U.S. Department of Energy

Office of Science

Fiscal Year 2013

Performance Evaluation Report of the

Stanford University for

Management and Operations of Science and Technology

at the

SLAC National Accelerator Laboratory

For the period October 1, 2012 through September 30, 2013

I. OVERALL SUMMARY RATING/FEE

Performance-Based Score and Adjectival Rating:

The basis for the evaluation of Stanford University (SU or the Contractor) management and operations of the SLAC National Accelerator Laboratory (SLAC or the Laboratory) during FY13 centered on the Objectives found within the following Performance Goals:

1.0 Provide for Efficient and Effective *Mission Accomplishment*

2.0 Provide for Efficient & Effective *Design, Fabrication, Construction and Operations of Research Facilities*

3.0 Provide Effective and Efficient *Science and Technology Program Management*

4.0 Provide Sound and Competent *Leadership and Stewardship of the Laboratory*

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

6.0 Deliver Efficient, Effective, and Responsive *Business Systems* and Resources that Enable the Successful Achievement of the Laboratory Mission

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

8.0 Sustain and Enhance the Effectiveness of Integrated *Safeguards and Security Management and Emergency Management Systems*

Each Performance Goal was composed of two or more weighted Objectives and most Objectives had a set of performance measures, which assisted in determining the Contractor's overall performance in meeting that Objective. Each of the performance measures identified significant activities, requirements, and/or milestones important to the success of the corresponding Objective.

The following describes the methodology utilized in determining the Contractor performance rating.

Calculating Individual Goal Scores and Letter Grades:

Each Objective is assigned the earned numerical score by the evaluating office as stated above. The Goal rating is then computed by multiplying the numerical score by the weight of each Objective within a Goal. These values are then added together to develop an overall numerical score for each Goal. For the purpose of determining the final Goal grade, the raw numerical score for each Goal will be rounded to the nearest tenth of a point using the standard rounding convention discussed below and then compared to Figure 1. A set of tables is provided at the end of each Performance Goal section of this document to assist in the calculation of Objective numerical scores to the Goal grade. No overall rollup grade shall be provided. The raw numerical score for S&T and M&O will be rounded to the nearest tenth of a point of purposes of determining fee. A standard rounding convention of x.44 and less rounds down to the nearest tenth (here, x.4), while x.45 and greater rounds up to the nearest tenth (here, x.5).

Score	0.0-0.7	0.8-1.0	1.1-1.7	1.8-2.0	2.1-2.4	2.5-2.7	2.8-3.0	3.1-3.4	3.5-3.7	3.8-4.0	4.1-4.3
Grade	F	D	C-	C	C+	B-	B	B+	A-	A	A+

Figure 1 FY13 Contractor Letter Grade Scale

The eight performance Goal grades shall be used to create a report card for the laboratory (Figure 2).

Performance Goal	Grade
1.0 Mission Accomplishment	A-
2.0 Design, Fabrication, Construction and Operations of Research Facilities	A-
3.0 S&T Program Management	A-
4.0 Leadership/Stewardship	B+
5.0 ES&H	B
6.0 Business Systems	B
7.0 Infrastructure	B+
8.0 Safeguards/Security	B+

Figure 2. Laboratory Report Card

Determining the Amount of Performance-Based Fee Earned:
SC uses the following process to determine the amount of performance-based fee earned by the Contractor. The S&T score from each evaluator shall be used to determine an initial numerical score for S&T (Table A),and the rollup of the scores for each M&O Performance Goal shall be used to determine an initial numerical M&O score (Table B).

Program	Numerical Score	Weight	Total Score
Basic Energy Sciences	3.7	70.9%	
Biological and Environmental Research	3.7	1.4%	
Fusion Energy Sciences	3.5	0.5%	
High Energy Physics	3.6	27.2%	
		Initial S&T Score	3.7

Table A. Fiscal Year Contractor Evaluation Initial S&T Score Calculation

Weight = (Program Cost / Total Cost)

M&O Performance Goal	Numerical Score	Weight	Total Score
5.0 ES&H	2.9	30%	
6.0 Business Systems	2.8	30%	
7.0 Infrastructure	3.1	30%	
8.0 Safeguards/Security	3.1	10%	
		Initial M&O Score	3.0

Table B. Fiscal Year Contractor Evaluation Initial M&O Score Calculation

These initial scores will then be adjusted based on the numerical score for Performance Goal 4.0 (Table C).

	Numerical Score	Weight	Total Score
Initial S&T Score	3.7	75%	
Goal 4.0 Leadership/Stewardship	3.3	25%	
		Final S&T Score	3.6
Initial M&O Score	3.0	75%	
Goal 4.0 Leadership/Stewardship	3.3	25%	
		Final M&O Score	3.0

Table C. Fiscal Year Final S&T and M&O Score Calculation

The percentage of the available performance-based fee that may be earned by the Contractor shall be determined based on the final score for S&T (Table C) and then compared to Figure 3. The final score for M&O from Table C shall then be utilized to determine the final fee multiplier (Figure 3) which will determine the final percentage of fee earned (Table D). The actual amount of performance-based fee earned for FY 2013 is then calculated as shown in Table E.

Overall Weighted Score (Table A)	**Percent S&T Fee Earned**	**Percent M&O Fee Multiplier**
4.1 to 4.3	100%	100%
3.8 to 4.0	97%	100%
3.5 to 3.7	**94%**	100%
3.1 to 3.4	91%	100%
2.8 to 3.0	88%	**95%**
2.5 to 2.7	85%	90%
2.1 to 2.4	75%	85%
1.8 to 2.0	50%	75%
1.1 to 1.7	0%	60%
0.8 to 1.0	0%	0%
0.0 to 0.7	0%	0%

Figure 3. Performance Based Fee Earned Scale

Overall Fee Determination	
Percent S&T Fee Earned From Figure 3	**94%**
M&O Fee Multiplier From Figure 3	**x 95%**
Overall Earned Performance-Based Fee	**89.3%**

Table D. Final Percentage of Performance Based Fee Earned Determination

Earned Fee Calculation	
Available Fee	**$4,850,000**
Overall Earned Performance - Based Fee (Table D)	**x 89.3%**
Earned Fee	**$4,331,050**

Table E. Earned Fee Calculation

II. PERFORMANCE GOALS, OBJECTIVES, AND MEASURES/TARGETS

Goal 1.0: Provide for Efficient and Effective Mission Accomplishment

The Contractor produces high-quality, original, and creative results that advance science and technology; demonstrates sustained scientific progress and impact; receives appropriate external recognition of accomplishments; and contributes to overall research and development goals of the Department and its customers.

The Department has assigned an overall grade of A- for this Performance Goal. SC assessments of the Goal and related Objectives are summarized below. See Appendix 1 for the Program Offices' detailed evaluations.

Basic Energy Sciences (BES)

- Overall, the Basic Energy Sciences (BES) Materials Sciences and Engineering (MSE)-funded research projects at SLAC National Accelerator Laboratory (SLAC) have been highly impactful on the field. The Materials Sciences program continues to demonstrate outstanding scientific excellence in the areas of nanomagnetism, high temperature superconductivity, ultrafast science, materials synthesis and strongly correlated electron systems. Notably, SLAC was the lead on the first two JCESR Hub publications.

- The review of the Ultrafast Chemical Sciences Program 2013 demonstrated that it is internationally competitive and in some cases unique and world leading in the field of ultrafast x-ray science.

- The FY 2013 review of the SUNCAT Center established that this program leads the nation in computational catalysis with an impact that has risen dramatically in this first 3 year cycle.

Biological and Environmental Research (BER)

- SLAC continues to have high impacts on both structural biology and subsurface biogeochemical research.

Fusion Energy Sciences (FES)

- SLAC has provided efficient and effective management of the Matter in Extreme Conditions (MEC) end station at the Linac Coherent Light Source (LCLS), transitioning from project construction (completion Oct 16, 2012) into full operations.

High Energy Physics (HEP)

- SLAC's performance on mission accomplishment has been excellent in FY 2013. Cosmic frontier research and accelerator science were real standouts.

Objectives and Notable Outcomes:

1.1: Provide Science and Technology Results with Meaningful Impact on the Field

Notable Outcome(s):
BES: Deliver impactful science in the SUNCAT Center for Interfacial Science and Catalysis as assessed by the FY13 review.

The FY13 review of the SUNCAT Center established that this program leads the nation in computational catalysis with an impact that has risen dramatically in this first 3 year cycle, fulfilling the FY13 Notable Outcome. An experimental component proposal was well received and, combined with the strong scientific leadership, promises to enhance future impact. - **Achieved**

1.2: Provide Quality Leadership in Science and Technology that Advances Community Goals and DOE Mission Goals

Below is a table that shows which Program Offices provided input for assessment for these Objectives.

