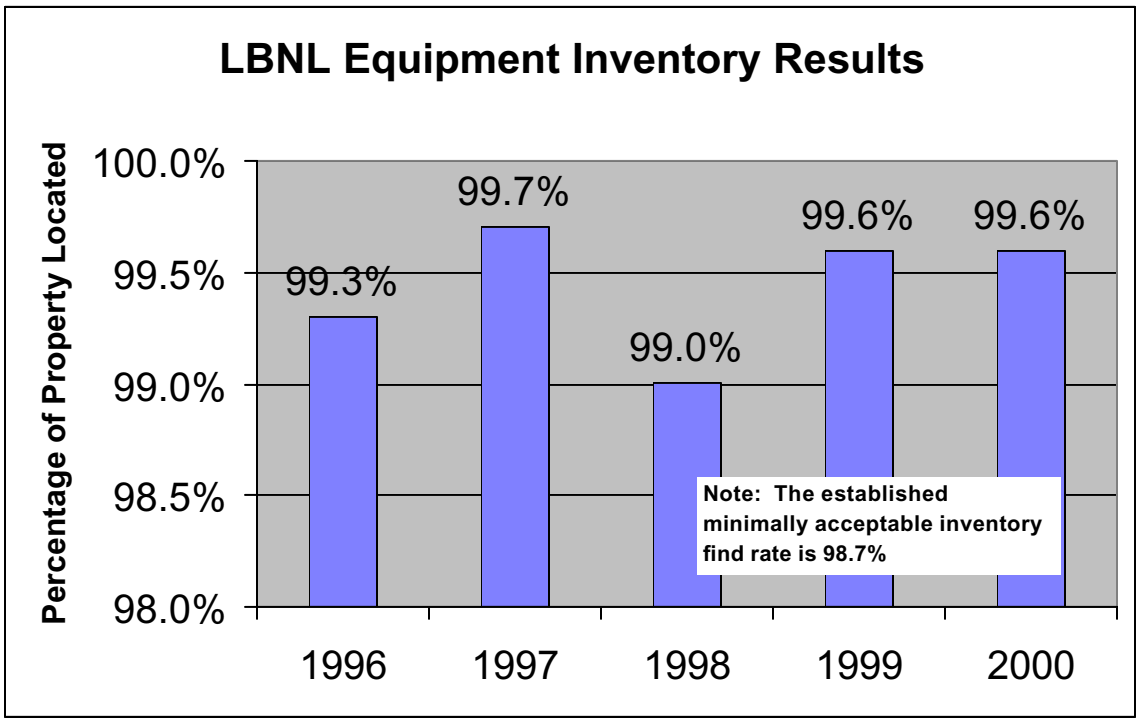
Exhibit I provides the activities to be measured, point value for each activity, and performance ranges (gradients).

Performance Narrative:

In FY 2000, the Laboratory utilized an approved statistical sampling technique to inventory personal property. Find rates of 99.8 percent and 99.6 percent were achieved for sensitive property and equipment respectively. The find rate of sensitive property reflects an improvement from FY 1999. The results of the precious metals inventory showed 100 percent of the Laboratory's 41,340 grams of material being accounted for. DOE OAK's Organizational Property Management Officer conducted independent validations of the results and participated in the Laboratory's internal validation process.

The FY 2000 inventory continues a trend of gradual improvement at LBNL in terms of process application, system support, management support; all of which drive improved results, which is what we are seeing at this facility.





Performance Rating (Adjectival): **Outstanding**		200	100.00%

Criterion: 1.2 Identification of Items Subject to Inventory

The Laboratory will ensure personal property items that are subject to inventory are accurately identified. **(Weight = 15% / Total Points = 75)**

Performance Measure: 1.2.a Accuracy of Identification

The percentage of items accurately identified in the property database will be measured. **(Weight = 15% / Total Points = 75)**

Basis for Rating:

Exhibit I provides the activities to be measured, point value for each activity, and performance ranges (gradients).

Performance Narrative:

The accurate identification of property acquired by the Laboratory is an essential complement necessary to support inventory find rates. Key elements that go into determining the overall performance in this area are the percentage of assets tagged when they are received, tagging those assets not tagged when received within 15 days of being notified and the accurate recording of assets into the property support database. The Laboratory delivered exceptional results in the three elements; 100 percent of all assets delivered to receiving that could be tagged, were tagged, 99.1 percent of those assets not tagged by receiving were tagged within 15 days of notification and based on the floor to database sampling conducted, 98.5 percent of all assets are accurately recorded in the database.

Performance Rating (Adjectival): **Outstanding**	75	100.00%

Performance Objective: #2 Stewardship Over Personal Property

The Laboratory shall ensure that both stewardship and custodianship for personal property is maintained. **(Weight = 20% / Total Points = 100)**

Criterion: 2.1 Organizational Stewardship and Individual Accountability

The Laboratory will ensure organizational and individual accountability (stewardship and custodianship, respectively) for property. **(Weight = 20% / Total Points = 100)**

Performance Measure: 2.1.a Timeliness of Assignment

The accountable individual is identified for equipment and sensitive property, and the timeliness of such identification is measured. **(Weight = 20% / Total Points = 100)**

Basis for Rating:

Exhibit I provides the activities to be measured, point value for each activity, and performance ranges (gradients).

Performance Narrative:

During FY 2000, the Laboratory achieved an 87.6 percent rating for equipment accurately assigned to custodians. This performance is down from the 91.5 percent rating achieved in FY 1999. Performance in this area accounted for the only **Marginal** rating for any element this year in LBNL Property Management. This area should be looked at early in FY 2001 to ensure the decline in performance can be adequately accounted for and that an underlying more serious problem is not developing. The Laboratory rated an impressive 99.9 percent for assigning assets to a custodian within 60 days.

Performance Rating (Adjectival):	**Marginal**	85	85.00%

Performance Objective: #3 Vehicle Utilization

The Laboratory shall have a program to manage its vehicle fleet. **(Weight = 5% / Total Points = 25)**

Criterion: 3.1 Fleet Management

The Laboratory shall manage its fleet to ensure appropriate vehicle utilization.
(Weight = 5% / Total Points = 25)

Performance Measure: 3.1.a Vehicle Utilization

The Laboratory shall measure the percentage of total eligible vehicles meeting local utilization criteria.
(Weight = 5% / Total Points = 25)

Basis for Rating:

Exhibit I provides the activities to be measured, point value for each activity, and performance ranges (gradients).

Performance Narrative:

Motor vehicle utilization at LBNL scored an **Outstanding** during FY 2000, with the discretionary and essential vehicle cla sses achieving utilization rates of 141.3 and 149.2 percent, respectively.

