

**ANNUAL
ENVIRONMENT, SAFETY, AND HEALTH
REPORT FOR FISCAL YEAR 2005**

**SUBMITTED TO
DEPARTMENT OF ENERGY
NOVEMBER 29, 2005**

EXECUTIVE SUMMARY

As requested by the Department of Energy (DOE), this document consolidates performance information for Fiscal Year 2005 (FY05). It summarizes the performance ratings the Stanford Linear Accelerator Center (SLAC) believes it has earned against the specifics of each performance metric. This document is designed to be useful and comprehensive, but it is also understood that the DOE may need additional information and that this report serves as a starting point for discussions.

Early in the period covered by this document, a very serious accident (Type A Electrical Arc Flash Accident of 10/11/04) took place at SLAC and all accelerators were stood down. This accident resulted in lab-wide focus on the SLAC Safety Management System and that focus continues. In addition, Stanford University set up a blue-ribbon committee that reviewed SLAC's Safety Management System. A number of reviews were conducted as well to validate accelerator facility restart plans.

The scores in this document reflect SLAC's objective assessment of performance against ES&H metrics in the second half of FY05 except where performance assessment had to include the entire year. These high level scores may create an impression at odds with some of the findings of the DOE Type A Investigation. SLAC Management does not want DOE to misinterpret the tenor or scores of this report as in any way disregarding the seriousness with which SLAC is responding to the arc-flash accident or corrective actions from the Type A Investigation.

ASSESSMENTS OF ES&H SYSTEMS, PROGRAMS, ACTIVITIES, AND AWARENESS

SLAC uses many different assessment mechanisms to assess whether that Environment, Safety and Health (ES&H) strategies, systems, compliance programs, and activities are supporting ES&H objectives and goals. Section 1 of the report primarily focuses on, and describes, the results of the more than 25 assessments conducted in FY05.

DETAILED COMPARISON OF SLAC PERFORMANCE AGAINST PERFORMANCE METRICS

SLAC reports on performance against each individual performance metric. This section describes the performance metric, performance rating earned for the year, SLAC performance, improvements made over the past year by SLAC, and improvements suggested for next year. As illustrated in Sections 2 and 3, SLAC has earned eight *outstanding* ratings, one *excellent* rating and one *good* rating for the measures. Accordingly, SLAC has earned a total score of 112.6 out of 120 points, or 92.5% which we believe justifies an overall rating of *outstanding*. Table 3 summarizes SLAC performance information.

SLAC ES&H IMPROVEMENT INITIATIVES

SLAC ES&H improvement initiatives continue to focus on five areas:

- 1) Improve safety programs, staff awareness, and facility infrastructure to further reduce accidents and better protect the SLAC population;
- 2) Further develop the hazard analysis, performance evaluation, and corrective action tracking and analysis portions of the ISMS;
- 3) Further improve SLAC design, processes, programs, and infrastructure to reduce the amount of emissions;

- 4) Continue efforts to control legacy materials in soil and water;
- 5) Further develop ES&H business processes, such as Policy Management, Chemical Management, ES&H communications, and an Environmental Management System.

Details of improvements made in FY05 and expected in FY06 are described in Section 4.

OPPORTUNITIES TO PARTNER WITH DOE TO SUPPORT FUTURE SUCCESS

In Section 5, SLAC has identified four potential areas of future or ongoing collaboration with DOE needed to solve pressing Environmental, Safety and Health (ES&H) issues. These areas are: infrastructure, potential conversion to external regulation, metals recycling suspension, and remediation of legacy materials in environmental media.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
SECTION 1: ASSESSMENTS OF ES&H STRATEGIES, SYSTEMS, PROGRAMS, ACTIVITIES AND AWARENESS	5
SECTION 2: SUMMARY OF SLAC ES&H PERFORMANCE	14
Section 3: Detailed Comparison of SLAC Performance to SLAC ES&H PERFORMANCE METRICS	15
SECTION 4: SLAC ES&H IMPROVEMENT INITIATIVES	33
SECTION 5: OPPORTUNITIES TO PARTNER WITH DOE TO SUPPORT FUTURE SUCCESS	34

Section 1: Assessments of ES&H Strategies, Systems, Programs, Activities, and Awareness

OVERVIEW OF FY05 ASSESSMENT RESULTS

SLAC uses many different mechanisms to assess whether the ES&H strategies, systems, compliance programs, and activities are supporting ES&H objectives and goals. This section, which focuses primarily on the more than 25 assessments conducted in FY05, summarizes results of the various assessments. Generally, the summaries focus on major conclusions, recommendations or findings as well as SLAC responses; full reports for most assessments are available upon request.

SELF-ASSESSMENTS

STRATEGY

Scientific Policy Committee (SPC)

The SLAC ES&H management system, the ISMS, is evaluated in several ways. Among them, the SLAC Scientific Policy Committee¹, a peer group that advises the university on SLAC performance, performed reviews in December 2004 and May 2005. While primarily focused on SLAC's scientific programs, the ES&H Subcommittee of the SPC meets and reviews a portion of the ES&H program. In May 2005, the subcommittee reviewed the SLAC systems for ensuring adequacy and completion of the Type A Accident's SLAC Corrective Action Plan. Overall, the subcommittee found that SLAC's actions were appropriate and on track.

SYSTEMS

Accelerator Operations Safety Audit: PEP-II

An Accelerator Operations Safety Audit of the PEP-II accelerator facility was conducted in the summer/fall of 2005. ES&H areas reviewed included Electrical Safety, Radiation Safety (ionizing and non-ionizing), Fire Protection, Laser Safety, General Operational Safety, Personal Protection Systems, and Seismic Safety. The report was expected to be reviewed and approved by the ES&HCC early in FY06.

Accelerator Restart Validation Reviews

Stanford Synchrotron Radiation Laboratory (SSRL)

SSRL is a National User Facility which provides synchrotron radiation, a name given to x-rays or light produced by electrons circulating in a storage ring. These extremely bright x-rays are used to investigate various forms of matter ranging from objects of atomic and molecular size to man-made materials with unusual properties. The SPEAR machine was thoroughly upgraded in 2003 and was subject to a readiness review in September 2003. The facility began operations in January 2004 and ran successfully until shutting down in June 2004 for an 11 week maintenance period. The facility then

¹ The SPC was renamed the "SLAC Policy Committee" following the May 2005 meeting.

resumed operating September 19, 2004. On October 11 SPEAR was shut down as part of a facility-wide Directors "Stop Work" order following a severe injury to a Site Engineering and Maintenance Department contractor at working on breaker in the two-mile Linac (not SSRL).

The validation team members were assigned focus areas, based on their respective expertise. The team began their review of the facility documentation on January 3, 2005. They then conducted interviews and subsequently walkthroughs with the appropriate individuals in SSRL operations. The team presented their conclusions and recommendations to the SLAC Director on January 13th. All the pre-restart criteria were completed and the facility was approved for restart by the Director following validation by the DOE Stanford Site Office.

Items from the SSRL Restart are being tracked using [CATS](#). There 15 Corrective Actions in the system.

B-Factory

A Stanford Linear Accelerator Center validation review of the restart plan for the B-Factory facility was conducted at SLAC from January 26 through February 23, 2005, at the direction of the SLAC Director. The purpose of the review was to evaluate the readiness of the B-Factory facility to resume research operations following the shut down of all Laboratory operations by the Director in order to reevaluate its general safety protocols. Special emphasis during the review was given to evaluating how effectively the facility is communicating elements of electrical safety, hoisting and rigging work requirements and Integrated Safety Management criteria.

Subject to the listed pre-restart and post-restart recommendations in this report, the Validation Team recommended the restart of the B-Factory. There was a significant pre-restart recommendation under electrical safety which could have consequential outcome: meet with stakeholders to evaluate electrical equipment cited in the 2004 Linac Operations Safety Audit as being operated or maintained in a potentially unsafe condition. A formal response and, if needed, both short-term and long-term mitigation plans were required. All the pre-restart criteria were completed and the facility was approved for restart by the Director following validation by the DOE Stanford Site Office.

Items from the B Factory Restart are being tracked using [CATS](#). There 70 Corrective Actions in the system.