Science Program Office	Letter Grade	Numerical Score	Objective Weight	Overall Score
Basic Energy Sciences				
1.1 Impact	A-	3.7	50.0%	
1.2 Leadership	A-	3.7	50.0%	
			Overall BES Total	3.7
Biological and Environmental Research				
1.1 Impact	A	3.8	60.0%	
1.2 Leadership	A-	3.5	40.0%	
			Overall BER Total	3.7
Fusion Energy Sciences				
1.1 Impact	B+	3.4	50.0%	
1.2 Leadership	A-	3.6	50.0%	
			Overall FES Total	3.5
High Energy Physics				
1.1 Impact	A	3.8	50.0%	
1.2 Leadership	A-	3.5	50.0%	
			Overall HEP Total	3.7

Table 1.1. Program Performance Goal 1.0 Score Development

Program Office	Letter Grade	Numerical Score	Weight	Overall Weighted Score
Basic Energy Sciences	A-	3.7	71.1%	
Biological and Environmental Research	A-	3.7	1.2%	
Fusion Energy Sciences	A-	3.5	0.4%	
High Energy Physics	A-	3.7	27.3%	
			Performance Goal 1.0 Total	**3.7**

Table 1.2. Overall Performance Goal 1.0 Score Development

Score	0.0-0.7	0.8-1.0	1.1-1.7	1.8-2.0	2.1-2.4	2.5-2.7	2.8-3.0	3.1-3.4	3.5-3.7	3.8-4.0	4.1-4.3
Grade	F	D	C-	C	C+	B-	B	B+	A-	A	A+

Table 1.3 Goal 1.0 Final Letter Grade

Goal 2.0: Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Research Facilities

The Contractor provides effective and efficient strategic planning; fabrication, construction and/or operations of Laboratory research facilities; and are responsive to the user community.

The Department has assigned an overall grade of A- for this Performance Goal. SC assessments of the Goal and related Objectives are summarized below. See Appendix 1 for the Program Offices' detailed evaluations.

Basic Energy Sciences (BES)

- The Linac Coherent Light Source (LCLS) operates exceptionally well; however, it was noted in the recent light source budget review that the operation efficiency could be improved by enhancing the management oversight.

- The Stanford Synchrotron Radiation Lightsource (SSRL) continues to enhance its capabilities to remain competitive among the world wide synchrotron source of its class.

- The LCLS-II project is undergoing a re-planning process to incorporate recommendations received from BESAC.

Biological and Environmental Research (BER)

- SLAC is highly supportive of its users and has a significant scientific impact across a range of scientific disciplines.

Fusion Energy Sciences (FES)

- SLAC has been highly effective in all aspects of the Matter in Extreme Conditions (MEC) project. The project was carried out as a Major Item of Equipment (MIE) project funded through the American Recovery and Reinvestment Act (ARRA) of 2009. A plan of user-assisted commissioning has allowed early access and scientific progress prior to CD-4, which was achieved on October 16, 2012, one half year ahead of schedule and below cost.

High Energy Physics (HEP)

- LSST is making good progress and FACET had a very productive year.

Objectives and Notable Outcomes:

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

Notable Outcome:
BES: Develop the project baseline and achieve CD-2 for the LCLS-II.

The project team had successfully completed all the requirements for achieving CD-2 prior to BESAC issuing the Future X-ray Light Sources report. SLAC was asked to incorporate the BESAC recommendations into LCLS-II and has since revised the project scope accordingly. - **Achieved**

2.2: Provide for the Effective and Efficient Construction of Facilities and/or Fabrication of Components (execution phase, post CD-2 to CD-4)

Notable Outcome:
FES: Complete construction and achieve CD-4 of the Matter at Extreme Conditions Instrument end station at LCLS

SLAC completed construction and achieved CD-4 on October 16, 2012, which was ahead of schedule. - **Achieved**

2.3: Provide Efficient and Effective Operation of Facilities

Notable Outcome:
HEP: Provide an updated plan to address issues facing the FACET User Facility. These include beam parameters, beam instabilities and beam up time. The lab will carry the plan of improvements by the end of the FY 2013 run

A plan was presented to HEP in April 2013 by FACET Director Vitaly Yakimenko that addressed all of the notable issues. - **Achieved**

2.4: Utilization of Facilities to Provide Impactful S&T Results and Benefits to External User Communities

Below is a table that shows which Program Offices provided input for assessment for these Objectives.

Science Program Office	Letter Grade	Numerical Score	Objective Weight	Overall Score
Basic Energy Sciences				
2.1 Support Laboratory Programs	A-	3.5	10.0%	
2.2 Construction of Facilities	A-	3.5	30.0%	
2.3 Operation of Facilities	A-	3.7	50.0%	
2.4 S&T Results and Benefits to External User Communities	A-	3.7	10.0%	
			Overall BES Total	3.6
Biological and Environmental Research				
2.1 Support Laboratory Programs			0.0%	
2.2 Construction of Facilities			0.0%	
2.3 Operation of Facilities			0.0%	
2.4 S&T Results and Benefits to External User Communities	A	3.8	100.0%	
			Overall BER Total	3.8
Fusion Energy Sciences				
2.1 Support Laboratory Programs			0.0%	
2.2 Construction of Facilities	A-	3.6	15.0%	
2.3 Operation of Facilities	A-	3.5	35.0%	
2.4 S&T Results and Benefits to External User Communities	B+	3.4	50.0%	
			Overall FES Total	3.5
High Energy Physics				
2.1 Support Laboratory Programs	B+	3.4	80.0%	
2.2 Construction of Facilities			0.0%	
2.3 Operation of Facilities	A	4.0	20.0%	
2.4 S&T Results and Benefits to External User Communities			0.0%	
			Overall HEP Total	3.5

Table 2.1. Program Performance Goal 2.0 Score Development

Program Office	Letter Grade	Numerical Score	Weight	Overall Weighted Score
Basic Energy Sciences	A-	3.6	75.0%	
Biological and Environmental Research	A	3.8	1.5%	
Fusion Energy Sciences	A-	3.5	0.5%	
High Energy Physics	A-	3.5	23.0%	
			Performance Goal 2.0 Total	3.6

Table 2.2. Overall Performance Goal 2.0 Score Development

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

Table 2.3 Goal 2.0 Final Letter Grade

Goal 3.0: Provide Effective and Efficient Science and Technology Program Management

The Contractor provides effective program vision and leadership; strategic planning and development of initiatives; recruits and retains a quality scientific workforce; and provides outstanding research processes, which improve research productivity.

The Department has assigned an overall grade of A- for this Performance Goal. SC assessments of the Goal and related Objectives are summarized below. See Appendix 1 for the Program Offices' detailed evaluations.

Basic Energy Sciences (BES)

- Communication between BES and SLAC management was proactive, timely and excellent in FY13.
- The MSE coordinator has been proactive in shaping a vision for the program and has demonstrated excellent skills in working with headquarters in the management of the SLAC MSE program. The MSE program is appraised of all program developments and recruitment activities via monthly calls.
- SLAC management has submitted several white papers and a proposal in FY 2013; however, they were not funded or were withdrawn due to budgetary constraints and/or lack of delineation compared to currently funded projects.
- SLAC has been proactive in managing JCESR Hub activities.
- The UCS effort at SLAC, reviewed in 2013, demonstrates significant scientific breadth and synergy that are the hallmarks of our laboratory programs.
- The LCLS-II management and technical team have responded to the BESAC recommendations in an effective, efficient and professional manner.

Biological and Environmental Research (BER)

- SLAC has been highly effective in its planning for the future and its regular communication with BER staff.

Fusion Energy Sciences (FES)

- The MEC end station at the Linac Coherent Light Source (LCLS) provides a unique facility capable of conducting world-class research in the area of High Energy Density Laboratory Plasmas (HEDLP). Effective MEC management has enabled a smooth transition from project construction to user science, provided future vision, and opened new directions for the laboratory in alignment with DOE missions.

High Energy Physics (HEP)

- HEP has seen real improvement in program management in FY 2013. We see improved focus on the lab's strengths and realism about future budgets.

Objectives and Notable Outcomes

3.1: Provide Effective and Efficient Strategic Planning and Stewardship of Scientific Capabilities and Program Vision

Notable Outcomes: None

3.2: Provide Effective and Efficient Science and Technology Project/Program/Facilities Management

Notable Outcomes:
High Energy Physics: Develop a plan to optimize the lab's HEP research program that is consistent with HEP's funding plan for research in FY 14 & 15 and present it at the HEP annual budget briefings in early 2013. The primary considerations should be preserving the strength of the program and supporting HEP's new initiatives.

The plan was presented as requested. A frank discussion was held based on that plan. Actions taken on the plan have been acceptable. - **Achieved**

Basic Energy Sciences: Develop a strategic plan to enhance the Laboratory's photon science program, utilizing the new capabilities at LCLS.

SLAC has provided an ultrafast strategic plan to direct and enhance materials sciences research that utilizes ultrafast sources, including the LCLS. SLAC has engaged the broader community in arriving at this document, including a workshop on "Frontiers of THz Science" that was held in September 2012 and a working group meeting specific to materials sciences that included SLAC, LBNL, and LANL representatives. Based on these inputs, SLAC has produced a preliminary strategic plan for free-electron-laser- and tabletop-based ultrafast materials sciences. The document outlines the ties of existing FWPs to LCLS and has 3 key elements that relate to scientific directions: (1) Establish key core directions that answer grand challenge materials science problems; (2) Implement a roadmap for directed discovery; and (3) Provide strong theory coupling to LCLS and non-equilibrium measurements. Another element explores the development of stronger scientific ties to other national labs in ultrafast materials sciences. This is a good initial draft of current and potential scientific directions. SLAC identified the lack of a permanent LCLS director as a constraint in the further development of the strategic plan. BES encourages further evolution of this strategic plan to embrace the planned capabilities of LCLS II and towards further engagement of the broader ultrafast community to increase the impact of ultrafast materials science. The first submission of the document did not include the broader aspects of the SLAC photon science program, specifically the topics supported by the BES Chemical Sciences, Geosciences and Biosciences Division. A revised plan is due from SLAC that will cover the vision and strategic directions of the PULSE Institute and SUNCAT Center for Interface Science and Catalysis. - **Achieved**

3.3: Provide Efficient and Effective Communications and Responsiveness to Headquarters Needs

Notable Outcome(s): None

Below is a table that shows which Program Offices provided input for assessment for these Objectives.