Performance Rating (Adjectival): **Outstanding**	25	100.00%	

Performance Objective: #4 Information to Improve/Maintain Processes (Systems Evaluation)

The Laboratory ensures that Property Management programs are consistent with policies and procedures approved by DOE. **(Weight = 10% / Total Points = 50)**

Criterion: 4.1 Self-Assessment of Policies and Procedures

The Laboratory shall plan, conduct, document, and report annually, the results of a successful property management system evaluation. **(Weight = 10% / Total Points = 50)**

Performance Measure: 4.1.a Assessing Support Processes

The property processes shall be measured against identified system evaluation criteria established in the plan. **(Weight = 10% / Total Points = 50)**

Basis for Rating:

Exhibit I provides the activities to be measured, point value for each activity, and performance ranges (gradients).

Performance Narrative:

During FY 2000, the LBNL Property Team assessed support processes in order to address compliance with DOE-approved policies and procedures. This self-assessment process is an important complement to DOE OAK's operational awareness program. Areas addressed in the assessment include: general personal property programs, high-risk property management, excess and donation, and the precious metals program. Under the PPAM philosophy, the assessment is conducted utilizing a self-assessment worksheet, which contains mutually agreed to activities for assessment and performance ranges. Based on the assessed performance, the Lab is granted a number of points by each activity. A total of 50 points are allotted for the entire assessment.

For FY 2000, LBNL earned 47 points out of the possible 50 points total. Of the areas assessed, only the inventory of controlled substances failed to meet the established target.

Performance Rating (Adjectival): **Outstanding**	47	94.00%

Performance Objective: #5 Customer Alignment

The Laboratory shall ensure that there is a property management program for identifying and evaluating customer needs and for building and maintaining positive customer relations.

(Weight = 5% / Total Points = 25)

Criterion: 5.1 Monitoring Customer Alignment

The Property Management organization shall ensure that the property management programs are responsive to customer expectations. **(Weight = 5% / Total Points = 25)**

Performance Measure: 5.1.a Aligning Customer Expectations

The Laboratory will have processes in place to monitor customer expectations of property management tools and products with regard to ease of use, timeliness, accuracy, and certainty.

(Weight = 5% / Total Points = 25)

Basis for Rating:

Exhibit I provides the activities to be measured, point value for each activity, and performance ranges (gradients).

Performance Narrative:

During FY 2000, LBNL utilized a creative approach to assessing customer satisfaction. A Property Management Advisory Board was established to evaluate and assess how Property Management responds to customer feedback obtained during Property Representative meetings. This process provides an independent, objective assessment of how Property Management responds to customer input. Three factors are rated during the process: timeliness of corrective action, quality of corrective action, and significance or importance of the issue to the customer. A subjective score, ranging from 0 to 100, is assigned by the Board to each factor. During the assessment period, the Board evaluated 26 individual actions that resulted in a composite score of 97.

It is recommended that the Property Management Advisory Board look at how the scoring process can move toward being more objective; which would make the results more understandable to outside third parties.

The Laboratory is commended for taking the initiative to implement this creative concept.

Performance Rating (Adjectival)**: Outstanding**		25	100.00%

Performance Objective: #6.0 Balancing Performance and Cost

The Laboratory ensures that property is managed appropriately to balance performance and cost. **(Weight = 3% / Total Points = 15)**

Criterion: 6.1 Balancing Performance/Cost Ratios

The Laboratory shall ensure that property processes/products are provided in the most cost efficient manner while maintaining desired levels of performance. **(Weight = 3% / Total Points = 15)**

Performance Measure: 6.1.a Measuring Cost Efficiency/ Effectiveness

The Laboratory shall measure its ability to effectively balance property management costs and performance. **(Weight = 3% / Total Points = 15)**

Assumptions:

Where properly justified and approved by DOE, the Laboratory may elect to establish a measure that extends over two evaluation periods. The first year the Laboratory will submit a plan outlining the approach to be employed in establishing an appropriate baseline and developing the gradients for the following evaluation period. Approach and deployment of the plan will be evaluated the first year. The final milestone of the plan will be to develop gradients for results desired by the end of the second year. These gradients will be the basis for evaluation in the second evaluation period.

Basis for Rating:

Exhibit I provides the activities to be measured, point value for each activity, and performance ranges (gradients).

Performance Narrative:

During FY 2000, LBNL selected Field Tagging of Assets as the area to balance cost and performance. The purpose of this measure is for the Laboratory to identify an area within the property management program and attempt to lower the cost to perform the function while maintaining or improving performance. Critical to the successful implementation of this measure is the accurate and well-documented establishment of the baseline necessary to evaluate the measure. Equally as critical is ensuring that the data compared to the baseline has identical characteristics, and was gathered during parallel timeframes. The evaluation of this measure substantiates a reduction in the average time to

perform the field tagging function, which translates into a cost savings for the Laboratory. However, flaws were noted in the establishment of the baseline, which negate, to a certain degree, the confidence one can have in the outcome of the measure. The timeframes for determining the baseline were not comparable.

Despite the noted flaw in the establishment of the baseline, it is evident that some cost savings were achieved.

Performance Rating (Adjectival)**: Good**	11	73.33%

Performance Objective: #7 Organizational Vitality

The Laboratory shall ensure that there is a program for achieving and maintaining organizational vitality in the property management organization. **(Weight = 2% / Total Points = 10)**

Criterion: 7.1 Evaluation of Organizational Agility and Employee Alignment

The Laboratory will foster organizational agility and employee alignment in its property management organization. **(Weight = 2% / Total Points = 10)**

Performance Measure: 7.1.a Measuring Organizational Agility and Employee Alignment

The Laboratory will have a process in place to measure organizational vitality as well as to understand and address workforce expectations. **(Weight = 2% / Total Points = 10)**

Assumptions:

Organizational vitality is the alignment of organizational performance goals and workforce skills (both current and future). The Laboratory will develop scoresheets to evaluate elements determined necessary to ensure its workforce is ready for current and future operations and projected challenges. Elements to be evaluated and scored will be submitted to and approved by DOE as part of the annual Personal Property Assessment Model (PPAM) finalization process.

Basis for Rating:

Exhibit I provides the activities to be measured, point value for each activity, and performance ranges (gradients).

Performance Narrative:

The Laboratory has taken four actions in support of this measure. These are: Assure that every employee has a development plan; Encourage employees to participate in job related training; Ensure ergonomic evaluations are conducted for all employees; and Ensure procedures exist to monitor safety, customer safety, customer service, performance evaluations, and quality of work. All Property Management staff has development plans and the Laboratory earns all three points associated with this element. Opportunities for training are being provided. Especially noteworthy has been the pursuit of

professional certification by staff members. As a result, LBNL earns all two points assigned. Ergonomic evaluations have been performed for all staff, which earns the Laboratory two of two possible points. LBNL did not have written procedures for the customer service area in the fourth element and therefore was awarded two of three possible points. As a result of this commendable effort, the Laboratory achieved nine of ten points associated with this element.