Next Linear Collider Test Accelerator (NLCTA)

A Stanford Linear Accelerator Center validation review of the restart plan for the NLCTA facility was conducted at SLAC from April 6 through May 6, 2005, at the direction of the SLAC Director. The purpose of the review was to evaluate the readiness of the NLCTA facility to resume research operations following the shut down of all Laboratory operations by the Director in order to reevaluate its general safety protocols. Special emphasis during the review was given to evaluating how effectively the facility is communicating elements of electrical safety, hoisting and rigging work requirements, and Integrated Safety Management criteria.

In general, this facility was well managed in accordance with SLAC environment, safety, and health policy and incorporates the elements of Integrated Safety Management. Subject to the listed pre-restart and post-restart recommendations in the report, the Validation Team recommended the restart of the NLCTA facility. All the pre-restart criteria were completed and the facility was approved for restart by the Director following validation by the DOE Stanford Site Office.

Items from the NLCTA Restart are being tracked using [CATS](#). There 25 Corrective Actions in the system.

Final Focus Test Beam (FFTB)

A Stanford Linear Accelerator Center validation review of the restart plan for the FFTB facility, which is operated by the Accelerator Department, was conducted at SLAC from April 20 through May 11, 2005, at the direction of the SLAC Director. The purpose of the review was to evaluate the readiness of the FFTB facility to resume research operations following the shut down of all Laboratory operations by the Director in order to reevaluate its general safety protocols. Special emphasis during the review was given to evaluating how effectively the facility is communicating elements of electrical safety, hoisting and rigging work requirements, and Integrated Safety Management criteria.

In general, this facility was well managed by the Accelerator Department which oversees the activities of the individual experiments in accordance with SLAC environment, safety, and health policy and incorporates the elements of Integrated Safety Management. Subject to the listed pre-restart and post-restart recommendations in this report, the Validation Team recommended the restart of the FFTB facility. All the pre-restart criteria were completed and the facility was approved for restart by the Director following validation by the DOE Stanford Site Office.

Items from the FFTB Restart are being tracked using [CATS](#). There 28 Corrective Actions in the system.

Klystron Test Laboratory (KTL)

A Stanford Linear Accelerator Center validation review of the restart plan for the Klystron Test Lab (KTL) facility, which is operated by the Accelerator Department, was conducted at SLAC from April 20 through May 11, 2005, at the direction of the SLAC Director. The purpose of the review was to evaluate the readiness of the Klystron Test Lab facility to resume research operations following the shut down of all Laboratory operations by the Director in order to reevaluate its general safety protocols. Special emphasis during the review was given to evaluating how effectively the facility is communicating elements of electrical safety, hoisting and rigging work requirements, and Integrated Safety Management criteria.

In general, this facility was well managed by the Klystron Department which oversees the activities of the individual experiments in accordance with SLAC environment, safety, and health policy and incorporates the elements of Integrated Safety Management. Subject to the listed pre-restart and post-restart recommendations in this report, the Validation Team recommended the restart of the Klystron Test Lab facility.

All the pre-restart criteria were completed and the facility was approved for restart by the Director following validation by the DOE Stanford Site Office.

Items from the KTL Restart are being tracked using [CATS](#). There 69 Corrective Actions in the system.

End Station A (ESA)

A Stanford Linear Accelerator Center validation review of the restart plan for the End Station A facility, which is operated by the Accelerator Department and the Experimental Facilities Department, was conducted at SLAC in June 2005 at the direction of the SLAC Director. The purpose of the review was to evaluate the readiness of the End Station A facility to resume research operations following the shut down of all Laboratory operations by the Director in order to reevaluate its general safety protocols. Special emphasis during the review was given to evaluating how effectively the facility is communicating elements of electrical safety, hoisting and rigging work requirements, and Integrated Safety Management criteria.

In general, this facility was well managed by the Accelerator and Experimental Facilities Departments which oversee the activities of the individual experiments in accordance with SLAC environment, safety, and health policy and incorporates the elements of Integrated Safety Management. Subject to the listed pre-restart and post-restart recommendations in this report, the Validation Team recommended the restart of the End Station A facility. All the pre-restart criteria were completed and the facility was approved for restart by the Director following validation by the DOE Stanford Site Office.

Items from the ESA Restart are being tracked using [CATS](#). There 29 Corrective Actions in the system.

ES&H Quarterly Reports

Over the past three years, SLAC expanded the ES&H quarterly report from a document only about performance of the ES&H division to a document reporting about SLAC ES&H performance as well as that of the ES&H division. The portion dedicated to SLAC ES&H performance includes an account from each major ES&H entity that reports to the Director as well as certain lagging and leading ES&H performance metrics. The leading and lagging indicators are generally consistent with SLAC ES&H performance metrics. The second part of the report includes reporting from the Associate Director of ES&H and from each ES&H department head. In addition, each SLAC division prepares and submits a quarterly report regarding ES&H performance to the ES&HCC. These reports are discussed quarterly at ES&HCC meetings generally in the presence of a Department of Energy representative. During FY05, a major SLAC reorganization took place in the 3rd quarter. For the purposes of this report the old Divisional organization was retained for consistency of metrics reporting. The FY06 ES&H Assessment Report and ES&H quarterly reports will reflect the new SLAC Directorate organization.

PROGRAMS

Building Code Inspections

The Code Enforcement Inspector (Building Inspector) inspects construction activities daily to ensure that new installations and the activities associated with the construction of the new installations are consistent with applicable rules, regulations and requirements, including building codes. The Code Enforcement Inspector checks plans and conducts inspections for code compliance as would a city inspector, coordinating with Environmental Protection and Radiation Physics among others to ensure that all construction is within conventional safety boundaries. These functions include oversight of structural, plumbing, mechanical and electrical aspects of conventional construction.

The inspector notes and tracks violations by severity and provides that information to the Manager of Safety, Health, and Assurance and to the Safety Performance Improvement Team so that information can be used to manage the contractor and inform the hiring of future subcontractors.

Independent Assessments

In previous years, SLAC hired consulting firms to review ES&H program effectiveness approximately twice a year. In the most recent of these assessments, URS Corporation, Inc. (URS) conducted Health and Safety Independent Assessment of SLAC on November 17 - November 21, 2003. The FY05 assessment process was handled by the many special reviews conducted following the Type A Accident on October 11, 2004.

The vast majority of the URS findings have been corrected. Moreover, short-term mitigations have been completed for several of the remaining findings (~20) and, if required, the items have been assessed, prioritized, and placed within the long-term funding plan. All remaining findings will be managed to closure along with unresolved OSHA Audit findings.

Line Management and Building Management Assessment Program

Line Management assessments were conducted on a regular basis. These include, but are not limited to, those reported to the ES&HCC. Minutes from ES&HCC meetings provide a record of assessed activities. In addition, the Building Manager Program includes an annual safety walk-through that is coordinated by Building Managers.

Worker-Based Safety Enhancements

During the past two years SLAC designed and implemented a new worker-based safety programs, called the Job Hazard Analysis and Mitigation and Area Hazard Analysis Programs. These programs replaced the worker-based safety programs from selected areas at SLAC and extended a different worker-supervisor and area hazards recognition program to the entire laboratory.

Job Hazard Analysis and Mitigation (JHAM) is a formal process by which personnel plan work, identify task specific hazards, assess associated risks, establish control measures (mitigate risks), and document results—the essential, core intent of the Integrated Safety Management System. This process produces specific actions and materials necessary to safely complete a project, task or work activity, while assuring active participation of

those who will perform the work. As of September 30, 2005 about 95% of a sampling of 5% of SLAC employees had completed their routine JHAMs and were using the process. This includes a sampling of employee's performance evaluation packages from all major organizations at SLAC. In the Area Hazard Analysis (AHA) process, all areas at SLAC where work activities take place were (and are) reviewed to identify the ES&H hazards and hazard controls in a given area. The AHA is prepared and reviewed annually or when the level or type of hazards changes. As of September 30, 2005, AHAs were completed for all major work areas at SLAC.

ASSESSMENTS BY OTHERS

SLAC experiences both self-assessments as well as assessments by others. For example, SLAC is assessed by regulators and by the DOE. This year, three types of assessments were conducted by others. These included inspections by regulators, special systems reviews (ISMS-related), program and project reviews, inspections by external regulators, and operational awareness activities of the DOE.