Science Program Office	Letter Grade	Numerical Score	Objective Weight	Overall Score
Basic Energy Sciences				
3.1 Efficient Strategic Planning and Stewardship	A-	3.6	40.0%	
3.2 Project/Program/Facilities Management	A-	3.7	30.0%	
3.3 Effective Communications and Responsiveness	A-	3.7	30.0%	
			Overall BES Total	3.7
Biological and Environmental Research				
3.1 Efficient Strategic Planning and Stewardship	A	3.8	20.0%	
3.2 Project/Program/Facilities Management	A-	3.5	30.0%	
3.3 Effective Communications and Responsiveness	A-	3.5	50.0%	
			Overall BER Total	3.6
Fusion Energy Sciences				
3.1 Efficient Strategic Planning and Stewardship	A-	3.6	40.0%	
3.2 Project/Program/Facilities Management	A	3.8	30.0%	
3.3 Effective Communications and Responsiveness	B+	3.3	30.0%	
			Overall FES Total	3.6
High Energy Physics				
3.1 Efficient Strategic Planning and Stewardship	A-	3.5	40.0%	
3.2 Project/Program/Facilities Management	B+	3.4	40.0%	
3.3 Effective Communications and Responsiveness	A-	3.5	20.0%	
			Overall HEP Total	3.5

Table 3.1. Program Performance Goal 3.0 Score Development

Program Office	Letter Grade	Numerical Score	Weight	Overall Weighted Score
Basic Energy Sciences	A-	3.7	62.1%	
Biological and Environmental Research	A-	3.6	1.6%	
Fusion Energy Sciences	A-	3.6	0.7%	
High Energy Physics	A-	3.5	35.7%	
			Performance Goal 3.0 Total	3.6

Table 3.2. Overall Performance Goal 3.0 Score Development

Score	0.0-0.7	0.8-1.0	1.1-1.7	1.8-2.0	2.1-2.4	2.5-2.7	2.8-3.0	3.1-3.4	3.5-3.7	3.8-4.0	4.1-4.3
Grade	F	D	C-	C	C+	B-	B	B+	A-	A	A+

Table 3.3. Goal 3.0 Final Letter Grade

Goal 4.0: Provide Sound and Competent Leadership and Stewardship of the Laboratory

This Goal evaluates the Contractor Leadership capabilities in leading the direction of the overall Laboratory, the responsiveness of the Contractor to issues and opportunities for continuous improvement, and corporate office involvement/commitment to the overall success of the Laboratory.

The Department has assigned an overall grade of B+ for this perfomance Goal.

- Operations management failed to get in front of operational issues through the first 9 months of the performance period specifically in safety, project management, ERP implementation, and cyber security. This allowed situations to develop to the point where overall performance in those areas did not meet DOE PEMP expectations; the laboratory has recently reversed this trend.

- The Laboratory Director has made tremendous strides in his management and leadership capacities through FY13, however, a number of key leadership positions at the laboratory remain unfilled.

- Support from Stanford University continues to be excellent. Stanford is fully engaged in recruiting top talent, providing resources, and active & value added oversight/assurance on the performance of the contract.

4.1: Leadership and Stewardship of the Laboratory

Notable Outcome(s): None

- SLAC National Accelerator Laboratory (SLAC) continues to develop exciting scientific vision for the laboratory. The Linac Coherent Light Source (LCLS) and Stanford Synchrotron Radiation Lightsource (SSRL) leadership worked closely to establish SLAC as a world leader in light sources. The continued leadership gap in photon sciences needs to be addressed.

- The new Lab Director has been appointed and has had a good start to his tenure in leading the laboratory.

- There are a number of key leadership vacancies that remained open through FY13 and SLAC was slow in filling these positions.

4.2: Management and Operation of the Laboratory

Notable Outcome: None

- SLAC senior management communicated well with BES and was cognizant of BES programmatic priorities and goals. SLAC management continues to exercise prudent oversight and leadership in program and project management, especially in its active management of the re-planning of LCLS-II project to incorporate the BESAC recommendations.

- Leadership in operations management was not fully effective as evidenced by ongoing and slow to resolve issues in laser safety, procurement, project management, infrastructure management, ERP implementation, as well as cyber security.

- Laboratory leadership did not spend adequate time walking through the Laboratory on a routine, continuing, and visible basis through the first three-quarters of the fiscal year. This had a negative impact as the Lab was going through a major leadership transition. In this regard, the management walkthrough program was not effectively implemented across the Laboratory. SLAC has taken a number of positive steps recently to turn this around.

- SSO has observed that some managers did not always demonstrate accountable behaviors.

- SLAC and SU have taken proactive actions in addressing management issues at the Laboratory.

4.3: Contractor Value-added

Notable Outcomes:
SC: Stanford University will select and transition to a new Laboratory Director.

Stanford University has selected a new Laboratory Director. - **Achieved**

- The laboratory has successfully partnered with Stanford University in strategic hires for the BES programs.

- Support from Stanford University continues to be excellent. The University is engaged in attracting and retaining high caliber scientific talent and recently completed construction of the Stanford Research Computing Facility (SRCF).

Element	Letter Grade	Numerical Score	Weight	Overall Score
Goal 4.0: Provide Sound and Competent Leadership and Stewardship of the Laboratory				
4.1: Leadership and Stewardship of the Laboratory	A-	3.5	33.0%	
4.2: Management and Operation of the Laboratory	B	2.8	33.0%	
4.3: Contractor Value-added	A-	3.5	34.0%	
			Total	3.3

Table 4.1. Goal 4.0 SC Program Office Performance Goal Score Development

Score	0.0-0.7	0.8-1.0	1.1-1.7	1.8-2.0	2.1-2.4	2.5-2.7	2.8-3.0	3.1-3.4	3.5-3.7	3.8-4.0	4.1-4.3
Grade	F	D	C-	C	C+	B-	B	B+	A-	A	A+

Table 4.2 Goal 4.0 Final Letter Grade

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

This Goal evaluates the Contractor's overall success in deploying, implementing, and improving integrated ES&H systems that efficiently and effectively support the mission(s) of the Laboratory.

The weight of this Goal is 30.0%

The Department has assigned an overall grade of B for this perfomance Goal. Comments are contained within the individual Objectives that follow.

The Laboratory generally is providing an efficient and effective health and safety program that supports the mission; however, there was a series of preventable incidents that, taken together, represented an unfavorable trend in safety performance at SLAC. A good number of these events had inadequate work planning and control as either a primary or contributing cause. Additionally, there were programmatic weaknesses in the laser and accelerator safety programs that were identified as deficiencies in SLAC's implementation in 10 C.F.R Part 851, Worker Health and Safety Program. While SLAC voluntarily entered these programmatic weaknesses/non-compliances into the Noncompliance Tracking System (NTS), these incidents where of significant concern to DOE and were the primary factor in SLAC not meeting expectations in Goal 5.0, Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health, and Environmental Protection and subsequently, a reduction in performance fee in FY13.

On a positive note, the High Voltage Electricians routinely perform at an exceptionally high level of excellence; this organization can be considered "best-in-class". SLAC continues to have a high performing Waste Management Program that has demonstrated timely, efficient, and effective waste management, processing, and disposal capabilities. SLAC has what SSO considers a best-in-class ESH&Q Radiation Protection, hallmarked by the thoroughness of reviews, attention to detail, and its conservative approach to disposition and recycling of materials. All three of these programs deserve special recognition.

5.1: Provide an Efficient Worker Health and Safety Program

Notable Outcomes:
Site Office: Significantly improve the quality of reports and dissemination of lessons learned for recordable injuries and other events on site that had potential to injure people, harm the environment, damage equipment, or negatively impact operations so that the Laboratory effectively uses this tool to improve safety performance reducing the TRC/DART case rates by at least 20% compared to FY12.

Notable Outcome was met by creating the electronic First Report of Injury, starting the investigation review board, and reducing the reportable/recordable accident by approximately 20%. - **Achieved**

Site Office: Improve the consistency and execution of the Work Planning and Control (WPC) across the site with the outcome of fewer injuries, fewer delays, and better integration of work across the site leading to a more sustainable scientific infrastructure.

Notable Outcome was not met based on the number of incidents that continue to occur in which WPC played a prominent factor. - **Not Achieved**

The Laboratory generally is providing an efficient and effective health and safety program that supports the mission; however, there was a series of preventable incidents that, taken together, represented an unfavorable trend in safety performance at SLAC. A good number of these events had inadequate work planning and control as either a primary or contributing cause.