Performance Rating (Adjectival)**: Outstanding**	9	90.00%

EXHIBIT I

LBNL PROPERTY SUB-GAUGES – FY 2000

Measured Activities/Sub-Gauges Activity/Support Process	Gradient 60/70/80/90/100	Value of Activity
Product Goodness		
1.1.a Property and Precious Metals Accounted For		
1.1.a.1 The Laboratory will inventory sensitive assets.	<98.0/98.0/98.7/99.2/99.5	90
1.1.a.2 The Laboratory will inventory equipment assets.	<98.0/98.0/98.7/99.2/99.5	85
1.1.a.3 The Laboratory will account for precious metals.	<98.0/98.0/99.0/99.6/99.8	25
1.2.a Accuracy of Identification		
1.2.a.1 Receiving will tag new assets when received.	<85.0/85.0/90.0/95.5/98.0	25
1.2.a.2 Property will tag assets requiring field tagging within 15 days.	<85.0/85.0/90.0/95.5/98.0	25
1.2.a.3 Property will verify if in-service assets are recorded in database.	<85.0/85.0/90.0/95.5/98.0	25
2.1.a Timeliness of Assignment		
2.1.a.1 Property will verify if assets are accurately assigned to custodians by Divisions.	<85.0/85.0/90.0/95.5/98.0	50
2.1.a.2 Property will verify if new assets are assigned to a custodian within 60 days.	<85.0/85.0/90.0/95.5/98.0	50
3.1.a Vehicle Utilization		
3.1.a.1 Do discretionary vehicles meet utilization criteria?	<85.0/85.0/90.0/95.5/98.0	13
3.1.a.2 Do essential vehicles meet utilization criteria?	<85.0/85.0/90.0/95.5/98.0	12
Process Goodness		
4.1.a Assessing Support Processes		
4.1.a.1 Property will assure that property Policies and Procedures are properly implemented.	Scoresheet	50
5.1.a Aligning Customer Expectations		
5.1.a.1 Property will assure customers are satisfied with property management services.	Scoresheet	25

6.1.a Measuring Cost Efficiency/Effectiveness		
6.1.a.1 Property will reengineer the field tagging of assets and determine if any benefits resulted from reengineering tasks.	Scoresheet	15
Measured Activities/Sub-Gauges Activity/Support Process	**Gradient 60/70/80/90/100**	**Value of Activity**
Workplace Goodness		
7.1.a Measuring Organizational Agility and Employee Alignment		
7.1.a.1 Property Management will establish training environment for property staff.	Scoresheet	10

Performance Rating (Adjectival)**: Outstanding**	477	92.00%

Appendices

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Report Methodology

APPENDIX F - OBJECTIVE STANDARDS OF PERFORMANCE

This report provides the Contracting Officer's Fiscal Year 2000 written assessment and evaluation of the Contractor's self-assessment of performance in its management and operation of LBNL for DOE under Contract Clause 2.6, Performance Based Management. The Contractor and DOE have agreed to use a performance-based management system for oversight at the Laboratory. Annual Standards of Performance under contract, Appendix F are used for the appraisal and evaluation of work under contract and is supported by a system that includes: (1) the utilization of self-assessment and integrated oversight methodologies, systems, and processes to enhance operational efficiency and performance effectiveness; (2) the use of peer review and self-assessment in the appraisal and evaluation of science and technology/programmatic performance; and, (3) such other administrative processes and procedures as the Parties may mutually agree to, from time to time, as they deem necessary to effect the intent of Contract Clause 2.6 and Appendix F. Self-assessments are the principal means by which the Contractor evaluates compliance with the performance objectives described in Appendix F. DOE OAK validates against the self-assessment and evaluates the Contractor's performance. The validation effort is conducted by teams responsible for the various functional areas represented in Appendix F. These teams, with guidance from DOE OAK management, are responsible for developing an adequate, independent basis for assessing the quality, credibility, and accuracy of the Contractor's self-assessment; and a basis for DOE OAK's written assessment and evaluation of the Contractor's performance.

This report meets the following contract requirements:

- Provide a summary of the results from the conduct of the DOE OAK validation program and evaluation of performance of work under contract as required by Clause 2.6.

- Provide a written assessment of the Contractor's performance under the contract based upon the DOE OAK appraisal program and the Contracting Officer's evaluation of the Contractor's self-assessment as required by Clause 2.6(e).

- Provide the basis for determination of the Senior Management Salary Increase Authorization (SIA) Multiplier as required by Section III, paragraph (f), (6) and (8) of Appendix A and Section C, Part III of Appendix F.

- Provide the basis for determination of the Contractor's Program Performance Fee, as required by Clause 5.3.

1. Appendix F Components of Laboratory Evaluation Process

The first component of the performance evaluation process is the evaluation of Science and Technology/Programmatic performance. The University of California President's Council on the National Laboratories performs a peer review and evaluates the quality of science and technology at the Laboratory. The Council prepares a report that the University's Laboratory Affairs Office uses to develop an adjectival and numeric rating for the evaluation of Science and Technology at the Laboratory. DOE Headquarters (DOE HQ) program managers and their DOE OAK counterparts validate the Science and Technology self-assessment.

The second component of the performance evaluation process is the annual Contractor self-assessment of the operations and administrative systems at LBNL included in Section B of Appendix F. The results of this self-assessment and proposed corrective action plans are then presented to the University of California, Laboratory Administration Office (UCLAO) by the Laboratory. This becomes the foundation for the Contractors self-assessment.

UCLAO management also evaluates the administrative systems for the Laboratory using the self-assessments and corrective action plans provided by the Laboratory and the established Appendix F performance measures. UCLAO establishes an aggregate "rating" for the Laboratory based on the evaluation of each functional area and combines this result with the ratings for Science and Technology for a total adjectival and numeric rating.

DOE OAK reviews and validates Contractor performance against the established Appendix F performance objectives, the UCLAO rating of the Laboratory self-assessment, and corrective action plans. This effort is accomplished by teams reflecting expertise in the various functional disciplines required by the Appendix F administrative and operational systems. All teams have the opportunity to observe the Laboratory's independent evaluation of its self-assessment. This report is the product of their review and validation of the Contractor's performance. The primary objective of this report is to provide the annual Contracting Officer's written assessment of the Contractor's performance under the contract. This report also documents the DOE determination of the Senior Management Salary Increase Authorization (SIA) Multiplier and the amount of earned Program Performance Fee in accordance with Contract terms.