SYSTEM REVIEWS

DOE Review of ISMS

SLAC hosted a pre-review of the DOE ISM Review from August 31, 2005 to September 1, 2005. Generally, the review found that sufficient progress had been made to schedule a full DOE ISM Review early in the 1st quarter of FY06.

Other Reviews

External ISMS Review

SLAC hosted an external ISMS Review, composed of a team of 4 technical peers from other SC laboratories, during March 14-18, 2005. The review was in fulfillment of the action required for Type A Corrective Action 9-2. Findings were provided to the SLAC Directorate on March 18, 2005:

Red Team

SLAC hosted a safety-oriented Red Team during the week of April 18. Findings were provided to the SLAC Directorate and selected SMEs on April 22, 2005:

Stanford University's Blue Ribbon Panel on Safety at SLAC

SLAC hosted a Stanford University commissioned Blue Ribbon Panel on Safety at SLAC, composed of a team of four senior scientific/technical peers from other organizations including Stanford University, during three visits over the period December 2004 – May 2005. Findings were provided to Stanford University and the Director on May 10, 2005.

High-Level Summary of Recommendations from Review Findings:

- Clarify roles and responsibilities of the ES&H Division (especially its oversight role), ES&H Coordinators, Safety Officers, and the SOC and CCs
- Better define the SLAC policy development process
- Improve both the corrective action tracking and self-assessment systems

- Work to convince managers that they are held accountable for providing a safe workplace and that individuals are held accountable for working safely.
- Move more to engineering controls vs. administrative controls for hazard mitigation

PROGRAM REVIEWS

Department Of Energy Laboratory Accreditation Program (DOELAP) Review

On August 24 and 25, 2004, a DOELAP onsite assessment of SLAC External Dosimetry Program was conducted to ensure that routine practices comply with criteria contained in DOE/EH-0026, "Department of Energy Laboratory Accreditation Program (DOELAP) Handbook." During this assessment one deficiency and five concerns were identified. The deficiency noted was that a positive system for identifying and tracking all dosimeters was not observed. The Radiation Protection department immediately prepared and completed an action plan to correct identified issues. The corrective actions were responded to the deficiencies and concerns cited in the report were completed by November 30, 2004.

Operational Awareness Activities: Functional Area Validation of the Laser Safety Program

DOE Oak Ridge Operations Office conducted a focused ES&H Assessment of the Laser Safety Program. The assessment identified five noteworthy practices, eight findings, nine observations and six recommendations. The final report is expected to be received and any required corrective action completed by December 31, 2005.

PROJECT REVIEWS

SPEAR3 - Third Generation Light Source

In preparation for full 500 mA operations of SPEAR3, a Phase II Accelerator Readiness Review (ARR) was conducted on June 7, 2005. An ARR is a method for verifying readiness for operation. ARR's must be performed prior to approval for commissioning and routine operation and as directed by the Cognizant Secretarial Officer for SPEAR3 Basic Energy Sciences program manager in the DOE Office of Science (DOE/SC). This ARR was conducted both to verify the information that was submitted in support of the request to undertake SPEAR3 accelerator activities and to assure that the data were comprehensive and addressed the full scope of activities proposed.

Phase II of the SPEAR3 ARR required the following elements be reviewed both internally (SLAC) and externally (ARR team/DOE): the technical basis document outlining shielding requirements, an engineering note describing the shielding implementation, installation of the required shielding (which was completed during the FY04 shutdown), and validation of the process by the ARR lead and DOE Site Office.

GLAST LAT Safety and Mission Assurance Program

The Office of System Safety and Mission Assurance at Goddard Space Flight Center conducted a survey of the GLAST LAT Safety and Mission Assurance Program at SLAC.

There were no findings or observations pertained to safety, and the System Safety Program was determined to be in very good shape and ready for the Conceptual Design Report. Over the past year a large number of documents including the GLAST LAT Support Safety Program, Preliminary Hazard Analysis, and Operating and Support Hazard Analysis were prepared, approved by SSO project management and submitted to Goddard Space Flight Center. At the end of FY05, the Ground Operations Plan and Safety Assessment Report were completed and the GLAST spacecraft was about 75% completed.

Inspections

SLAC hosted numerous inspections by local regulators. The name of those inspections, the organizations performing the inspection and the date(s) of each inspection are listed in Table 2. Only one minor administrative violation was noted during the BAAQMD inspection.

Operational Awareness Activities

DOE regularly engages in operational awareness activities by reviewing activities at SLAC.

Table 2: Summary of SLAC's Third Party Reviews of ES&H

DOE		
<u>Reviews Appraisal and Assessments</u>	<u>Organization Performing Review</u>	<u>Date of Review (If Available)</u>
Annual Performance Assessment	DOE-SC/DOE-ORO/DOE-SSO	FY05
Operational Awareness Activities	DOE-SSO/DOE-ORO	FY05
Institutional Review	DOE-SC	FY05
DOE Type A Accident Investigation Board	DOE-EH	October 18, 2004 to November 06, 2004
SSRL Restart Validation	DOE-OR / DOE-SSO /SLAC/Peers	January 3-19, 2005
B-Factory Restart Validation	DOE-OR / DOE-SSO /SLAC/Peers	January 26, 2005 to February 23, 2005
NLCTA Restart Validation	DOE-SSO /SLAC/Peers	April 6, 2005 to May 6, 2005
FFTB/ESA Restart Validation	DOE-SSO /SLAC/Peers	April 20, 2005 to May 11, 2005
KTLAB Restart Validation	DOE-SSO /SLAC/Peers	April 20, 2005 to May 11, 2005
ISMS Review: VIWG/HAWG Processes	DOE-ORO/DOE-SSO	Sep. 21-23, 2004
SPEAR3 Phase II ARR	DOE-SSO /SLAC/Peers	June 7, 2005
Functional Area Audit: Laser Safety	DOE-OR / DOE-SSO	July 26, 2005
ISMS Review: Phase I Preliminary Activities	DOE-OR /DOE-SSO	August 31, 2005 to September 1, 2005

OTHER		
<u>Reviews Appraisal and Assessments</u>	<u>Organization Performing Review</u>	<u>Date of Review (If Available)</u>
SPC Fall Meeting	Scientific Peers	December 3-4, 2004
Blue Ribbon Panel: SLAC Safety	Peers	December 7, 2004 to February 18, 2005
ISMS Program (Type A CAP CA 9-2)	Senior ES&H professionals from other DOE SC Laboratories	March 14-18, 2005
Red Team: SLAC Safety Program	ES&H professionals from other DOE SC Laboratories	April 18-22, 2005
SPC ES&H Subcommittee	Scientific Peers	May 12, 2005
SPC Spring Meeting	Scientific Peers	May 13-14, 2005
Internal		
<u>Reviews Appraisal and Assessments</u>	<u>Organization Performing Review</u>	<u>Date of Review (If Available)</u>
Safety Inspections	SLAC	FY05
Building Code Inspections	SLAC	FY05
Self Assessments	SLAC	FY05
Training	SLAC	FY05
Accelerator Safety Audit: PEP-II	SLAC	May/July 2005
Radiological Programs	Scientific peers and ES&H Professionals, both external and within SLAC	September 19-22, 2005
External		
<u>Reviews Appraisal and Assessments</u>	<u>Organization Performing Review</u>	<u>Date of Review (If Available)</u>
Environmental Management Review	US EPA Region 9	March 15-17, 2005
SBSA Wastewater Discharge Permit	South Bayside System Authority (SBSA)	July 29, 2005
Annual Inspection	Bay Area Air Quality Mgmt District (BAAQMD)	August 24, 2005

Section 2: Summary of SLAC ES&H Performance

SLAC PERFORMANCE

As illustrated below, in the individual metrics, SLAC earned eight *outstanding* ratings, one *excellent* rating and one *good* rating. SLAC earned a total score of 112.6 points out of a total of 120 points, or 92.5%. SLAC believes this justifies an outstanding for performance in the second half of FY2005. Table 3 summarizes SLAC performance information.