Additionally, there were programmatic weaknesses in the laser and accelerator safety programs that were identified as deficiencies in SLAC's implementation in 10 C.F.R Part 851, Worker Health and Safety Program. While SLAC voluntarily entered these programmatic weaknesses/non-compliances into the Noncompliance Tracking System (NTS), these incidents where of significant concern to DOE and were the primary factor in SLAC not meeting expectations in Goal 5.0, and subsequently, a reduction in performance fee in FY13.

- Linac beam mis-steer event in February 2013
- Failure of laser shutters in Hutch 5 LCLS in March 2013
- Opening of an SSRL kicker magnet breaker that was not authorized by the beam authorization sheet (i.e.: the operating procedure) in July 2013
- Inadvertent opening of a cover on a Class 4 enclosure in laser lab in B40 Rm127. One cover was momentarily opened for a demonstration (although it is required to be closed to operate in the Class 1 mode) without the laser being automatically tripped off.
- Improperly latching doors in B40A/Room 205 Pulse Labs in March 2013

SLAC reduced reportable/recordable accident rates by 20% compared to FY12; however, reporting of some incidents was not always timely.

SLAC’s Hot Work Program was not effectively implemented; this was a recurring situation that requires the attention of the Laboratory

The electronic Supervisor First Report of Injury has been instrumental in improving the quality and timeliness of initial incident reporting by supervisors. The Investigation/CA Review Board has had a direct positive impact on the overall quality of incident reports.

SLAC did not make sufficient improvements to the WPC program in FY13 as measured against the FY12 WPC assessment. Several incidents occurred in FY13 where less than adequate WPC was a prominent factor in the incident including:

- Drop of a drill bit through a Linac waveguide penetration
- Several industrial related ergonomic injuries, including late reporting on PEP ring injuries
- Two band saw cuts that were similar in nature causing personal injury in October
- Handling of the Linac ladders where it was not clear that these systems provided adequate fall protection for workers ingressing/egressing the linac tunnel using these ladders in November 2012
- Ladder slip that caused a compression fracture while an employee was entering the 1701 cooling tower basin without having the ladder properly secured
- Poor work practices relating to fall protection at the Stanford Research Computing Facility; since this was a Stanford University project, this was SLAC’s lack of proper oversight and enforcement of safety expectations.
- Numerous cases where employees/subcontractors “crashed” the Alpine Gate
- A series of near miss events through the year at the B52 construction project specifically in fire protection protocols, fall protection, and industrial housekeeping
- Unauthorized work by Stanford University removing cafeteria equipment without proper Lockout/Tagout in September as well as electrical work at the Recreation Center in October
- Lack of hazard control causing a small NEG fire on a PEP vacuum pump
- Torch cutting operations in BaBar with an expired hot work permit causing a smoke alarm in the facility

5.2: Provide Efficient and Effective Environmental Management System

Notable Outcome(s): None

Strengths

Waste Management: SLAC continues to have a high performing Waste Management Program that has demonstrated timely, efficient, and effective waste management, processing, and disposal capabilities.

Risk Reduction: SLAC completed assessment of ecological risk to San Francisquito Creek and concluded that there is no ecological risk from site operations. Additionally, SLAC continued cleanup of legacy groundwater contamination at 5 sites.

Scrap Metals Recycling: SLAC recycled 1,376 tons of scrap metal from dismantling of PEP-II and BaBar, and removed steel from PN-5 and Sector 10. The activity generated revenue that was reinvested in other sustainability projects and resulted in significant waste disposal avoidance costs.

Sustainability: SLAC made progress in achieving waste reduction goals through Zero Waste Programs instituted at Buildings 901 and 28.

Weaknesses

Hazardous Waste/Materials: The outcome of the CUPA inspection confirmed that SLAC needs to ensure that line management is accountable for compliance with hazardous waste and hazardous material management requirements at waste generation locations.

Lower Salvage Yard: SLAC needs to ensure that appropriate risk management decisions are applied to prioritization of work activities. The planned sinkhole repair work at the Lower Salvage Yard has not been completed in over 3 years, posing a potential risk of an environmental release due to off-site transport of PCBs to the drainage channel.

Element	Letter Grade	Numerical Score	Weight	Overall Score
Goal 5.0: Sustain Excellence and Enhance Effectiveness of Integrated Safety, Health, and Environmental Protection				
5.1: Provide an Efficient Worker Health and Safety Program	B-	2.5	60.0%	
5.2: Provide Efficient and Effective Environmental Management System	A-	3.5	40.0%	
			Total	2.9

Table 5.1. Goal 5.0 SC Program Office Performance Goal Score Development

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

Table 5.2 Goal 5.0 Final Letter Grade

Goal 6.0: Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of the Laboratory Mission(s)

This Goal evaluates the Contractor's overall success in deploying, implementing, and improving integrated business systems that efficiently and effectively support the mission(s) of the Laboratory.

The weight of this Goal is 30.0%

The Department has assigned an overall grade of B for this perfomance Goal. Comments are contained within the individual Objectives that follow.

SLAC's business systems adequately support the Lab mission; in general, however there were issues that need to be addressed for SLAC to fully meet expectations. There were several cases of lack of attention to detail in the development and execution of contract processes in the Procurement Organization that led to an unacceptable trend resulting in SSO reducing SLAC's procurement authority in June 2013. Additionally, the ERP implementation has had significant challenges, although it now appears to be on track.

6.1: Provide an Efficient, Effective, and Responsive Financial Management System

Notable Outcome(s):
Site Office: Implement the Enterprise Resource Planning (ERP) multi-year roadmap and achieve planned FY13 milestones for HR/Financial/Procurement systems.

Upon review of the performance baseline, the ERP project is on schedule and on budget with major system applications scheduled for release during FY14. - **Achieved**

SLAC and Stanford University underwent a scheduled Office of Inspector General assessment of audit coverage of cost allowability for SLAC from FY08 through FY11 and no material internal control weaknesses were identified. SLAC's financial internal controls are adequate and corrective actions to Stanford University Internal Audit findings were done in a timely and comprehensive manner.

SLAC's implementation of the new ERP system is underway. The ERP project performance was difficult to determine through most of the performance period. Despite SLAC approving CD-2 in June, a performance baseline was not made available to the Site Office until late September. Since ERP projects tend to be high-risk (i.e.: expensive and many experience cost overruns) it was critical for the Site Office to be able to monitor progress and provide oversite, but the lack of a baseline made this task very difficult for most of FY13. Subsequently, SLAC has assigned a strong project manager to ERP and a performance baseline has been developed. Upon review of the performance baseline, the ERP project appears to be on schedule and on budget with major system applications scheduled for release during FY14.

6.2: Provide an Efficient, Effective, and Responsive Acquisition Management System and Property Management System

Notable Outcome(s): None

Due to a negative performance trend through the first three-quarters of the FY, SSO took action to reduce SLAC's procurement authority (from $5.0M to $1.0M for fixed price awards and $0.5M for cost reimbursement awards) in May. These lowered procurement thresholds are still in place pending improved performance by SLAC. SSO's review of subcontract awards and quarterly review of SLAC subcontract files has been implemented and will continue until SLAC demonstrates that the internal controls are effective. Issues that led to this reduction include:

- Rejection of the SUSB RFP by the Head of the Contracting Authority (HCA) in December due to major inconsistencies between Sections L and M of the RFP
- Loss of control of source selecting information (SSI) in February of the LCLS-II package, and subsequent late disclosure by SLAC to SSO
- Less than adequate actions taken, and subsequently, less than adequate after action review/lessons learned associated with the loss of SSI on the LCLS-II procurement package

- The organization appeared to have adopted a “good enough” standard for the quality of packages and their review which ultimately were rejected by the Site Office/DOE. As an example, SSO was told that procurement documents were signed by authorized SLAC personnel who stated that they did not have time to read the package before signing.
- SLAC did not effectively transition the contract award package to the project team specifically for the B052 project. In particular, SLAC chose a contractor to design/build B52 that had numerous documented weaknesses in its ability to perform. While the contract was awarded as best value based on price, SLAC procurement did not adequately communicate the weakness of the contractor to the project team which resulted in poor performance by the B052 contractor through most of the performance period requiring frequent Site Office intervention.SLAC completed the update of the Procurement Description (PD) and the Procurement Desk Guide (PDG). The PD was revised to address the OIG assessment of audit coverage of cost allowability; findings concerned post-award audits of cost reimbursement subcontracts.

6.3: Provide an Efficient, Effective, and Responsive Human Resources Management System and Diversity Program

Notable Outcome(s): None

- The SLAC Human Resources (HR) Department is actively involved in the early implementation of the Enterprise Resource Planning (ERP) system. The first ERP applications to be implemented at the end of FY14 Q1 are HR and payroll. The HR and payroll applications are on schedule and on budget.

- FY13 was the first year SLAC was required by the Contract to complete and submit the annual Compensation Increase Plan (CIP) for DOE approval. SLAC completed the CIP on schedule and it was approved by DOE without any major modifications.

- The SLAC HR department developed a workforce restructuring plan to meet the changes in mission priorities, projected budgetary constraints, and increasing mission objective challenges. The workforce restructuring plan was reviewed and approved by DOE with minimal modifications and implemented in FY13 Q4.