2. Self-Assessment Period

The Performance self-assessment period for the Laboratory is October 1, 1999 through September 30, 2000, unless specified in the Performance Objective. Significant performance between the later date and the end of the Fiscal Year is to be assessed by the Laboratory and provided as a supplement to the self-assessment. The Laboratory provided its self-assessment to UC in October 2000. The Contractor provided the self-assessment of LBNL and proposed rating to DOE OAK on November 2, 2000.

The Contractor and DOE agreed to use the following table for adjectival graded and numeric scoring:

DOE-UC Rating Adjectives

Percentage Range	Adjectival Description	Definition
100-90 %	Outstanding	Significantly exceeds the standard of performance; achieves noteworthy results; accomplishes very difficult tasks in a timely manner
89-80 %	Excellent	Exceeds the standard of performance; although there may be room for improvement in some elements, better performance in all other elements offset this
79 - 70 %	Good	Meets the standard of performance; assigned tasks are carried out in an acceptable manner - timely, efficiently, and economically. Deficiencies do not substantively affect performance.
69- 60 %	Marginal	Below the standard of performance; deficiencies are such that management attention and corrective action are required.
< 60 %	Unsatisfactory	Significantly below the standard of performance; deficiencies are serious, and may affect overall results, immediate senior management attention, and prompt corrective action is required.

3. **Methodology for Validation of Numerical Scoring for Contractor Self-Assessment - Science & Technology (S&T) FY 2000**

a. **Introduction**

The programmatic assessment of the Contractor is based upon the use of peer review and self-assessment in the appraisal and evaluation of S&T/Programmatic Performance; and validated by DOE HQ and OAK program managers. Using the programmatic assessment, the ratings for the science and technology are decided using the rating table below. To convert the adjectival rating to an equivalent numerical (percentage) score, the methodology outlined below is utilized.

b. **Methodology**

For each program assessment area in FY 2000, a specific number is applied as follows:

Scoring Crosswalk Table

Adjectival Rating	Range	Score
Outstanding	100-90 %	95
Excellent	80-89 %	85
Good	70-79 %	75
Marginal	60-69 %	65
Unsatisfactory	59 ↓ %	55

Example

Science and Technology	Adjectival Rating	Numeric Score	Weight	Weighted Score
Basic Energy Sciences	**Outstanding**	**91.67**	**0.03**	**2.75**
Criteria 1	Excellent	85		
Criteria 2	Outstanding	95		
Criteria 3	N/A			
Criteria 4	Outstanding	95		

(85 + 95 + 95 = 275/3=91.67=Outstanding)

The scoring range table is used because averaging yields results other than 95, 85, 75, 65, 55.

The overall score for the Science and Technology/Programmatic performance assessment is calculated by totaling the scores from each Research and Development (R&D) Directorate. All Directorates are not weighted equally in the calculation of the overall Science and Technology score. DOE adopted the weights used by the Contractor in their Science and Technology self-assessment at the Directorate level. The weights are created using a balance between program budget and Full-Time Employees (FTEs). Thus, appraisal results for Directorates with a greater amount of resources are more heavily weighted than Directorates with a smaller number of resources.

DOE OAK weights all four criteria equally within each LBNL Directorate.

The weighted scores in the programmatic appraisal areas are totaled and the resulting percentage is assigned an adjectival rating based on the scoring range in the Scoring Crosswalk Table. Thus, for FY 2000, S&T's weighted score is 93.0 percent, which equates to an outstanding adjectival rating. 93.0 percent of 500 when rounded equals 465 points for FY 2000. (See Appendix B - FY 2000 Science and Technology Scores.)

4. **Appendix F Appraisal Component Methodology**

The DOE OAK Functional Teams validate the Contractor's self-assessment on quality, accuracy, and credibility, and consider other sources of information, reviews, or tests. From this process the teams recommend a numeric and adjectival rating of the Contractor's performance. For Science & Technology the methodology is the same with a heavy reliance on assessment from DOE HQ program offices.

(i) Operation and Administration Functional Areas

The Parties agree that the operational area of "Environment, Safety and Health," is weighted at approximately 60 points over the other functional areas. All other operations and administration functional areas are equal at 50 points except for Environment Restoration and Waste Management, which is weighted at 40 points.

(ii) Performance Objectives

The Parties establish the weights to be assigned at the performance objective and criteria level within the functional teams.

(iii) Performance Objectives Not Accomplishable During the Rating Period

The methodology used by DOE OAK is to assess these performance objectives where there is enough information available to render an assessment of Contractor performance. In cases where a performance assessment can not be made, it is decided to not rate the performance objective. In such cases the performance objective's weight is maintained, if

feasible, by reassigning the performance criteria weights within that performance objective. If that is not possible the weight of the objective is added proportionately to other performance objectives in the functional area.

(iv) Sources of Information

The initial source of information about performance was obtained from the Contractor self-assessment and evaluation. Sources of information used by DOE to validate the credibility and conclusions of the self-assessment and the review of the self-assessment included, but were not limited to:

- Functional appraisals conducted by line and functional managers with input from Headquarters, as appropriate.
- Assessment Management Plans for Operational oversight of the Contractor that include in their scope Appendix F performance objectives.
- Daily operational awareness activities, including interactions, walk-throughs, management meetings or other modes of formal and informal contact with the Contractor.
- External and internal audits and evaluations, such as GAO/OIG reviews, ES&H assessments, Inspections and Evaluations, etc.
- Review and validation efforts of Appendix F measures during the two-week performance assessment review of the Contractor.

(v) **Factual Accuracy Check**

A draft of the performance narrative of this report was provided to UC on December 20, 2000 to check the factual accuracy of its contents. The University returned its comments on January 5, 2001.

PERFORMANCE APPRAISAL - APPENDIX C - OPERATIONS AND ADMINISTRATION SCORING

Column 1: **POINTS -** represents the total points allocated for the entire functional area. For example, the functional area of Laboratory Management is allocated 50 points of the 500 point total for all of the administration/operations section. This is the first tier for the weightings of each functional area; all other weightings within a functional area are sub-ordinate to this overall weight [or points available.]

All functional areas are not equal to each other; they are weighted using a hierarchical method. For example, in FY 2000, the functional area of Environmental Restoration and Waste Management is allocated a total of 40 points; all other areas are allocated 50 points, with the exception of Environment, Safety and Health, which is allocated 110 points.

While column 1 (points) represents the total points available for that functional area, the total points available are further broken down [or allocated] by performance objective(s), and within each objective, by criteria and the actual performance measure(s).

Column 2: **SCORE** - represents the total points received, through the DOE evaluation process, for each functional area for the fiscal year. For example, if a functional area has 30 points available, the DOE evaluation would result in a numeric score of 30 or less. Thus, it represents the final scoring for the functional area. The summation of column 2 results in the overall score for Administration/Operations functional areas.