Table 3: Summary of SLAC FY05 ES&H Performance Measure Metrics, Ratings, and Scores

#	Performance Criteria	Subject Matter Expert	Rating	%	Max ²	Score
1.1 1.1.a	Total Reportable Case Rate	Tom Rizzi	Outstanding	100	24	24.0
1.1 1.1.b	DART Rate	Tom Rizzi	Good	75	24	18.0
1.1 1.1.c	OSHA Compliance Audit Follow-up	Butch Byers	Outstanding	95	15.6	11
1.1 1.1.d	Type A CAP Milestones	Jerry Jobe	Outstanding	100	16.8	16.8
2 2.1.a	DOE ISM Review	Steve Williams	Outstanding	100	25.2	25.2
3.1 3.1.a	Control of Exposure to Ionizing Radiation	Sayed Rokni	Outstanding	95	1.2	1.1
3.1 3.1.b	Control of Radioactive Material	Sayed Rokni	Outstanding	95	1.2	1.1
4.1 4.1.a	Releases to the Environment	Mike Hug	Excellent	85	2.4	2.0
5.1 5.1.a	Waste Minimization/Pollution Prevention	Rich Cellamare	Outstanding	95	3.6	3.4
5.2 5.2.a	Environmental Restoration Program	Helen Nuckolls	Outstanding	100	6	6
Goal and Total for Performance Measures					120	112.6
Total = 92.5%, Outstanding						

In addition, certain metrics tracked in the ES&H Quarterly Report were used to show that the various elements of ISMS are regularly assessed against a performance expectation. In years past, this information was described in a section called *Proposed Metrics for Performance Measure B* but was left out of this report given agreements between SLAC and SSO on ES&H Performance Measures for the second half of FY2005.

² Max points are derived by applying agreed-to “%s” against 120 points as described in the Performance Area: Environmental, Safety and Health (ES&H) in contract modification M497

Section 3: Detailed Comparison of SLAC Performance to SLAC ES&H Performance Metrics

FY05 ES&H Performance Measures

Cumulative Available Points: 120 Points

Total Weight: 100%

For FY05, DOE separated the SLAC ES&H evaluation into two distinct performance periods, each six months long. These two six-month periods were evaluated and rated separately. The first six month period addressed the October 2004 electrical arc flash accident and the early response by SLAC to that accident and to the restart of SLAC activities. The second six month period will address the SLAC recovery including implementation of the Corrective Action Plan and the Integrated Safety Management System Review. A final rating for ES&H will be determined by equally weighting the two six-month periods and determining a single consolidated rating.

ES&H Performance Expectations

SLAC is expected to effectively and efficiently manage and operate the Laboratory through best-in-class management practices designed to enable research while assuring the protection and proper maintenance of DOE research and information assets, and protecting the health and safety of workers, the public and the environment. SLAC is expected to manage and operate the Laboratory so as to ensure compliance with all applicable federal, state, local laws, regulations, DOE directives and other requirements. SLAC is expected to effectively implement safety and environmental management systems and work processes. SLAC is also expected to conduct an ongoing self-assessment program to ensure continuous improvement in management systems and work processes and to achieve/maintain excellence in safety and environmental performance.

The performance expectations, objectives and measures are fundamentally linked to the seven Guiding Principles and five Core Functions of Integrated Safety Management System (ISMS) and the specific DOE/Stanford University contract provisions that require SLAC to integrate environment, safety and health into work planning and execution. For the purposes of the contract appendix [Appendix B], ES&H includes pollution prevention and waste minimization.

SC has established a goal of achieving a strong safety culture and “Best-in-Class” goals for minimizing accidents and injuries resulting from laboratory work. SC’s target rates for the laboratory’s Total Recordable Cases (TRC) and Days Away, Restricted, or Transferred (DART), including both contractor and subcontractor employee working on site. During FY05, SLAC will need to complete the FY05 milestones in the Corrective Action Plan for the Judgments of Need identified in the Type A Accident Investigation Report on October 11, 2004 Electrical Arc Injury at the Stanford Linear Accelerator Center. The Corrective Action Plan includes a significant number of electrical safety actions. Also, DOE conducted a review of the SLAC ISM Program. The first segment of the review began on August 31, 2005, and the second segment on October 3, 2005.

PERFORMANCE OBJECTIVE 1: ISMS/EMS Implementation and Work Processes, (80 pts)**Management System Implementation and Work Processes:**

SLAC effectively implements safety and environmental management systems and work processes that protect the worker, the public and the environment and sustains and enhances excellence in Laboratory operations. SLAC fully implements management systems and enhances processes for work planning and hazard controls to ensure that hazards and risks are analyzed and controls are in place prior to authorizing and conducting work.

(Total Weight: 67%)

PERFORMANCE CRITERION: 1.1

Accident and injury rates, days away, restricted or transferred rates are adequately controlled.

FY2005: both TRC and DART rates will be in the top 25th percentile of research and testing firms with 1000+ employees (Standard Industrial Code (SIC) 873); i.e., $TRC \leq 1.1$ per 100 FTEs, $DART \leq 0.5$ per 100 FTEs.

PERFORMANCE MEASURE 1.1.a: (24 pts)Total Recordable Case Rate (TRC)

TRCs are work-related injury or illness, which resulted in loss of consciousness, restriction of work or motion, transfer to another job, or required medical treatment beyond first aid. The TRC rate is the number of total recordable cases per 200,000 hours worked.

The evaluation of SLAC's safety performance is based on performance of similar research and development companies and industries listed under Standard Industrial Classification code (SIC) #873 for Research, Development and Testing Facilities. The Office of Science has set quantitative safety goals for each Laboratory to meet the 25th percentile 2001 SIC #873 rate for a TRC rate of 1.10 by FY05. **(Weight: 20%)**

Outstanding:

SLAC TRC rate for FY05 is equal to or below the SC safety goal of 0.65.

Excellent:

SLAC TRC rate for FY05 is greater than 0.65 and less than or equal to 0.87.

Good:

SLAC TRC rate for FY05 is greater than 0.87 and less than or equal to 1.10.

Marginal:

SLAC TRC rate for FY05 is greater than 1.10 and less than or equal to 1.4.

Unsatisfactory:

SLAC TRC rate of FY05 is greater than 1.4.

PERFORMANCE RATING EARNED FOR FY05 FOR 1.1.a: OUTSTANDING**JUSTIFICATION FOR PERFORMANCE RATING EARNED**

SLAC's final FY05 TRC rate was 0.57 which was below the goal of 0.65 for a rating of "Outstanding."

PERFORMANCE MEASURE 1.1.b: (24 pts)

Days Away, Restricted or Transferred Rate (DART)

Work-related injuries or illnesses which resulted in days away from work and/or days of restricted work activity. The DART rate is the total number of lost workday cases per 200,000 hours worked.

The evaluation of SLAC's safety performance is based on performance of similar research and development companies and industries listed under Standard Industrial Classification code #873 for Research, Development and Testing Facilities. The DOE Office of Science has set quantitative safety goals for each Laboratory to meet 25th percentile of the 2001 SIC #873 rate for Days Away, Restricted, or Transferred (DART) of 0.50 by FY05. **(Weight: 20%)**

Outstanding:

SLAC DART rate for FY05 equal to or is below the SC safety goal of 0.25.

Excellent:

SLAC DART rate for FY05 is greater than 0.25 and less than or equal to 0.37.

Good:

SLAC DART rate for FY05 is greater than 0.37 and less than or equal to 0.50.

Marginal:

SLAC DART rate for FY05 is greater than 0.50 and less than or equal to 0.62.

Unsatisfactory:

Increase in DART rate for FY05 is greater than 0.62.

PERFORMANCE RATING EARNED FOR FY05 FOR 1.1.b: GOOD

JUSTIFICATION FOR PERFORMANCE RATING EARNED

SLAC's final FY05 DART rate was 0.46 which was above the goal of 0.25 yielding a rating of "Good."