6.4: Provide Efficient, Effective, and Responsive Contractor Assurance Systems, including Internal Audit and Quality

Notable Outcome(s): None

- CAS has not yet developed or matured measurably since the January 2012 Peer Review as documented in the September 2013 CAS Effectiveness Review conducted by SSO.

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

Notable Outcome(s):
Site Office: Develop and implement an effective means and method to transfer technology to the private sector increasing the technologies that are transferred into the private sector by at least 20% when compared to FY12.

SLAC utilized their resources to market their technical capabilities to collaborative sponsors and achieved a 20% increase in Sponsored Research/Work for Others as compared to FY12. - **Achieved**

Element	Letter Grade	Numerical Score	Weight	Overall Score
Goal 6.0: Deliver Efficient, Effective, and Responsive Business Systems and Resources that Enable the Successful Achievement of the Laboratory Mission(s)				
6.1: Provide an Efficient, Effective, and Responsive Financial Management System	B	2.8	20.0%	
6.2: Provide an Efficient, Effective, and Responsive Acquisition Management System and Property Management System	C+	2.1	20.0%	
6.3: Provide an Efficient, Effective, and Responsive Human Resources Management System and Diversity Program	B+	3.1	20.0%	
6.4: Provide Efficient, Effective, and Responsive Contractor Assurance Systems, including Internal Audit and Quality	B	2.8	20.0%	
6.5: Demonstrate Effective Transfer of Technology and Commercialization of Intellectual Assets	B+	3.1	20.0%	
			Total	2.8

Table 6.1. Goal 6.0 SC Program Office Performance Goal Score Development

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

Table 6.2 Goal 6.0 Final Letter Grade

Goal 7.0: Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs

This Goal evaluates the overall effectiveness and performance of the Contractor in planning for, delivering, and operations of Laboratory facilities and equipment needed to ensure required capabilities are present to meet today's and tomorrow's mission(s) and complex challenges.

The weight of this Goal is 30.0%

The Department has assigned an overall grade of B+ for this perfomance Goal. Comments are contained within the individual Objectives that follow.

SLAC is supporting the Mission through Facilities and Project Management efforts; however, there are areas in need of further improvement, particularly in project management. There were numerous issues with the B52 project that required SSO intervention discussed in Section 7.2. Positive notes include the Facilities organization addressing equipment issues to ensure continued operations, SLAC's approach to the historic preservation process, and the success of the utility relocation project.

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

Notable Outcome(s):
Site Office: Implement the FY13 portion of the 10-year roadmap for renewal of critical facilities and infrastructure based on priority and risk to the mission

FY13 milestones from the 10-year roadmap have been met dependent on budget availability. - **Achieved**

- Improvements in predictive maintenance have resulted in increased reliability and 99.21% up time of accelerator critical utilities for FY13 to-date.
- Successful models for risk management and work planning for facilities in the electrical and mechanical systems needs to be expanded to other infrastructure projects in support of the Mission.
- Successful planning and implementation of the utility reroute project has proven worthy. QC/QA was emphasized and a template has been created for future projects.
- SLAC routinely used the north side of the BTH as junk storage/disposal, including placing large concrete blocks within inches of LCLS. Additionally, SLAC has started to place concrete blocks on the recently cleaned up bone yard. SLAC needs to develop and implement a plan that deals with debris in the project planning stage as opposed to the practices described above.
- As noted in Goal 5, the Facilities organization has taken important strides in upgrading/replacing (when and where possible), maintaining, and preventing failure of critical systems that support operation of the lab. The Facilities organization gets a special mention for it performance in correcting and returning to service failed equipment in a manner that either mitigates or eliminates mission down time.
- SLAC completed over 2,000 work activities during the summer shutdown; this work was completed safely, timely, and in a professional manner.

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

Notable Outcome(s): None

- Management of Capital Projects was not always effective. There were gaps in the quality assurance, build requirements, lifecycle costs, and transition to operations processes.
- B052 project performance was inconsistent and did not always meet established project management standards throughout the performance period including:
    - Inadequate fire protection especially in the area of fire watch and hot work permitting
    - Numerous issues with inadequate fall protection
    - Poor housekeeping standards enforced by SLAC

- Lack of control of the project's critical path, including the installation of the elevators which is manifesting itself (currently) as a 74-day delay in occupancy of the facility
- Failure in many cases for SLAC to enforce contract requirements with its contractors
- SLAC was not able to publish a lessons learned document on this project in a timely manner
- SLAC project personnel were, in many cases, not familiar with relevant contract terms, conditions, and requirementWhile individual issues were ultimately resolved, often time resolution required intervention by the Site Office.

- CD-4 achieved for the MEC Instrument ahead of schedule and substantially below budget. Remaining funds were transferred to LCLS operations to support the SLAC mission in Matter in Extreme Conditions and plasma studies.
- CD-2/3 and contract award were completed for the SUSB project in FY13 Q4.
- Critical infrastructure support projects are in the design or procurement phase and progressing toward completion by FY14 Q1.
- SLAC needs to improve its performance regarding the Site Sustainability Plan (SSP), both in terms of communication with SSO and quality. The Sustainability Program does not take full advantage of low cost/no cost energy savings tied to behavioral changes.
- SLAC handles historic preservation process in a professional and detail-oriented manner.

Element	Letter Grade	Numerical Score	Weight	Overall Score
Goal 7.0: Sustain Excellence in Operating, Maintaining, and Renewing the Facility and Infrastructure Portfolio to Meet Laboratory Needs				
7.1: Manage Facilities and Infrastructure in an Efficient and Effective Manner that Optimizes Usage, Minimizes Life Cycle Costs, and Ensures Site Capability to Meet Mission Needs	B+	3.3	50.0%	
7.2: Provide Planning for and Acquire the Facilities and Infrastructure Required to Support the Continuation and Growth of Laboratory Missions and Programs	B	2.8	50.0%	
			Total	3.1

Table 7.1. Goal 7.0 SC Program Office Performance Goal Score Development

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

Table 7.2 Goal 7.0 Final Letter Grade

Goal 8.0: Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems

This Goal evaluates the Contractor's overall success in safeguarding and securing Laboratory assets that supports the mission(s) of the Laboratory in an efficient and effective manner and provides an effective emergency management program.

The weight of this Goal is 10.0%

The Department has assigned an overall grade of B+ for this perfomance Goal. Comments are contained within the individual Objectives that follow.

SLAC has delivered Safeguards and Security and Emergency Management Systems that adequately support the mission. SLAC's cyber security program continues to have vulnerabilities, but the team now in place needs to act more aggressively to close gaps identified from internal and external audits.

SLAC has provided a sound and competent emergency management program as evidenced by its performance in drills and actual emergencies. SLAC gets special recognition on how it responded to the subcontractor heart attack on the Utilities Relocation Project in August.

8.1: Provide an Efficient and Effective Emergency Management System

> **Notable Outcome(s):**
> **Site Office**: Implement Emergency Management plans and procedures based on the Baseline Needs Assessment (BNA) and ensure the new emergency response model (off-site response supplemented by on-site emergency response team) meets response and documentation objectives.
>
> Site wide emergency response since the implementation of the MOA with Menlo Park Fire Department has been exemplary. Self-assessment or peer review of Emergency Management and Response Program was not performed as planned and the Site Wide Hazards Screening and Survey was completed late. - **Achieved**

8.2: Provide an Efficient and Effective Cyber Security System for the Protection of Classified and Unclassified Information

> **Notable Outcome(s):**
> **Site Office**: Mitigate/eliminate the cyber security vulnerabilities identified by recent internal and external reviews in accordance with plan of action and milestones (POAM)
>
> The SLAC Information Technology (IT) Department successfully mitigated and closed out all three of the prior year OIG findings, completing the POAM. - **Achieved**

While SSO has observed a high level of management attention to detail combined with a long-term strategy to address computing and cyber security vulnerabilities at SLAC, the Lab did not aggressively manage and eliminate systematic vulnerability. Though SLAC IT did close-out the three past year open findings, it still needs improvement to operate in-line with best Cyber Security and IT practices. KPMG/IG lead an external FISMA audit of SLAC in FY13 Q3 resulting in 9 new findings of which 8 had to do directly with IT operations.