Column 3: **PERCENT** - represents the numeric score, expressed as a percentage of total points available. In the above example of a functional area with 30 points, if the functional area received 26 points, this would equate to 87 percent.

Unique Methodology for Property Management Scores

DOE OAK has used specific, unique methodology only applicable to the property management performance area in calculating the overall score, percent and adjectival rating for the FY 2000 performance. The Parties agree upon the use of a rating table designed to identify a range of **(PPAM)** points earned and the translation of such points to a numeric scoring for the purposes of the Appendix F performance rating for FY 2000. (See Property Scoring Table).

FY 2000 Appendix F
Property Scoring Table

PPAM Points Earned	Translation to Appendix F Contractual Scoring	Adjectival Rating
493-500	98	Outstanding
484-492	95	
475-483	92	
469-474	88	Excellent
460-468	85	
450-459	82	
433-449	78	Good
417-432	75	
400-416	72	
384-399	68	Marginal
368-383	65	
352-367	62	
336-351	58	Unsatisfactory
320-335	55	
304-319	52	

Using the PPAM model, Property Management could earn from 0 up to 500 points in their performance. If the Contractor earns 480 points (performance in the range of 475 - 483) falls into the category of 92 percent for an outstanding adjectival rating. (Even though mathematically, the total scores for each element adds up to 43.1 out of a possible 45 points, or 95.9%).

Senior Management Salary Increase Authorizations (SIA) Multiplier - The total points earned in the performance of Science and Technology and Operations and Administration are used to determine the SIA. Using the table (Section C, Part III of Appendix F). The total points earned correspond to the agreed numeric equivalent. The numeric equivalent is used as a multiplier of each Senior Management merit pool.

Appendix B - Science and Technology Scores
Lawrence Berkeley National Laboratory

SCIENCE AND TECHNOLOGY		ADJECTIVAL RATING	NUMERIC SCORE	FUNDING	WEIGHT	WEIGHTED SCORE
BIOLOGICAL AND ENVIRONMENTAL RESEARCH		**OUTSTANDING**	**92.5**	**49.2**	**0.18**	**16.86**
Criteria 1	Quality of Science	Outstanding				
Criteria 2	Relevance to National Needs and Agency Missions	Excellent				
Criteria 3	Performance in the Technical Development and Operation of Major Research Facilities	Outstanding				
Criteria 4	Programmatic Performance and Planning	Outstanding				
BASIC ENERGY SCIENCES		**OUTSTANDING**	**95.0**	**65.7**	**0.24**	**23.12**
Criteria 1	Quality of Science	Outstanding				
Criteria 2	Relevance to National Needs and Agency Missions	Outstanding				
Criteria 3	Performance in the Technical Development and Operation of Major Research Facilities	Outstanding				
Criteria 4	Programmatic Performance and Planning	Outstanding				

Appendix B - Science and Technology Scores
Lawrence Berkeley National Laboratory

SCIENCE AND TECHNOLOGY		ADJECTIVAL RATING	NUMERIC SCORE	FUNDING	WEIGHT	WEIGHTED SCORE
COMPUTING SCIENCES		**OUTSTANDING**	**95.0**	**55.8**	**0.21**	**19.63**
Criteria 1	Quality of Science	Outstanding				
Criteria 2	Relevance to National Needs and Agency Missions	Outstanding				
Criteria 3	Performance in the Technical Development and Operation of Major Research Facilities	Outstanding				
Criteria 4	Programmatic Performance and Planning	Outstanding				
NUCLEAR PHYSICS		**OUTSTANDING**	**92.5**	**17.9**	**0.07**	**6.13**
Criteria 1	Quality of Science	Excellent				
Criteria 2	Relevance to National Needs and Agency Missions	Outstanding				
Criteria 3	Performance in the Technical Development and Operation of Major Research Facilities	Outstanding				
Criteria 4	Programmatic Performance and Planning	Outstanding				

Appendix B - Science and Technology Scores
Lawrence Berkeley National Laboratory

SCIENCE AND TECHNOLOGY	ADJECTIVAL RATING	NUMERIC SCORE	FUNDING	WEIGHT	WEIGHTED SCORE
HIGH ENERGY PHYSICS	**EXCELLENT**	**87.5**	**40.5**	**0.15**	**13.13**
Criteria 1 Quality of Science	Outstanding				
Criteria 2 Relevance to National Needs and Agency Missions	Outstanding				
Criteria 3 Performance in the Technical Development and Operation of Major Research Facilities	Excellent				
Criteria 4 Programmatic Performance and Planning	Good				
FUSION ENERGY SCIENCES	**OUTSTANDING**	**95.0**	**5.6**	**0.02**	**1.97**
Criteria 1 Quality of Science	Outstanding				
Criteria 2 Relevance to National Needs and Agency Missions	Outstanding				
Criteria 3 Performance in the Technical Development and Operation of Major Research Facilities	Outstanding				
Criteria 4 Programmatic Performance and Planning	Outstanding				

Appendix B - Science and Technology Scores
Lawrence Berkeley National Laboratory

SCIENCE AND TECHNOLOGY		ADJECTIVAL RATING	NUMERIC SCORE	FUNDING	WEIGHT	WEIGHTED SCORE
CIVILIAN RADIOACTIVE WASTE MANAGEMENT		**OUTSTANDING**	**95.0**	**9.8**	**0.04**	**3.45**
Criteria 1	Quality of Science	Outstanding				
Criteria 2	Relevance to National Needs and Agency Missions	Outstanding				
Criteria 3	Performance in the Technical Development and Operation of Major Research Facilities	N/A				
Criteria 4	Programmatic Performance and Planning	Outstanding				
FOSSIL ENERGY		**OUTSTANDING**	**95.0**	**4.7**	**0.02**	**1.65**
Criteria 1	Quality of Science	Outstanding				
Criteria 2	Relevance to National Needs and Agency Missions	Outstanding				
Criteria 3	Performance in the Technical Development and Operation of Major Research Facilities	Outstanding				
Criteria 4	Programmatic Performance and Planning	Outstanding				
ENERGY EFFICIENCY & RENEWABLES		**OUTSTANDING**	**91.6**	**20.8**	**0.08**	**7.06**
Criteria 1	Quality of Science	Outstanding				
Criteria 2	Relevance to National Needs and Agency Missions	Outstanding				
Criteria 3	Performance in the Technical Development and Operation of Major Research Facilities	N/A				
Criteria 4	Programmatic Performance and Planning	Excellent				