PERFORMANCE MEASURE 1.1.c: (15.6 pts)

Occupational Safety and Health Administration (OSHA) Compliance Audit Follow-up

SLAC will report quarterly to DOE on the progress toward correcting or dispositioning the total number of safety deficiency instances identified by OSHA during the February 9-13, 2004 compliance audit at SLAC. To disposition an instance means to agree upon a plan to resolve that instance with the DOE/SSO site office. The April 6, 2004 punch list of deficiency instances identifies the specific OSHA safety deficiencies and instances that will be tracked by DOE and SLAC through the DOE Health and Safety Improvement Program managed by the SC Laboratory Infrastructure Division (SC-82). **(Weight: 13%)**

Outstanding:

>75% of the non-electrical OSHA deficiency instances and >99% of the electrical OSHA deficiency instances corrected or dispositioned as well as 100% of Electrical Safety Action Plan (ESAP) Implementation Plan milestones due in FY05 completed.

Excellent:

70-74% of the non-electrical OSHA deficiency instances and 95% - 98% of electrical OSHA deficiency instances OSHA deficiency instances corrected or dispositioned as well as 95% - 99% of Electrical Safety Action Plan (ESAP) Implementation Plan milestones due in FY05 completed.

Good:

65-69% of the non-electrical OSHA deficiency instances and 90% - 94% of electrical OSHA deficiency instances, corrected or dispositioned as well as 90% - 94% of Electrical Safety Action Plan (ESAP) Implementation Plan milestones due in FY05 completed.

Marginal:

60-64% of the non-electrical OSHA deficiency instances and 85% - 89% of electrical OSHA deficiency instances corrected or dispositioned as well as 85% - 89% of Electrical Safety Action Plan (ESAP) Implementation Plan milestones due in FY05 completed.

Unsatisfactory:

< 59% of the non-electrical OSHA deficiency instances and <85% of electrical OSHA deficiency instances corrected or dispositioned as well as <85% of Electrical Safety Action Plan (ESAP) Implementation Plan milestones due in FY05 completed.

PERFORMANCE RATING EARNED FOR FY05 FOR 1.1.c: OUTSTANDING

JUSTIFICATION FOR PERFORMANCE RATING EARNED:

At the end of September SLAC's final FY05 non-electrical OSHA deficiency instances completed was 90%. A key consideration in assessing performance against the other two parts of this metric is that, by agreement between SLAC and SSO, remediation of certain electrical deficiencies was postponed until LINAC down-time scheduled in late September and October. As of the end of October, 100% of electrical OSHA deficiency instances were corrected or dispositioned and 100% of the ESAP milestones were completed. SLAC believes an "Outstanding" rating is warranted.

PERFORMANCE MEASURE 1.1.d: (16.8 pts)

Type A Accident Investigation Corrective Action Plan Milestone Completion

Acceptable – all corrective actions planned for FY-05 are completed. (all 16 pts)

Unacceptable – not all of the corrective actions planned for FY-05 are completed. (0 pts)

(Weight: 14%)

PERFORMANCE RATING EARNED FOR FY05 FOR 1.1.d: OUTSTANDING

JUSTIFICATION FOR PERFORMANCE RATING EARNED:

At the end of FY05 (9/30/05), the one item from the type A that was still open was Corrective Action 9-4 which has a deadline for completion of December 31, 2005. To clearly identify for SLAC staff the many recent changes and new tools available, the SLAC Safety Management System description document (newly titled SLAC’s Integrated Safety and Environmental Management System Description) was updated as were many policy documents. Associated policy documentation will be updated under CA 9-4 which was in process and on track for completion by its due date.

Type A Corrective Action Items

Status	Total number of corrective action	Percentage completed
Completed	27	96%
Incomplete	0	0%
On schedule	1	4%

The incomplete category in the CATS means that an item is still open and past due, of which there were none for the Type A Corrective Actions in FY05. See Table 4 for the specific details for each of the Type A’s 28 Corrective Actions.

Table 4: Type A Corrective Action Plan Status as of 9/30/05

CA #	Due Date	Responsible Manager	On Schedule	Concerned with Schedule	Behind Schedule	Remarks
1-1	Complete	Perry Anthony	Complete			Complete and documented
1-2	Complete	Perry Anthony	Complete			Complete and documented
8-1	Complete	Jonathan Dorfan	Complete			Complete and documented
2-1	Complete	Perry Anthony	Complete			Complete and documented
2-2	Complete	Jonathan Dorfan	Complete			Complete and documented
11-5	Complete	Jonathan Dorfan	Complete			Complete and documented
3-1	Complete	Perry Anthony	Complete			Complete and documented
4-1	Complete	Jonathan Dorfan	Complete			Complete and documented
11-1	Complete	Jonathan Dorfan	Complete			Complete and documented
11-4	Complete	Jonathan Dorfan	Complete			Complete and documented
7-1	Complete	Bob Todaro	Complete			Complete and documented
7-2	Complete	Jerry Jobe	Complete			Complete and documented
7-3	Complete	Bob Todaro	Complete			Complete and documented

7-4	Complete	Bob Todaro	Complete		Complete and documented
7-5	Complete	Bob Todaro	Complete		Complete and documented
8-2	Complete	Jonathan Dorfan	Complete		Complete and documented
8-3	Complete	Jonathan Dorfan	Complete		Complete and documented
8-4	Complete	Lee Lyon	Complete		Complete and documented
8-5	Complete	Lee Lyon	Complete		Complete and documented
9-1	Complete	Irene Boczek	Complete		Complete and documented
1-4	May 31	Steve Williams	Complete		Complete and documented
1-3	July 8	Perry Anthony	Complete		Complete and documented
9-2	July 8	Jonathan Dorfan	Complete		Complete and documented
9-3	July 8	Jonathan Dorfan	Complete		Complete and documented
11-2	July 8	Jonathan Dorfan	Complete		Complete and documented
11-3	July 8	Jonathan Dorfan	Complete		Complete and documented
8-6	Sep. 30	Lee Lyon	Complete		Complete and documented
9-4	Dec. 30	ESH AD	Open		In process

PERFORMANCE OBJECTIVE 2: (25.2 pts)

SLAC implements Integrated Safety Management (ISM), best practices and validation and/or certification of safety and environmental management systems to ensure that environment, safety and health is effectively integrated into work planning and execution at all levels, so that scientific missions are accomplished while protecting the worker, the public and the environment. During FY-05, the SLAC ISM System will be reviewed.

(Total Weight: 21%)

PERFORMANCE MEASURE 2.1.a: (25.2 pts)

SSO will conduct a Review of the SLAC ISM System in August 2005. The outcome of the review will determine the rating for this performance objective.

SLAC receives successful outcome on Review of the ISM System (all 25 points)

SLAC does not receive successful outcome on Review of ISM System (0 points)

For the SLAC ISM Review, it is typical for the ISM Review Team to identify one or more areas that require additional work. In these cases, the ISM Review Team will declare that the SLAC ISM System has been reviewed with outstanding issues to be resolved on a defined timescale or will review the ISM System contingent on the correction of specific identified issues. For the two cases identified above, the SLAC ISM System will be considered successfully validated. **(Weight: 21%)**

PERFORMANCE RATING EARNED FOR FY05 FOR 2.1.a: OUTSTANDING

JUSTIFICATION FOR PERFORMANCE RATING EARNED:

The DOE/SSO and DOE/SC agreed to conduct the review in two segments. The first segment, or pre-review as it came to be known, was conducted 8/31/05 - 9/1/05 and indicated to the review team that SLAC had shown substantial improvement in management commitment and in improving its ISM system. It thereby confirmed that SLAC was ready for the full review to be conducted 10/3/05 - 10/11/05. This was considered to be the best possible pre-review outcome and validated the SLAC-prepared gaps analysis.

The second segment of the review was completed on 10/11/05 as scheduled. In the final report, the review team cited two noteworthy practices and two "opportunities for improvement (OFI)." OFIs are the highest level finding. The report also listed 17 opportunities for improvement. SLAC believes that while there are many areas in which it will make improvements, the number of OFIs and Observations does not make a case for an unsuccessful outcome. Rather, the report points to outstanding issues that SLAC will plan for and accomplish, and that the review was in fact successful.

PERFORMANCE OBJECTIVE 3 (2.4 pts)

SLAC will perform its work so that personnel hazards are anticipated, identified, evaluated and controlled. **(Total Weight: 2%)**

PERFORMANCE CRITERIA 3.1:

Exposures of personnel to ionizing radiation will be adequately controlled.