8.3: Provide an Efficient and Effective Physical Security Program for the Protection of Special Nuclear Materials, Classified Matter, Classified Information, Sensitive Information, and Property

Notable Outcome(s):
Site Office: Complete Security Enhancement Project in accordance with SLAC plan

The Security Enhancement Project was completed in accordance with the SLAC plan. Automation for gates 17 and 30 utilized innovative solutions to add additional safety systems to the gates and to allow bicycles to access controls from the road. - **Achieved**

Radiation Protection has made good use of Lessons learned at other sites to solve problems at SLAC

- Used lessons learned from LBNL at SSRL
- Used Brookhaven mis-steer event to evaluate SLAC's potential impacts before the beam miss steer at SLAC occurred.SLAC received a letter from NRC commending them on inventory control

Element	Letter Grade	Numerical Score	Weight	Overall Score
Goal 8.0: Sustain and Enhance the Effectiveness of Integrated Safeguards and Security Management (ISSM) and Emergency Management Systems				
8.1: Provide an Efficient and Effective Emergency Management System	B+	3.1	33.0%	
8.2: Provide an Efficient and Effective Cyber Security System for the Protection of Classified and Unclassified Information	B-	2.6	33.0%	
8.3: Provide an Efficient and Effective Physical Security Program for the Protection of Special Nuclear Materials, Classified Matter, Classified Information, Sensitive Information, and Property	A-	3.5	34.0%	
			Total	3.1

Table 8.1. Goal 8.0 SC Program Office Performance Goal Score Development

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

Table 8.2 Goal 8.0 Final Letter Grade

APPENDIX

List of programs:

High Energy Physics (HEP)
Basic Energy Sciences (BES)
Biological and Environmental Research (BER)
Fusion Energy Sciences (FES)

High Energy Physics
SLAC National Accelerator Laboratory
FY 2013 Performance Evaluation
Office of Science

Goal 1.0: Provide for Efficient and Effective Mission Accomplishment

Weight: 30.00%

Score: 3.7 **Grade:** A-

Goal Evaluation:

SLAC's performance on mission accomplishment has been excellent in FY 2013. Cosmic frontier research and accelerator science were real standouts.

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

Weight: 50.00%

Score: 3.8 **Grade:** A

Objective Evaluation:
EXO published the best limit for neutrino-less double beta decay of Xenon-136 and submitted for publication the most precise measurement of the two-neutrino double beta decay lifetime of Xenon-136. SLAC authors led 8 out of the 30 publications from the Fermi LAT collaboration. These works included the first direct demonstration of a hadronic origin for cosmic rays emitted from supernova remnants, a detailed study of narrow gamma-ray lines near 130 GeV in energy, and limits on dark matter annihilation from the Galactic center region.

The first demonstration of Direct Laser Acceleration “accelerator-on-a-chip” was performed at the FACET User Facility and published in Nature. Acceleration of electrons with a low energy spread by electron beam driven plasma wakefields was demonstrated at FACET also. In addtion, Mark Hogan received the IEEE NPSS Particle Accelerator Science and Technology Award.

Objective 1.2: Provide Quality Leadership in Science and Technology that Advances Community Goals and DOE Mission Goals

Weight: 50.00%

Score: 3.5 **Grade:** A-

Objective Evaluation:
After many years in development the EXO effort is finally beginning to live up to its promise with the new results cited in Objective 1.1. The second run of the FACET User Facility had two striking results in accelerator science.

SLAC leads the development of the LSST camera and SLAC/Stanford physicist was made director of the entire LSST Project after leading the camera subproject for several years.

Goal 2.0: Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Research Facilities

Weight: 40.00%

Score: 3.5 **Grade:** A-

Goal Evaluation:

LSST is making good progress and FACET had a very productive year.

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

Weight: 80.00%

Score: 3.4 **Grade:** B+

Objective Evaluation:
LSST currently has CD-1 and is preparing for CD-2. Technical progress has been good. An independent project review was held in July 2013. The only significant issue raised was with respect to simultaneously meeting NSF and DOE requirements. Some of this was related to not fully understanding which requirements could be tailored and which could not. A susbsequent face-to-face JOG meeting between the project, DOE, and NSF led to a much better understanding and actions by the project to meet all necessary criteria. HEP fully expects this project to continue to make good progress. Lab management is doing a good job of overseeing the project.

Objective 2.3: Provide Efficient and Effective Operation of Facilities

Weight: 20.00%

Score: 4.0 **Grade:** A

Objective Evaluation:
The laboratory took several steps to improve the performance of FACET including the hiring of a new director, Vitaly Yakimenko. The Associate Laboratory Director, Norbert Holtkamp, was deeply committed to the success of FACET and took steps to improve the resources available. Workers from different divisions were well coordinated. The FY 2013 run provided high quality beam, good uptime, and has already resulted in important new results.

Goal 3.0: Provide Effective and Efficient Science and Technology Program Management

Weight: 30.00%

Score: 3.5 **Grade:** A-

Goal Evaluation:

HEP has seen real improvement in program management in FY 2013. We see improved focus on the lab's strengths and realism about future budgets.

Objective 3.1: Provide Effective and Efficient Strategic Planning and Stewardship of Scientific Capabilities and Program Vision

Weight: 40.00%

Score: 3.5 **Grade:** A-

Objective Evaluation:
HEP has seen real improvements over last year. The program is becoming better focused. We see real effort on the part of lab management to fully support their high priority efforts. LSST and FACET stand out in this regard. We expect that when HEP makes a selection on a dark matter direct detection experiment, that the lab will consolidate its efforts appropriately.

Objective 3.2: Provide Effective and Efficient Science and Technology Project/Program/Facilities

Management

Weight: 40.00%

Score: 3.4 **Grade:** B+

Objective Evaluation:
Program managment has improved since last year. The efforts to improve FACET performance have been particularly notable.

Objective 3.3: Provide Efficient and Effective Communications and Responsiveness to Headquarters Needs

Weight: 20.00%

Score: 3.5 **Grade:** A-

Objective Evaluation:
Communications continue to be very good. The ALDs for both accelerator research and particle physics and particle astrophysics work well with HEP.

Basic Energy Sciences
SLAC National Accelerator Laboratory
FY 2013 Performance Evaluation
Office of Science

Goal 1.0: Provide for Efficient and Effective Mission Accomplishment

Weight: 30.00%

Score: 3.7 **Grade:** A-

Goal Evaluation:

- Overall, the Basic Energy Sciences (BES) Materials Sciences and Engineering (MSE)-funded research projects at SLAC National Accelerator Laboratory (SLAC) have been highly impactful on the field. The Materials Sciences program continues to demonstrate outstanding scientific excellence in the areas of nanomagnetism, high temperature superconductivity, ultrafast science, materials synthesis and strongly correlated electron systems. Notably, SLAC was the lead on the first two JCESR Hub publications.
- The review of the Ultrafast Chemical Sciences Program 2013 demonstrated that it is internationally competitive and in some cases unique and world leading in the field of ultrafast x-ray science.
- The FY 2013 review of the SUNCAT Center established that this program leads the nation in computational catalysis with an impact that has risen dramatically in this first 3 year cycle.

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

Weight: 50.00%

Score: 3.7 **Grade:** A-

Objective Evaluation:
The SLAC MSE program was peer reviewed in FY 2013. Overall, the MSE-funded research at SLAC was found to produce highly significant scientific results in topical areas that are relevant to the BES mission and well-aligned with the core competencies of SLAC. Continued enhancement of synergy amongst the PIs and prioritization of research directions were areas identified for improvement. The programs continue to possess outstanding scientific excellence in the areas of nanomagnetism, high temperature superconductivity, ultrafast science, materials synthesis and strongly correlated electron systems. SLAC is a partner in the JCESR Hub and was the lead on the first two Hub publications. Continued attention to scientific progress for the Hub is important.

The Ultrafast Chemical Sciences (UCS) Program, part of the Atomic Molecular and Optical Sciences (AMOS) portfolio supported by CSGB was site reviewed in FY2013 with highly positive results. The UCS has established a center for ultrafast science at SLAC that is enabling excellent use of the LCLS. The quality of the science is exceptional in its own right. Its importance to the LCLS was evident in the science presented in this review.

The FY 2013 review of the SUNCAT Center established that this program leads the nation in computational catalysis with an impact that has risen dramatically in this first 3 year cycle, fulfilling the FY 13 Notable Outcome to *"Deliver impactful science in the SUNCAT Center for Interfacial Science and Catalysis as assessed by the FY 2013 review. (Objective 1.1)."* An experimental component proposal was well received and, combined with the strong scientific leadership, promises to enhance future impact.

Other ongoing CSGB programs were not reviewed in FY 2013; they continue to be successfully executed, of high scientific merit and quality, and advancing the DOE mission.

SLAC continues to be a leading laboratory in accelerator physics, producing notable first-time demonstrations in x-ray beam manipulation and seeding techniques.

The BES-funded Echo-75 project that aims to seed x-ray lasers with existing laser systems has successfully demonstrate x-ray beam generation up to the 11th harmonic, but needs yet to demonstrate that the technique has advantages over the simpler high-harmonic generation (HHG) technique.

Objective 1.2: Provide Quality Leadership in Science and Technology that Advances Community Goals and DOE Mission Goals

Weight: 50.00%

Score: 3.7 **Grade:** A-

Objective Evaluation:
The research projects supported at SLAC by the MSE division that are deemed world leading are those in correlated electron systems, nanomagnetism, ultrafast science and materials discovery as evidenced by the latest reviews and results published in the scientific literature. In FY 2013, the program continued to publish research in ultrafast materials science in impactful journals; however, the program needs to demonstrate grand challenge science in FEL and table top based materials research. The new photoemission beamline at SSRL should yield valuable insight in correlated materials phenomena.

The review of the Ultrafast Chemical Sciences Program 2013 demonstrated that it is internationally competitive and in some cases unique and world leading in the field of ultrafast x-ray science. Individual researchers as well as the synergistic whole were recognized for excellence. Their extensive collaborations draw participants and contributors world-wide to SLAC, and play a vital role in maximizing the research output and scientific potential of the LCLS.