Appendix B - Science and Technology Scores
Lawrence Berkeley National Laboratory

SCIENCE AND TECHNOLOGY	ADJECTIVAL RATING	NUMERIC SCORE	FUNDING	WEIGHT	WEIGHTED SCORE
TOTAL DOE LBNL			270.0	1.00	93.0

ADJECTIVAL RATING (S&T)	**OUTSTANDING**
PERCENTAGE SCORE	**93.0%**
APPENDIX F POINT SCORE	**465**

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE		POINTS	SCORE	PERCENT
LABORATORY MANAGEMENT		**50.0**	**46.9**	**93.8%**
PERFORMANCE OBJECTIVE #1 Laboratory Leadership	**(Weight =100%)**	**50.0**	**46.9**	**93.8%**
1.1 Institutional Stewardship and Viability	**(Weight = 100%)**	**50.0**	**46.9**	**93.8%**
1.1.a Planning		8.5	8.1	95.0%
1.1.b Establishing and Communicating Performance Expectations		8.3	7.9	95.0%
1.1.c Stewardship of Assets		8.3	7.9	95.0%
1.1.d Effective Resource Management		8.3	7.9	95.0%
1.1.e Community Relations		8.3	7.3	88.0%
1.1.f Accountability and Commitments		8.3	7.9	95.0%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE	WEIGHT	SCORE	PERCENT
ENVIRONMENT RESTORATION AND WASTE MANAGEMENT	**40.0**	**39.0**	**97.4%**
PERFORMANCE OBJECTIVE #1 Environmental Restoration and Waste Management (Weight = 100%)	**40.0**	**39.0**	**97.4%**
1.1 Waste Management (Weight = 25%)	**10.0**	**10.0**	**100.0%**
1.1.a Waste Management, Productivity	4.0	4.0	100.0%
1.1.b Waste Management, Plan 2006/ACPC Commitments	6.0	6.0	100.0%
1.2 EM Program Innovation (Weight = 25%)	**10.0**	**9.5**	**95.0%**
1.2.a Advancement of the EM Program	10.0	9.5	95.0%
1.3 Environmental Restoration (Weight = 25%)	**10.0**	**9.8**	**98.0%**
1.3.a Environmental Restoration	10.0	9.8	98.0%
1.4 Cost and Schedule Variances (Weight = 25%)	**10.0**	**9.7**	**96.5%**
1.4.a EM Projects	5.0	4.8	95.0%
1.4.b EM Level of Effort Programs	5.0	4.9	98.0%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE	WEIGHT	SCORE	PERCENT
ENVIRONMENT, SAFETY & HEALTH	**110.0**	**94.9**	**86.2%**
PERFORMANCE OBJECTIVE #1 Do Work Safely (Weight = 40%)	**110.0**	**94.9**	**86.2%**
1.1 ISM Core Functions and Principles Process Measure (Weight = 40%)	**44.0**	**38.3**	**87.0%**
1.1a Implementation of ISM	44.0	38.3	87.0%
1.2 ISM System Outcome Measures (Weight = 60%)	**66.0**	**56.6**	**85.7%**
1.2a Routine Exposures from Routine Activities	5.5	5.2	95.0%
1.2b Radiation Protection of the Public and the Environment	5.5	4.8	88.0%
1.2c Prevention of Unplanned Radiation Exposures	5.5	5.3	96.0%
1.2d Control of Radioactive Material	5.5	5.1	93.0%
1.2e Exposure to Chemical, Physical, and Biological Agents	7.7	7.4	96.0%
1.2f Accident Prevention	7.7	5.0	65.0%
1.2g Occupational Safety and Health	7.7	6.5	85.0%
1.2h Tracking Environmental Incidents	9.9	6.7	68.0%
1.2i Waste Reduction and Recycling	11.0	10.5	95.0%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE			WEIGHT	SCORE	PERCENT
FACILITIES MANAGEMENT			**50.0**	**45.7**	**91.5%**
PERFORMANCE OBJECTIVE #1	**Real Property Management**	**(Weight = 5%)**	**2.5**	**2.5**	**98.0%**
1.1	**Real Property Management**	**(Weight = 5%)**	**2.5**	**2.5**	**98.0%**
1.1.a	Program Implementation		2.5	2.5	98.0%
PERFORMANCE OBJECTIVE #2	**Physical Assets Planning**	**(Weight = 14%)**	**7.0**	**6.6**	**94.0%**
2.1	**Comprehensive Integrated Planning Process**	**(Weight = 14%)**	**7.0**	**6.6**	**94.0%**
2.1.a	Effectiveness of Planning Process		7.0	6.6	94.0%
PERFORMANCE OBJECTIVE #3	**Project Management**	**(Weight = 33%)**	**16.5**	**14.5**	**87.7%**
3.1	**Construction Project Performance**	**(Weight =20%)**	**10.0**	**9.6**	**96.0%**
3.1.a	Work Performed		10.0	9.6	96.0%
3.2	**Construction Project Cost**	**(Weight = 13%)**	**6.5**	**4.9**	**75.0%**
3.2.a	Total Estimated Cost (TEC)		6.5	4.9	75.0%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE			WEIGHT	SCORE	PERCENT
PERFORMANCE OBJECTIVE #4	**Maintenance**	**(Weight = 33%)**	**16.5**	**15.7**	**95.0%**
4.1	**Facility Management**	**(Weight = 13%)**	**6.5**	**6.2**	**95.0%**
4.1.a	Program Implementation		6.5	6.2	95.0%
4.2	**Maintenance Program**	**(Weight = 20%)**	**10.0**	**9.5**	**95.0%**
4.2.a	Maintenance Index		10.0	9.5	95.0%
PERFORMANCE OBJECTIVE #5	**Utilities/Energy Conservation**	**(Weight = 15%)**	**7.5**	**6.6**	**87.3%**
5.1	**Reliable Utility Service**	**(Weight = 8%)**	**4.0**	**3.1**	**78.0%**
5.1.a	Electric Service		4.0	3.1	78.0%
5.2	**Energy Consumption**	**(Weight = 2%)**	**1.0**	**1.0**	**98.0%**
5.2.a	Building Energy		1.0	1.0	98.0%
5.3	**Energy Management**	**(Weight = 5%)**	**2.5**	**2.5**	**98.0%**
5.3.a	Energy Goals		2.5	2.5	98.0%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE			WEIGHT	SCORE	PERCENT
FINANCIAL MANAGEMENT			**50.0**	**42.7**	**85.3%**
PERFORMANCE OBJECTIVE #1	**Customer Focus and Satisfaction**	**(Weight = 10%)**	**5.0**	**4.6**	**92.5%**
1.1	**Methods to Evaluate Customer Expectations**	**(Weight = 5%)**	**2.5**	**2.3**	**93.0%**
1.1.a	Effectiveness of Methods		2.5	2.3	93.0%
1.2	**Customer Satisfaction**	**(Weight = 5%)**	**2.5**	**2.3**	**92.0%**
1.2.a	Customer Satisfaction Results		2.5	2.3	92.0%