PERFORMANCE MEASURE 3.1.a. (1.2 pts)Control of Exposure to Ionizing Radiation

ORPS-reportable occurrences of SLAC-based occupational external radiation doses, intakes of radioactivity, or skin contamination are managed and minimized. **(Weight: 1%)**

PERFORMANCE ASSUMPTIONS:

1. For FY05, the performance period is January 1, 2004 to December 31, 2004.
2. Each ORPS-reportable occurrence of SLAC-based occupational external radiation doses, intakes of radioactivity, or skin contamination is considered to be a reportable occurrence.
3. The performance gradient scoring will be based on the highest attained gradient level of those listed below.
4. The number of non-radiological workers who exceed 100 mrem Total Effective Dose Equivalent (TEDE) may be considered in the final scoring of this performance measure.

PERFORMANCE GRADIENT:**Outstanding:**

The number of reportable occurrences is equal to no more than zero (0).

Excellent:

The number of reportable occurrences is equal to no more than one (1).

Good:

The number of reportable occurrences is equal to no more than two (2).

Marginal:

The number of reportable occurrences is equal to no more than four (4).

Unsatisfactory:

The number of reportable occurrences is more than four (4).

PERFORMANCE RATING EARNED FOR FY05 FOR 3.1.a: OUTSTANDING

JUSTIFICATION FOR PERFORMANCE RATING EARNED:

There were no applicable reportable occurrences in FY05.

PERFORMANCE MEASURE 3.1.b: (1.2 pts)

Control of Radioactive Material

Radioactive materials, including contaminated and/or activated materials, are controlled at all times. **(Weight: 1%)**

PERFORMANCE ASSUMPTIONS:

1. Radioactive material for the purpose of this performance measure is defined as only the radioactive material and any radioactive material shipping considerations over which SLAC has direct control.
2. For FY05, the performance period is October 1, 2004 through September 30, 2005.
3. Each Significance Level Category 2 or above for DOE Occurrence Reporting will have a weighting factor of 1.5.

PERFORMANCE GRADIENT:

Outstanding:

The weighted number of occurrences is equal to or less than one (1.0).

Excellent:

The weighted number of occurrences is greater than one (1.0) and less than or equal to two (2.0).

Good:

The weighted number of occurrences is greater than two (2.0) and less than or equal to three (3.0).

Marginal:

The weighted number of occurrences is greater than three (3.0) and less than or equal to four (4.0).

Unsatisfactory:

The weighted number of occurrences is greater than four (4.0).

PERFORMANCE RATING EARNED FOR FY05 FOR 3.1.b: OUTSTANDING

JUSTIFICATION FOR PERFORMANCE RATING EARNED:

One instance of inappropriate shipping of materials to the Particle Accelerator School occurred during this period but was a less than Significance Level Category 2 event.

PERFORMANCE OBJECTIVE 4: (2.4 pts)

SLAC will perform its work in a manner that does not present a threat of harm to the public or the environment and will identify, control, and respond to environmental hazards.

(Total Weight: 2%)

Performance Criterion 4.1: (2.4 pts)

Environmental releases and violations will be adequately controlled.

Performance Measure 4.1.a: (2.4 pts)Releases to the Environment

Environmental releases will be tracked and measured. These will include:

1. Spills that exceed established local, state, or federal reporting requirements.
2. Releases that exceed regulatory permit limits.
3. Formal violations noted by regulatory inspections, regulatory reports, or non-compliance with existing regulatory agreements. **(Weight: 2%)**

Performance Assumptions:

1. For FY05, the performance period for this measure is October 1, 2004 to September 30, 2005.
2. Environmental releases that remain within compliance limits or do not require reporting will not be counted. Environmental releases resulting from natural causes (earthquake, flooding, etc.) for which no preventable action could be taken, shall not be counted.
3. A weighting factor from 0.25 to 1 will be applied to all counted incidents. SLAC and DOE subject matter experts will jointly determine weighting factors for incidents.

Weighting factors are generally defined to be:

- 1.00 Serious non-compliance: Incident poses serious harm to the public or environment.
 - 0.75 Significant non-compliance: Programmatic non-compliance with regulatory requirements or a release resulting in the issuance of a NOV, or repeated moderate non-compliance (“repeated” is defined as more than two over a three-year period).
 - 0.50 Moderate non-compliance incident that is isolated, but requires a legally reportable release of contamination (but no NOV is issued), or a repeated minor non-compliance.
 - 0.25 Minor non-compliance: An incident that is isolated, primarily administrative, and causes no potential unrecovered release of contamination.
4. If NOVs or equivalent notices contain more than one distinct compliance violation, each separate violation will be first weighted under the above scale. Then an overall score for the incident will be determined by joint DOE/SLAC agreement after considering the individual violations. The overall score for a NOV with multiple violations will be equal to or greater than the highest scored individual violation, but will not exceed a value of 1.
 5. The weighted scores of all incidents during the performance period will be added to determine the “total score” to be used in the gradients defined below.
 6. Unexpected work/regulatory activity increases that may occur during the year will be brought to the attention of DOE and will be considered during the evaluation period.

Performance Gradient:**Outstanding:**

A total score of less than 1, and no individual incident has a weighted score of 0.75.

Excellent:

A total score of 1 to 1.75, with no more than 1 individual incident having a weighted score of 0.75.

Good:

A total score of 2 to 2.75, with no more than 2 individual incidents having a weighted score of 0.75.

Marginal:

A total score of 3 to 3.75, with no more than 3 individual incidents having a weighted score of 0.75, or any singular incident has a weighted score of 1.

Unsatisfactory:

A total score of 4 or more, or 2 or more individual incidents have a weighted score of 1.

PERFORMANCE RATING EARNED FOR FY05 FOR 4.1.A: EXCELLENT,**JUSTIFICATION FOR PERFORMANCE RATING EARNED:**

SLAC had no releases to the environment that exceeded established local, state, or federal reporting requirements or regulatory permit limits as defined in the performance assumptions. SLAC did, however, have a single Notice of Violation (NOV) in the fourth quarter of FY2005 which cited one procedural violation. An inspector from the Bay Area Air Quality Management District, upon reviewing required records, noted several instances where flow into the oil-water separator (OWS) outside Building 81 had exceeded the permit limit of 500 gallons per day. This system receives effluent from the adjacent steam-cleaning pad. The exceedance caused no environmental release or damage of any kind. Nonetheless, an NOV was issued. The NOV triggered an ORPS report.

Even though the weighting factor of 0.75 anticipates a more significant non-compliance, the weighting scheme only allows for a 0.75 when an NOV was issued. Hence, only the *excellent* performance gradient is attainable.

Performance Objective 5: (9.6 pts)

SLAC demonstrates sound stewardship of its site through safe and effective hazardous and radioactive waste minimization and management and through restoration of the site where degradation has occurred. **(Total Weight: 8%)**

Performance Criterion: 5.1 (3.6 pts)

SLAC has a program in place to reduce both the volume of waste generated and pollutant emissions. The program will reduce as much as practical the volume of municipal solid waste and hazardous waste generated in accordance with the SLAC Waste Minimization Plan. In addition, as long as benefits exceed cost, SLAC will plan and perform its work in a manner that prevents pollution of the environment.

Performance Measures: 5.1.a (3.6 pts)Waste Minimization/Pollution Prevention

SLAC continues significant progress towards meeting the DOE pollution prevention goals for the year 2005, consistent with the DOE memorandum of November 12, 1999.

(Weight: 3%)

“Pollution Prevention and Energy Efficiency Leadership Goals for Fiscal Year 2000 and Beyond.”

Performance Assumptions:

1. For FY05, the performance period is October 1, 2004 through September 30, 2005.
2. DOE’s pollution prevention goals (Department-wide) by waste type are defined as follows:
 - Reduce by 90% the generation of hazardous wastes from routine operations by year 2005;
 - Recycle 45% of non-hazardous waste from routine operations by the year 2005.
3. SLAC’s contribution to the DOE-wide goals above are:
 - Reduce generation of hazardous waste from routine operations by 65% by the year 2005, using 1993 as a baseline; and,
 - Recycle 50% of non-hazardous waste by the year 2005.
4. The annual performance assessment will not be based solely on the achievement or lack thereof of the numerical goals. The performance rating will take into account the commitment and effectiveness of SLAC management toward achieving the numerical goals.
5. DOE and SLAC may negotiate mid-year adjustments to SLAC’s waste reduction and recycling goals.
6. Waste quantities used to compute waste reduction or waste recycling performance exclude one-time or non-routine operations such as TSCA waste, remediation waste, waste from projects involving the upgrade of equipment, waste from significant emergency response actions, and construction and demolition waste.
7. Reduction, reuse, recycling, exchange, on-site treatment and procurement of materials with recycled content are considered to be methods of waste minimization and will be tracked by the Waste Management Department to affirm reductions in hazardous waste generated.
8. Effects of the July 13, 2000 DOE moratorium on the release of surplus/scrap metals for recycling will be factored into the performance rating for this measure.