Other CSGB PIs not reviewed in 2013 are productive, nationally and internationally involved scientists as judged by publications, invited presentations and involvement in national scientific societies.

Goal 2.0: Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Research Facilities

Weight: 50.00%

Score: 3.6 **Grade:** A-

Goal Evaluation:

- The Linac Coherent Light Source (LCLS) operates exceptionally well; however, it was noted in the recent light source budget review that the operation efficiency could be improved by enhancing the management oversight.
- The Stanford Synchrotron Radiation Lightsource (SSRL) continues to enhance its capabilities to remain competitive among the world wide synchrotron source of its class.
- The LCLS-II project is undergoing a re-planning process to incorporate recommendations received from BESAC.

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

Weight: 10.00%

Score: 3.5 **Grade:** A-

Objective Evaluation:
The SLAC LCLS-II project team has demonstrated effective project management in completing all the requirements for achieving CD-2, Approve Project Baseline. LCLS-II is in the process to replan the project

to incorporate the recommendation from BESAC. They have accepted the challenge and have demonstrated exceptional performance and commitment to the task.

Objective 2.2: Provide for the Effective and Efficient Construction of Facilities and/or Fabrication of Components (execution phase, post CD-2 to CD-4)

Weight: 30.00%

Score: 3.5 **Grade:** A-

Objective Evaluation:
The LCLS-II project team has been effectively executing the project plan for long lead procurements (CD-3A) and making excellent progress. The effort towards CD-2/CD-3A has been suspended due to re-planning effort to address recommendations from BESAC.

Objective 2.3: Provide Efficient and Effective Operation of Facilities

Weight: 50.00%

Score: 3.7 **Grade:** A-

Objective Evaluation:
The Linac Coherent Light Source (LCLS) operates exceptionally well with reliably better than 95% matching those of storage ring sources and continues to improve the performance with all six instruments available to users. However, it was noted in the recent light source budget review that the operation efficiency could be improved by enhancing the management oversight.

The Stanford Synchrotron Radiation Lightsource (SSRL) has achieved the accelerator upgrade goal of 500 mA top-off operation in February 2013. The facility continues to operate with high reliably, > 98%. Recent light source budget review has acknowledged that SSRL has an extremely efficient operation model.

Objective 2.4: Utilization of Facility(ies) to Provide Impactful S&T Results and Benefits to External User Communities

Weight: 10.00%

Score: 3.7 **Grade:** A-

Objective Evaluation:
The user interest in Linac Coherent Light Source (LCLS) has been extremely high; on average only ~28% of the 1,083 proposals received to date have been or will be scheduled for their experiments at LCLS. The facility staff have been developing the optical technique to split the x-ray beams in order to increase the capacity of the facility.

The Stanford Synchrotron Radiation Lightsource (SSRL) continues to enhance its capabilities to remain competitive among the world wide synchrotron source of its class.

The SSRL management has been working closely with NSLS staff to provide extra experimental capacities for the user communities to mitigate the dark period during the NSLS to NSLS-II transition.

Goal 3.0: Provide Effective and Efficient Science and Technology Program Management

Weight: 20.00%

Score: 3.7 **Grade:** A-

Goal Evaluation:

- Communication between BES and SLAC management was proactive, timely and excellent in FY 2013.
- The MSE coordinator has been proactive in shaping a vision for the program and has demonstrated excellent skills in working with headquarters in the management of the SLAC MSE program. The MSE program is appraised of all program developments and recruitment activities via monthly calls.
- SLAC management has submitted several white papers and a proposal in FY 2013; however, they were not funded or were withdrawn due to budgetary constraints and/or lack of delineation compared to currently funded projects.
- SLAC has been proactive in managing JCESR Hub activities.
- The UCS effort at SLAC, reviewed in 2013, demonstrates significant scientific breadth and synergy that are the hallmarks of our laboratory programs.
- The LCLS-II management and technical team has responded to the BESAC recommendations in an effective, efficient and professional manner.

Objective 3.1: Provide Effective and Efficient Strategic Planning and Stewardship of Scientific Capabilities and Program Vision

Weight: 40.00%

Score: 3.6 **Grade:** A-

Objective Evaluation:
The MSE-supported program at SLAC continues to have a strong scientific vision for the future. SLAC has strong leadership for the MSE-funded program, which continues to pursue grand challenge science in energy-related materials. While the lab has identified a grand vision for expanding its use-inspired materials effort, building on the strong fundamental science foundation, additional evolution of a science-focused effort on these topics is needed for the stated vision to be successful. SLAC is actively recruiting scientific talent; the need for continued attention to diversity was identified by the recent review. BES supports SLAC's emphasis in developing experimental infrastructure and "table top" instrumentation and synthetic capabilities in order to bring the laboratory's vision as a leading materials science institution to fruition. SLAC performed very well in the FY 2013 equipment competition receiving an award for a laser for spin polarized ARPES. The vision for a theory institute in spectroscopy has progressed but requires further discussion on its overall framework and management plan. A seed-funded project on two-dimensional chalcogenide nanomaterials has shown excellent progress; a full proposal was encouraged.

By careful planning, hiring, and program choices the UCS group has become solidly established in a highly competitive field. Their complementary set of laboratory-based and LCLS-based efforts has struck a healthy and mutually beneficial balance. Indeed, one reviewer appropriately described the relationship between UCS and LCLS as "symbiotic."

LCLS continues to develop new capabilities and enhance existing ones. The LCLS management has provided leadership to improve the user program to ensure the best scientific accomplishments. The SSRL management continues to provide vision and leadership to enhance user operation to support a wide range of user communities.

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

Weight: 30.00%

Score: 3.7 **Grade:** A-

Objective Evaluation:
The SLAC MSE program continued to evolve into coordinated thematic areas in FY 2013. The SLAC BES-MSE program has strong management. Diligence in the development of strategic white papers and prioritization of proposals is encouraged for FY 2014 due to continued budgetary constraints. SLAC was among the first of the JCESR Hub partners to become engaged and to provide proactive management of Hub

research activities.

The UCS effort at SLAC, reviewed in 2013, demonstrates significant scientific breadth and synergy that are the hallmarks of our laboratory programs. Due to the able scientific leadership, a superb cast of scientists and collaborators, and the research infrastructure provided by SLAC, the UCS has been highly successful.

SLAC management has demonstrated high commitment to the success of the SUNCAT Center. The commitment to proposed experiments and the unique SLAC experimental facilities will enable frontier capabilities in heterogeneous catalysis.

LCLS management team has been managing the facility science and technology project effectively. Recently, LCLS has successfully produced x-rays with two energies in ~2% range and with adjustable femtoseconds delay that will create brand new scientific opportunities.

SSRL management continues to explore new opportunities to improve facility operation. Recently, the low-a operation generating x-ray pulses with 10 picosecond time resolution that could compliment LCLS operation.

The SLAC management team has been presented with a significant challenge to stop a project in progress and change directions due to recommendations received from BESAC. They have met this challenge with enthusiasm and dedication. The management and technical team has responded to the challenge in an effective, efficient and professional manner. Excellent work from a very dedicated team.

Leadership positions at both LCLS and SSRL remain unfilled.

Objective 3.3: Provide Efficient and Effective Communications and Responsiveness to Headquarters Needs

Weight: 30.00%

Score: 3.7 **Grade:** A-

Objective Evaluation:
Communication between MSE and SLAC management was proactive and timely. Program highlight submissions have been copious and of high scientific quality and impact. Press releases on MSE topics have been uniformly excellent.

Division management has been consistently exemplary in the communications of scientific results and highlights with CSGB.

Communications between BES SUF Division and the management of both the LCLS and SSRL was good during FY 2013. BES encourages early communication from LCLS management about significant changes in operation mode, such as diverse electron pluses for other research programs.

Biological and Environmental Research
SLAC National Accelerator Laboratory
FY 2013 Performance Evaluation
Office of Science

Goal 1.0: Provide for Efficient and Effective Mission Accomplishment

Weight: 25.00%

Score: 3.7 **Grade:** A-

Goal Evaluation:

- SLAC continues to have a high impacts on both structural biology and subsurface biogeochemical resaerch.

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

Weight: 60.00%

Score: 3.8 **Grade:** A

Objective Evaluation:

- The Structural Molecular Biology Program (SMB) continued in FY 2013 to have a high impact on all aspects of biological science. Prominent biomedical research scientists regularly collect data and publish results in leading journals. Of nearly 200 research articles published in calendar year 2013 based on experiments at the SMB, more than 50 are in the top 100 research journals for Impact Factor (ISI, 2012).
- The Subsurface Biogeochemistry Research Science Focus Area (SBR SFA) has published several highly significant research papers during FY 2013. These papers are providing a framework for understanding uranium speciation as driven by changing subsurface conditions, and are having a substantial impact on thinking in this field.

Objective 1.2: Provide Quality Leadership in Science and Technology that Advances Community Goals and DOE Mission Goals

Weight: 40.00%

Score: 3.5 **Grade:** A-

Objective Evaluation:

- The SMB program developed new technologies and enabled experiments on highly complex biological systems, providing in FY 2013 new biological science outcomes relevant to DOE missions in energy and environment. The program also provided leadership capabilities to the large community in biomedical science, in line with the DOE mission to provide national user facilities across scientific disciplines.
- The SBR SFA has an excellent record for the number and quality of publications in FY 2013. These publications were in most cases the result of collaborations with scientists at other institutions who are associated closely with the SFA. The SLAC leadership has in this way provided scientific results that strongly support DOE mission goals.