PERFORMANCE OBJECTIVE #2	**Decision Support and Operational Effectiveness**	**(Weight =40%)**	**20.0**	**18.4**	**92.0%**
2.1	**Proactive Decision Support Activities**	**(Weight = 25%)**	**12.5**	**11.2**	**89.3%**
2.1.a	Quality Products and Services		4.0	3.8	94.0%
2.1.b	Leadership in Financial Information System and Decision Support Tools		6.0	5.1	85.0%
2.1.c	Quality Processes		2.5	2.3	92.0%
2.2	**Transaction Processing Improvements**	**(Weight = 15%)**	**7.5**	**7.2**	**96.6%**
2.2.a	Demonstration of Improvement		7.5	7.2	96.6%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE			WEIGHT	SCORE	PERCENT
PERFORMANCE OBJECTIVE #3	**Financial Stewardship and Integrity**	**(Weight = 40%)**	**20.0**	**15.0**	**75.1%**
3.1	**Cost and Commitments are Managed Properly**	**(Weight =10%)**	**5.0**	**3.6**	**72.5%**
3.1.a	Cost and Commitments are Controlled to Appropriate Funding Levels		2.5	1.9	75.0%
3.1.b	Control of Funds		2.5	1.8	70.0%
3.2	**Financial Management Practices**	**(Weight = 15%)**	**7.5**	**6.0**	**80.0%**
3.2.a	Financial Policies, Practices, Data, and Reports		7.5	6.0	80.0%
3.3	**Effective Internal Controls and Compliance**	**(Weight = 15%)**	**7.5**	**5.4**	**72.0%**
3.3.a	Internal Controls and Compliance Process Management		7.5	5.4	72.0%
PERFORMANCE OBJECTIVE #4	**Learning and Growth**	**(Weight = 10%)**	**5.0**	**4.6**	**92.0%**
4.1	Work Force Management	**(Weight = 10%)**	**5.0**	**4.6**	**92.0%**
4.1.a	Effective Work Force Management		5	4.6	92.0%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE	WEIGHT	SCORE	PERCENT
HUMAN RESOURCES	**50.0**	**41.9**	**83.8%**
PERFORMANCE OBJECTIVE #1 Cost Effectiveness and Efficiency of Operations (Weight = 34%)	**17.0**	**15.6**	**91.5%**
1.1 Review and Evaluation of HR Systems and Processes (Weight = 18%)	**9.0**	**8.3**	**92.0%**
1.1.a Evaluation of HR Systems and Processes	9.0	8.3	92.0%
1.2 Compensation (Weight = 16%)	**8.0**	**7.3**	**91.0%**
1.2.a Cost Competitve Compensation	6.0	5.5	92.0%
1.2.b Compensation Increase Plan (CIP)	2.0	1.8	88.0%
PERFORMANCE OBJECTIVE #2 Work Force Excellence (Weight = 26%)	**13.0**	**10.3**	**79.6%**
2.2 Workforce Planning/Staffing (Weight = 4%)	**2.0**	**1.5**	**75.0%**
2.2.a Workforce Planning/Staffing	2.0	1.5	75.0%
2.3 Effectiveness of Employee/Labor Relations (Weight =22%)	**11.0**	**8.8**	**80.4%**
2.3a Employee and Labor Relations	3.5	3.2	92.0%
2.3b Labor Relations	7.5	5.6	75.0%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE			WEIGHT	SCORE	PERCENT
PERFORMANCE OBJECTIVE #3	**Equal Opportunity**	**(Weight = 20%)**	**10.0**	**7.5**	**75.0%**
3.1	**Employment of Minorities and Women**	**(Weight = 10%)**	**5.0**	**3.8**	**75.0%**
3.1.a	Employment of Minorities and Women		5.0	3.8	75.0%
3.2	**Strategic Alignment of Diversity Programs**	**(Weight = 10%)**	**5.0**	**3.8**	**75.0%**
3.2a	Strategic Alignment of Diversity Programs		5.0	3.8	75.0%
PERFORMANCE OBJECTIVE #4	**Customer Needs**	**(Weight = 10%)**	**5.0**	**4.3**	**85.0%**
4.1	**Customer Needs Analysis**	**(Weight = 10%)**	**5.0**	**4.3**	**85.0%**
4.1.a	Customer Needs Input Strategy		5.0	4.3	85.0%
PERFORMANCE OBJECTIVE #5	**HR Leadership in Deploying Mission/Business Strategy**				
		(Weight = 10%)	**5.0**	**4.3**	**85.0%**
5.1	**Alignment of HR Programs**	**(Weight = 10%)**	**5.0**	**4.3**	**85.0%**
5.1.a	Deployment of Strategy		5.0	4.3	85.0%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE	WEIGHT	SCORE	PERCENT
INFORMATION MANAGEMENT	**50.0**	**46.1**	**92.2%**
PERFORMANCE OBJECTIVE #1 Information Management Program (Weight = 100%)	**50.0**	**46.1**	**92.2%**
1.1 Operational Effectiveness (Weight = 30%)	**15.0**	**14.1**	**94.0%**
1.1.a Operational Effectiveness	15.0	14.1	94.0%
1.2 Customer Focus (Weight = 30%)	**15.0**	**13.8**	**92.0%**
1.2.a Level of Customer Satisfaction	15.0	13.8	92.0%
1.3 IM Stewardship (Weight = 20%)	**10.0**	**9.0**	**90.0%**
1.3.a Effective Management of Compliance and Commitments in specific focus areas	10.0	9.0	90.0%
1.4 Strategic and Tactical Planning (Weight = 20%)	**10.0**	**9.2**	**92.0%**
1.4.a Planning Initiative	10.0	9.2	92.0%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE	WEIGHT	SCORE	PERCENT
PROCUREMENT	**50.0**	**46.0**	**92.0%**
PERFORMANCE OBJECTIVE #1 Mgmt. of Internal Business Processes (Weight = 70%)	**35.0**	**32.1**	**91.6%**
1.1 System Evaluation (Weight = 30%)	**15.0**	**14.3**	**95.0%**
1.1.a Assessing System Operations	15.0	14.3	95.0%
1.2 Pursuing Best Practices (Weight = 20%)	**10.0**	**9.5**	**95.0%**
1.2.a Measuring Effectiveness	10.0	9.5	95.0%
1.3 Supplier Performance (Weight = 15%)	**7.5**	**6.0**	**80.0%**
1.3.a Measuring Supplier Performance	7.5	6.0	80.0%
1.4 Socioeconomic Subcontracting (Weight - 5%)	**2.5**	**2.3**	**93.0%**
1.4.a Meeting Socioeconomic Commitments	2.5	2.3	93.0%
PERFORMANCE OBJECTIVE #2 Customer Satisfaction (Weight = 10%)	**5.0**	**4.5**	**90.0%**
2.1 Customer Feedback (Weight = 10%)	**5.0**	**4.5**	**90.0%**
2.1.a Customer Satisfaction Rating	5.0	4.5	90.0%