	RHW Goals	NHW Goals
GRADIENT RATING	WASTE REDUCTION (%)	Recycling (%)
Outstanding	>64	≥ 47
Excellent	58 to 63	41 to 46
Good	52 to 57	35 to 40

Marginal	46 to 51	29 to 34
Unsatisfactory	≤ 45	≤ 28

PERFORMANCE RATING EARNED FOR FY05 FOR 5.1.A: OUTSTANDING

1. Hazardous Waste Reduction: Goal 65% reduction is HW relative to the 1993 baseline. SLAC achieved a reduction of 77%. Rating: Outstanding
2. Non-Hazardous Waste Recycling: Goal 50% recycling. SLAC achieved 52% recycling. Rating: Outstanding

JUSTIFICATION FOR PERFORMANCE RATING EARNED:

In FY04, SLAC achieved a 69% reduction. The FY05 HW reduction was substantial in part due to facility work being slowed by the Type A accident in the first quarter of the fiscal year. It is difficult to measure HW reductions between FY04 and FY05 relative to the waste reduction that was experienced as a result of the Type A accident.

Non-hazardous waste recycling was not impacted by the Type A accident and showed good performance which always varies from year to year due to changes in wood/yard waste recycling and metal recycling. Paper and cardboard recycling are fairly consistent.

Performance Criterion 5.2: (6.0 pts)

Environmental Restoration Program

SLAC will maintain the scheduled rate of progress toward completion of the Remedial Investigation/Feasibility Study and source mitigation activities designed to achieve a level of restoration acceptable to cognizant regulatory agencies as specified in the Project Baseline as a guide with the goal of completing work EM has committed to by the end of FY06.

PERFORMANCE MEASURE 5.2.a: (6.0 PTS)

Performance will be determined based on points earned in three categories. The successful completion of selected major tasks/milestones in the Baseline, the efficient management of the budget, and project management effectiveness will be evaluated and awarded points.

(Weight: 5%)

Task Completion Points (42 pts max):

<u>Task</u>	<u>Due Date</u>	<u>Points</u>
Submit Final FS for Plating Shop to Regulators	7/30/05	6
Submit Final FS for FHWSA to Regulators	7/30/05	6
Complete construction and start-up of Phase 2, FHWSA	9/29/05	6
Complete Design and engineering at Plating Shop	7/7/05	6
Meet all compliance dates stipulated in Order	TBD	6
Submit Final Characterization Report on LSY to Reg.	7/11/05	6
Submit Final Remedial Project Plan Report on FSUST to Reg.	1/20/05	6

Budget Points (20 pts max):

Percent of budget spent	Points
92% or Greater	20
90-91%	15
87-89%	10
80-86%	5
Less than 80%	0

Project Management Effectiveness Points (38 pts max):

	<u>Points</u>
Accurate submission of EVMS report by 20 th of the following month	12
Any Negative Variances less than 10%	4
Report on variances within 15 days of Project Manager’s request	4
Scope growth less than 10% of the baseline	6
Timely submission of the baseline change proposal (BDP)	6
Maintain an accurate baseline	6

Performance Gradient/Basis for Rating:

Outstanding:

92 or greater points

Excellent:

85 to 91 points

Good:

75 to 84 points

Marginal:

Less than 75 points or budget overspent

Unsatisfactory:

Less than 75 points and budget overspent

PERFORMANCE RATING EARNED FOR FY05 FOR 5.2.a: OUTSTANDING

JUSTIFICATION FOR PERFORMANCE RATING EARNED:

As discussed below, DOE direction and changes in program priorities make assessment against this contract performance measure very difficult.

In the **Task Completion** section, DOE deferred both FS tasks, completing the design and engineering of the Plating Shop, and the characterization report on the LSY. The construction contract award for the Phase 2 FHWSA project was delayed as a result of

the continuing resolution and delay in receiving sufficient funds to support the project. Nonetheless, good progress has been made. SLAC submitted the final remedial project plan report on FSUST to external regulators. Compliance dates in the Order have been met but we recognize that most are now due February 1. That said, SLAC did submit its Land Use and Development Plan by the due date of September 1. This section originally constituted 42 points. SLAC believes it has earned 40 points out of the possible 42 points.

In the **Budget Section**, the unencumbered carryover this FY was \$210k and FY05 budget was \$2,480k, resulting in an unencumbered year-end carryover of 8.5%. That equates to 91.5% of the budget. SLAC believes it earned 17.5 out of a possible 20 points.

In the **Project Management Effectiveness** Section, All budget analysis reports were completed this FY. The report for October 2005 was late by approximately two weeks, otherwise the reports were submitted in a timely manner. For this task SLAC believes 4.5 out of 5 points were earned.

The **total points**, as best they could be assessed against the existing criteria, were 62.0 out of a total of 67 points for a percentage of 92.5% which equates to an outstanding rating.

While the above remediation program performance measures remained in the contract as described above, the performance measures in the following description were agreed to and finalized by Hemant Patel (DOE/EM) and Micki Decamara (EP) in June 2005. The reason that both Hemant Patel and SLAC continued to revise this performance measure is that the original measures included tasks that DOE either directed SLAC to not complete or were deferred during reprioritization efforts. Hemant Patel has concurred that the SLAC Restoration Program should be measured using the criteria finalized in June 2005 (described below). SLAC's evaluation of performance against these criteria is included as well.

Performance Criterion 5.2 (revised by agreement with Hemant Patel) (6.0 pts)

Environmental Restoration Program

(Weight: 5%)

SLAC will maintain the scheduled rate of progress toward completion of the Remedial Investigation/Feasibility Study and source mitigation activities designed to achieve a level of restoration acceptable to the cognizant regulatory agencies as specified the Project Baseline as a guide with the goal of completing work EM has committed to by the end of FY06.

As conditions change throughout the year, DOE and SLAC may agree on changes in the Baseline. SLAC will meet the agreed upon tasks and schedules unless there is a written agreement to postpone them.

PERFORMANCE MEASURE 5.2.A: (6.0 PTS)

Performance will be determined based on points earned in three categories. The successful completion of selected major tasks/milestones in the Baseline, the efficient management of the budget, and project management effectiveness will be evaluated and awarded points.

Task Completion Points (35 pts max):

<u>Task</u>	<u>Due Date</u>	<u>Points</u>
Complete construction of Phase 2, FHWSA	9/29/05	10

The construction contract award for the project was delayed as a result of the continuing resolution and delay in receiving sufficient funds to support the project. A project safety shutdown of approximately 2 months was also incurred after work commencement as a result of a close call incident involving a drilling rig cable. Despite the project delays, significant progress was made on the construction of the full-scale dual-phase extraction system. Through September 29, 2005, approximately 80% of the project has been completed including the following tasks: A total of 15 new wells were installed, including 6 DPE wells, 4 groundwater extraction wells, 2 monitoring wells, and 3 piezo-meters; 950 feet of trenching was completed for the system piping and an additional 250 feet of trench for an electrical conduit; all underground piping was placed and tested; excavated and disturbed areas were restored; construction of the treatment system foundation and containments was completed, and most system equipment was placed. For this task SLAC believes 8 out of 10 points were earned.

Complete Preliminary Design Report at Plating Shop	7/7/05	5
---	---------------	----------

A draft of the Preliminary Design Report for the Plating Shop Area was completed in April of 2005 and submitted to DOE for comment. DOE instructed SLAC to not finalize the document at this time and to consider the performance measure for this item achieved. For this task SLAC believes 5 out of 5 points were earned.