Goal 2.0: Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Research Facilities

Weight: 50.00%

Score: 3.8 **Grade:** A

Goal Evaluation:

SLAC is highly supportive of its users and has a significant scientific impact across a range of scientific disciplines.

Objective 2.3: Provide Efficient and Effective Operation of Facilities

Weight: N/A

Score: N/A **Grade:** N/A

Objective Evaluation:
N/A

Objective 2.4: Utilization of Facility(ies) to Provide Impactful S&T Results and Benefits to External User Communities

Weight: 10.00%

Score: 3.8 **Grade:** A

Objective Evaluation:

- The SMB program was highly supportive of users from outside SLAC and Stanford University in FY 2013. It is noteworthy for being the one program in the United States that integrates capabilities in x-ray crystallography, x-ray spectroscopy and small angle x-ray scattering in one administrative unit. This is a major benefit to external users. While the majority of users in FY 2013 accessed the SSRL x-ray crystallography stations through the SMB, there also were significant numbers of users for the other techniques and the SMB had senior staff providing assistance to each of them.
- The SBR SFA makes effective use of experimental stations at SSRL in the course of its research, and many of the experiments are carried out with external groups of scientists

Goal 3.0: Provide Effective and Efficient Science and Technology Program Management

Weight: 25.00%

Score: 3.6 **Grade:** A-

Goal Evaluation:

- SLAC has been highly effective in its planning for the future and its regular communication with BER staff.

Objective 3.1: Provide Effective and Efficient Strategic Planning and Stewardship of Scientific Capabilities and Program Vision

Weight: 20.00%

Score: 3.8 **Grade:** A

Objective Evaluation:

- The leadership of the SMB program has been proactive in FY 2013 in developing plans for future directions, including at the Linac Coherent Light Source, and in planning to ensure that the experimental facilities will continue to be able to meet the needs of external users.

- The SBR SFA is in the process of developing a strategy that will support the revised Science Plan to be submitted in FY 2014 for merit review. The research during FY 2013 strongly supported this planning effort by engaging with scientists in the NGEE-Arctic to assess the potential of x-ray spectroscopy at SLAC supporting the effort to understand carbon cycling. The scientific manager of the project has also held discussions with program staff about these plans, and he is highly recognized for bridging into other disciplines to increase scientific impact.

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

Weight: 30.00%

Score: 3.5 **Grade:** A-

Objective Evaluation:

- The SMB program was well managed in FY 2013, supporting a large user community with excellent utilization of experimental facilities and staff.
- SLAC management is working closely with the SBR SFA staff and providing appropriate guidance for the project.

Objective 3.3: Provide Efficient and Effective Communications and Responsiveness to Headquarters Needs

Weight: 50.00%

Score: 3.5 **Grade:** A-

Objective Evaluation:

- In FY 2013, the SMB program regularly provided information to headquarters staff about new developments in technology and on publication of significant new research papers. The SMB leadership also met with headquarters staff and BER leadership to discuss potential program directions.
- The SBR SFA has been highly effective in communicating with headquarters program staff and BER management in reporting new publications and in discussing planning for future years.

Fusion Energy Sciences
SLAC National Accelerator Laboratory
FY 2013 Performance Evaluation
Office of Science

Goal 1.0: Provide for Efficient and Effective Mission Accomplishment

Weight: 25.00%

Score: 3.5 **Grade:** A-

Goal Evaluation:

SLAC has provided efficient and effective management of the Matter in Extreme Conditions (MEC) end station at the Linac Coherent Light Source (LCLS), transitioning from project construction (completion Oct 16, 2012) into full operations.

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

Weight: 50.00%

Score: 3.4 **Grade:** B+

Objective Evaluation:
Initial experiments on the MEC have made an impact on the field. Researchers have established key methods to utilize x-ray scattering techniques to measure first-principle characteristics of materials conditions and shock characteristics. SLAC scientists and MEC users have been invited speakers at major conferences, e.g. American Physical Society (APS) – Division of Plasma Physics.

Objective 1.2: Provide Quality Leadership in Science and Technology that Advances Community Goals and DOE Mission Goals

Weight: 50.00%

Score: 3.6 **Grade:** A-

Objective Evaluation:
SLAC management, the MEC Operations team, and the SLAC High Energy Density (HED) Science Group have provided leadership in establishing a competitive and potentially world class facility. The proposals from the MEC end station have been competitive with those of the more-established end stations and are quickly gaining in beam time. Through their organization of the High Power Laser Workshop in Menlo Park, CA, SLAC scientists led and gathered the HED community around MEC and inspired national and international interest in the future possibilities of the facility.

Goal 2.0: Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Research Facilities

Weight: 45.00%

Score: 3.5 **Grade:** A-

Goal Evaluation:

SLAC has been highly effective in all aspects of the Matter in Extreme Conditions (MEC) project. The project was carried out as a Major Item of Equipment (MIE) project funded through the American Recovery and Reinvestment Act (ARRA) of 2009. A plan of user-assisted commissioning has allowed early access and scientific progress prior to CD-4, which was achieved on October 16, 2012, one half year ahead of schedule and below cost.

Objective 2.2: Provide for the Effective and Efficient Construction of Facilities and/or Fabrication of Components (execution phase, post CD-2 to CD-4)

Weight: 15.00%

Score: 3.6 **Grade:** A-

Objective Evaluation:
The MEC Project achieved CD-4 on October 16, 2012 and seamlessly transitioned to operations due to their early user-assisted commissioning plan. This milestone was achieved ahead of schedule (March 2013) and under cost. Remaining project contingency funds were used towards the transition to operation, enabling enhancement of diagnostic development and user support.

Objective 2.3: Provide Efficient and Effective Operation of Facilities

Weight: 35.00%

Score: 3.5 **Grade:** A-

Objective Evaluation:
The MEC end station met all expectations in serving users, supporting external users as scheduled, while achieving commissioning and additional diagnostic development. In addition, the facility was made available for additional experiments with multiplexing of the x-ray beam time. This technique was successfully demonstrated and will enable 2-3 more experimental time slots beginning in Run 8.

Objective 2.4: Utilization of Facility(ies) to Provide Impactful S&T Results and Benefits to External User Communities

Weight: 50.00%

Score: 3.4 **Grade:** B+

Objective Evaluation:
Initial results have explored areas of shock physics, high-pressure materials, and warm dense matter. Novel x-ray scattering techniques have been developed, which will be utilized by future campaigns including first-ever, first-principle shock-compression measurements. Publication of results is still pending.

Goal 3.0: Provide Effective and Efficient Science and Technology Program Management

Weight: 30.00%

Score: 3.6 **Grade:** A-

Goal Evaluation:

The MEC end station at the Linac Coherent Light Source (LCLS) provides a unique facility capable of conducting world-class research in the area of High Energy Density Laboratory Plasmas (HEDLP). Effective MEC management has enabled a smooth transition from project construction to user science, provided future vision, and opened new directions for the laboratory in alignment with DOE missions.

Objective 3.1: Provide Effective and Efficient Strategic Planning and Stewardship of Scientific Capabilities and Program Vision

Weight: 40.00%

Score: 3.6 **Grade:** A-

Objective Evaluation:

SLAC has provided effective strategic planning to position itself as a key player in HED plasma science. SLAC has incorporated the unique capabilities of MEC into its existing LCLS science user program and has been proactive in developing HED plasma science as a new core competency for the laboratory. SLAC's commitment has been evident through investment of LDRD funds, hiring a noted world-leading expert, and proactively scoping broader needs, including white papers proposing efforts in theory, target support, user access, and future capability growth.

SLAC scientists and management have taken a leadership role through active involvement in coordinating the Bay Area HED Science Workshop and organizing the SLAC High Power Laser Workshop. The laboratory has engaged with the external community to communicate the new MEC capabilities, explore synergistic relationships, and discuss future directions. SLAC should continue to ensure broad community involvement and help to facilitate the incorporation of HED plasma science into the uses of high repetition-rate x-ray facilities.

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

Weight: 30.00%

Score: 3.8 **Grade:** A

Objective Evaluation:
The laboratory significantly exceeded expectations in its implementation of plans to meet facility demands. As the proposal demand for MEC continues to grow, the laboratory has demonstrated creativity and proactive solutions through the implementation of multiplexing and hutch-specific use of the MEC instruments. This forward thinking will enable maximum utilization of these capabilities through the unprecedented operation of the MEC as a stand-alone experimental capability, making it unique among the LCLS instruments. Proactive investment of LDRD funds has been used to make critical hires in establishing internal expertise through an HED Science Group.

Objective 3.3: Provide Efficient and Effective Communications and Responsiveness to Headquarters Needs

Weight: 30.00%

Score: 3.3 **Grade:** B+

Objective Evaluation:
SLAC's communication with FES has been frequent and regular, achieved through scheduled updates and spontaneous visits, with additional contact when necessary. The laboratory team has been responsive to FES requests, and has initiated contact when necessary.