Appendix C - Operations and Administration System Scores

PERFORMANCE OBJECTIVE			WEIGHT	SCORE	PERCENT
PERFORMANCE OBJECTIVE #3	**Learning and Growth**	**(Weight = 10%)**	**5.00**	**4.7**	**93.0%**
3.1	**Employee Feedback**	**(Weight = 5%)**	**2.5**	**2.3**	**93.0%**
3.1.a	Employee Satisfaction Rating		2.5	2.3	93.0%
3.2	**Information Availability**	**(Weight = 5%)**	**2.5**	**2.3**	**93.0%**
3.2.a	Measuring Availability of Information		2.5	2.3	93.0%
PERFORMANCE OBJECTIVE #4	**Managing Financial Aspects**	**(Weight = 10%)**	**5.0**	**4.8**	**95.0%**
4.1	**Process Cost**	**(Weight = 10%)**	**5.0**	**4.8**	**95.0%**
4.1.a	Cost to Spend Ratio		5.0	4.8	95.0%

PERFORMANCE OBJECTIVE			WEIGHT	SCORE	PERCENT
PROPERTY MANAGEMENT			**50.0**	**46.0**	**92.0%**
		Points		**477.0**	
PERFORMANCE OBJECTIVE #1	**Accountability for Equipment and Sensitive Property,**				
	and Precious Metals	**(Weight = 55%)**	**27.5**	**275.0**	
1.1	**Accountability for Equipment, Sensitive Property**				
	and Precious Metals	**(Weight = 40%)**	**20.0**	**200.0**	
1.1.a	Property and Precious Metals Accounted For		20.0	200.0	
1.2	**Identification of Items Subject to Inventory**	**(Weight = 15%)**	**7.5**	**75.0**	
1.2.a	Accuracy of Identification		7.5	75.0	
PERFORMANCE OBJECTIVE #2	**Stewardship Over Personal Property**	**(Weight = 20%)**	**10.0**	**85.0**	
2.1	**Org.Stewardship and Individual Accountability**	**(Weight =20%)**	**10.0**	**85.0**	
2.1.a	Timeliness of Assignment		10.0	85.0	
PERFORMANCE OBJECTIVE #3	**Vehicle Utilization**	**(Weight = 5%)**	**2.5**	**25.0**	
3.1	**Fleet Management**	**(Weight = 5%)**	**2.5**	**25.0**	
3.1.a	Vehicle Utilization		2.5	25.0	

PERFORMANCE OBJECTIVE			WEIGHT	SCORE	PERCENT
PERFORMANCE OBJECTIVE #4	**Information to Improve/Maintain Processes**	**(Weight = 10%)**	**5.0**	**47.0**	
4.1	**Self-Assessment of Policies and Procedures**	**(Weight = 10%)**	**5.0**	**47.0**	
4.1.a	Assessing Support Processes		5.0	47.0	
PERFORMANCE OBJECTIVE #5	**Customer Alignment**	**(Weight = 5%)**	**2.5**	**25.0**	
5.1	**Monitoring Customer Alignment**	**(Weight = 5%)**	**2.5**	**25.0**	
5.1.a	Aligning Customer Expectations		2.5	25.0	
PERFORMANCE OBJECTIVE #6	**Balancing Performance and Cost**	**(Weight = 3%)**	**1.5**	**11.0**	
6.1	**Balancing Performance/Cost Ratios**	**(Weight = 3%)**	**1.5**	**11.0**	
6.1.a	Measure Cost Efficiency Effectiveness		1.5	11.0	
PERFORMANCE OBJECTIVE #7	**Organizational Vitality**	**(Weight = 2%)**	**1.0**	**9.0**	
7.1	**Evaluation of Organizational Agility and Employee Alignmen**	**(Weight = 2%)**	**1.0**	**9.0**	
7.1.a	Measuring Organizational Agility and Employee Alignment		1.0	9.0	

Appendix C - Operations Administration and Overall Scores Summary
Lawrence Berkeley National Laboratory

FUNCTIONAL AREA	POINTS POSSIBLE	SCORE	PERCENT	ADJECTIVE
LABORATORY MANAGEMENT	50	46.9	93.8%	Outstanding
ENVIRONMENTAL RESTORATION AND WASTE MGMT	40	39.0	97.4%	Outstanding
ENVIRONMENT, SAFETY & HEALTH	110	94.8	86.2%	Excellent
FACILITIES MANAGEMENT	50	45.8	91.5%	Outstanding
FINANCIAL MANAGEMENT	50	42.7	85.3%	Excellent
HUMAN RESOURCES	50	41.9	83.8%	Excellent
INFORMATION MANAGEMENT	50	46.1	92.2%	Outstanding
PROCUREMENT	50	46.0	92.0%	Outstanding
PROPERTY MANAGEMENT	50	46.0	92.0%	Outstanding
O&A SUBTOTAL	500	449	89.8%	Excellent
S&T SUBTOTAL	500	465	93.0%	Outstanding
LBNL TOTAL	1,000	914	91.4%	Outstanding

Appendix D

Computation of
Salary Increase Authorization
Multiplier

Appendix F Element of Laboratory Performance

Performance Area	Rating	%	x	Pts	=	Score
Total Science & Technology	Outstanding	93.0%	x	500	=	465
Operations & Administrative Systems						
Laboratory Management	Outstanding	93.8%	x	50	=	46.9
Environ Restoration & Waste Mgmt	Outstanding	97.4%	x	40	=	39.0
Environment, Safety and Health	Excellent	86.2%	x	110	=	94.8
Facilities Management	Outstanding	91.5%	x	50	=	45.7
Financial Management	Excellent	85.3%	x	50	=	42.7
Human Resources	Excellent	83.8%	x	50	=	41.9
Information Management	Outstanding	92.2%	x	50	=	46.1
Procurement	Outstanding	92.0%	x	50	=	46.0
Property Management	Outstanding	92.0%	x	50	=	46.0
Total Operations & Administration	Excellent	89.8%	x	500		449
Total Laboratory:		**Outstanding**				**914**

FY 2000 Salary Increase Fund for UC Laboratories

Salary Increase Authorization Multiplier (from Appendix F):	1.50					
Executive Merit Pool (based on S&E):	7.40%					
Executive Performance Merit Pool (Appendix A & F):	7.40%	x	1.50	=	11.10%	