Submit required groundwater monitoring reports to regulator **9/30/05** **5**

The Winter 2005 Groundwater Monitoring Report was submitted to the Regional Water Quality Control Board (RWQCB) on time. The Summer 2005 report was delayed due to the new requirements of the Board Order which specify that sampling should be performed at the end of the dry season, or September 2005. This has resulted in second semi-annual monitoring event for FY05 to be pushed out two months from the original schedule. The report will instead be completed 60 days after sample collection. For this task SLAC believes 5 out of 5 points were earned as the schedule change was required to comply with the Order.

Submit Final Remedial Project Plan Report on FSUST to Reg. **1/20/05** **5**

The Final Remedial Project Plan Report for the FSUST was submitted to the RWQCB by the specified date. For this task SLAC believes 5 out of 5 points were earned.

Complete 3rd Year Progress Report FSUST Remedial System **9/30/05** **5**

The 3rd Year Progress Report for the FSUST Remedial System was completed by the specified date. For this task SLAC believes 5 out of 5 points were earned.

Complete Draft Public Participation Plan for Stakeholder Review **9/30/05** **5**

Completion of the Draft Public Participation Plan for Stakeholder review by 9/30/05 was delayed due to a two-month delay in receiving a response from the RWQCB on a request to replace a community survey requirement with community interviews already conducted. The request was approved in late September 2005. A draft is expected in early November, approximately one month past the original target date. For this task SLAC believes 5 out of 5 points were earned as the delay in RWQCB response was out of the control of SLAC.

Total points 33 out of a possible 35.

If a constraint is imposed that is beyond the control of SLAC EPD, an intermediate construction milestone will be identified.

In addition, SLAC has completed or maintained other substantive projects. SLAC operated and maintained the groundwater extraction system at the Former Solvent Underground Storage Tank (FSUST) Area and the Interim Dual Phase Extraction System (IDPE) at the Former Hazardous Waste Storage Area (FHWSA). This FY, the FSUST system treated approximately 100,000 gallons of groundwater and removed over 40 pounds of solvents. The two-well IDPE system removed approximately 28,000 gallons of groundwater and over 2 pounds of solvents. Soil vapor contaminant levels in surrounding subsurface materials have been steadily dropping since the system was started. Several modifications were made to the FHWSA IDPE system in FY05 that reduced operating costs, including equipment conversion to directly

discharge extracted groundwater and extracted soil vapor and eliminating the need for a holding tank and vapor-phase carbon treatment. Corresponding modifications to the air and sanitary sewer discharge permits were also completed and approved by the respective regulatory agencies.

A significant effort was made this FY as a result of the Independent Review Team’s (IRT) recommendations made in FY04 and the RWQCB’s adoption of an Order for SLAC. SLAC prepared technical comments to the first and second drafts of the RWQCB’s Order resulting in the Order having accurate site information and deliverable dates that were reasonable and achievable. SLAC also prepared costs and schedules for unfunded work so that work could be reprioritized and the funding requests by DOE could move forward.

Other work included continuing improvements and maintenance of the database, installation of a new well at the TL/CL Area, an update to the Provisional Map, participation in core team meetings, and support to DOE and their consultant on the Environmental Baseline Report.

Budget Points (5 pts max):

The budget shall be managed to take advantage of the fiscal year funds available to maximize the amount of work performed in the current performance/fiscal year (that is, funds available from completing tasks under budget should be used to accelerate work planned in future years). The point increments are based on managing funds to limit the unencumbered year-end carryover to 8% or less, consistent with EM HQ guidance, assuming additional carryover is not required to compensate for impacts associated with a continuing resolution scenario.

Percent of budget spent	Points
92% or Greater	5
88-91%	4
85-87%	3
80-84%	2
75-79%	1
Less than 75%	0

The unencumbered carryover this FY was \$210k and FY05 budget was \$2,480k, resulting in an unencumbered year-end carryover of 8.5%. That equates to 91.5% of the budget. FY06 is also under the continuing resolution and the additional carryover will be needed for funding operating expenses in the beginning of FY06.

SLAC believes they have earned 5 out of 5 points for this effort.

Project Management Effectiveness Points (15 pts max):

Project management documents must be developed each year to enable DOE to plan and manage the SLAC restoration project, in concert with other DOE environmental management projects. The timely development of the following deliverables will be measured:

Monthly Budget Analysis Reports (5 points)

To include monthly and cumulative year-to-date tracking of expenditures, comparison of expenditures (ACWP) to planned work (BCWS) and accurate estimates of earned value (BCWP) at the project level. Commitments at the WBS and project level are required to be provided by the 20th of the following month.

All budget analysis reports were completed this FY. The report for October 2005 was late by approximately two weeks, otherwise the reports were submitted in a timely manner. For this task SLAC believes 4.5 out of 5 points were earned.

Assistance with preparation of Critical Decision Documents, Baseline Change Proposals and Baseline revisions. (10 points)

SLAC has been very responsive to DOE information requests in support of Critical Decision Documents and Baseline Change Proposal. In the early part of FY05, SLAC prepared detailed cost estimates and schedule to support the FY04-FY06 Baseline. As described above, SLAC assisted DOE in preparing schedules and costs so that a reprioritization effort and baseline change proposal could be completed in order to address the new work recommended by the IRT and required under the Board Order. SLAC has continued throughout the year to support DOE in various information requests related to the critical decision documents, baseline change proposals, environmental baseline report, and a case study/chronology.

For this task SLAC believes 10 out of 10 points were earned.

Performance Gradient/Basis for Rating:**Outstanding:**

49 or greater points

Excellent:

43 to 48 points

Good:

39 to 42 points

Marginal:

36 to 38 points or budget overspent

Unsatisfactory:

Less than 36 points and budget overspent

SLAC believes a score of 52.5 points out of 55 has been earned, resulting in rating of ***Outstanding***.³

Section 4: SLAC ES&H Improvement Initiatives

SLAC ES&H improvement initiatives continue to focus on five areas:

- 1) Improve safety programs, staff awareness, and facility infrastructure to further reduce accidents and better protect the SLAC population
- 2) Further develop the hazard analysis, performance evaluation, and corrective action tracking and analysis portions of the ISMS
- 3) Further improve SLAC design, processes, programs, and infrastructure to reduce the amount of emissions
- 4) Continue efforts to control legacy materials in soil and water
- 5) Further develop ES&H business processes, such as Policy Management, Chemical Management, ES&H communications, and an Environmental Management System.

An important area that needs improvement is the reduction of accidents at SLAC. SLAC's accident rates, though substantially reduced from FY2004, are not consistent with our internal accident reduction goals. SLAC is actively taking actions to improve its performance. The needs for improvement that resulted from the Type A Accident Investigation affected other scheduled improvements described in this report.

Section 5: Opportunities to Partner with DOE to Support Future Success

SLAC has identified several opportunities to partner with DOE to support the future success of SLAC. These issues include potential conversion to infrastructure, successful management within the DOE's metals recycling suspension, and improved programs to control/remediate legacy materials in soil or groundwater.

Infrastructure

The OSHA review and previous SLAC initiated reviews identified vulnerabilities deriving from aging infrastructure and related issues. These include but are not limited to electrical systems, crane systems, and other infrastructure. These issues have been placed scoped and prioritized using the SLAC infrastructure funding system.

Metals Recycling Suspension

SLAC has accumulated a substantial quantity of recyclable scrap metal onsite as a result of the DOE's suspension of recycling of surveyed and cleared metals from Radiological Areas. More scrap metals continue to accumulate and SLAC is experiencing storage space and logistical complications from the growing inventory. The alternative to storage may be low-level radioactive waste disposal, even though the material passed the screening criteria with no detectable radioactive contamination. SLAC continues to both designate more land for storage of these metals and purchase more covered storage bins to house these metals from the elements to the extent practicable. However, SLAC is eager for the DOE to resolve this issue.

Responsibility to control/Remediate Legacy Materials in Soil or Groundwater

Legacy materials found at SLAC in environmental media need to be contained and remediated to maintain the property for unrestricted future use and to protect the surrounding eco-system. DOE convened the Independent Review Team to assess the appropriate scope and timing for remediation activities. DOE is now working to identify the appropriate funding source for the needed activities. SLAC eagerly awaits resolution of these questions.