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Appendices

Appendix A Index of Tiger Team Findings and Concerns

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ID	PAGE	Finding/Concern
A/CF-1		SLAC does not have an ambient air quality surveillance program. The baseline of air quality in the vicinity of SLAC has not been formally established, and the potential impacts of the SLAC emissions on ambient air quality have not been quantified, as required by DOE 5400.1, Chapter IV, Section 5.b.(1).
A/CF-2		SLAC does not have a documented meteorological monitoring program. Meteorological data currently used by SLAC in the AIRDOS modeling are not representative of local conditions.
A/CF-3		An asbestos abatement project conducted during the Tiger Team Assessment did not meet the requirements of BAAQMD, Regulation 11, Rule 2 and 40 CFR 61 145-146.
A/BMPF-1		There are no formal procedures at SLAC to ensure that existing sources of air emissions have the necessary permits and to guarantee that air permits are obtained, where required, for all new projects and/or construction activities.
A/BMPF-2		The procedures used in the air effluent control program at the SLAC are not sufficient and are not effectively enforced to ensure that air emissions are minimized.
A/BMPF-3		SLAC does not have a complete inventory of air emissions that is updated annually, and not all sources in the existing inventory are adequately quantified.
A/BMPF-4		SLAC does not have a comprehensive formal program to manage asbestos and to ensure compliance with federal, state, and local asbestos regulations.
SW/CF-1		Secondary containment sufficient to prevent a release to the environment has not been provided for all oil-filled equipment and hazardous chemicals.
SW/CF-2		The potential for releases of non-radiological liquid effluents, including petroleum products or other hazardous chemicals, to the storm drains at SLAC have not been fully characterized.
SW/CF-3		The SPCC Plan does not incorporate all of the information as required in 40 CFR 112.
SW/CF-4		SLAC does not have adequate backflow prevention to protect potable water at some locations as required by 29 CFR 1910.141, and does not maintain a comprehensive inventory of backflow prevention devices.

SW/CF-5		SLAC has never submitted ODIS Reports for effluent and onsite liquid and air radioactive waste discharges as required by DOE 5400.1, Chapter II, Section 5.a.
SW/CF-6		SLAC does not have a fully developed program for monitoring and controlling batch discharges of liquid radiological effluents to ensure that all releases meet the requirements of DOE Orders.
SW/BMPF-1		SLAC has no formalized program to update facility plans and layout maps to ensure that they reflect current facility conditions.
SW/BMPF-2		There are no written maintenance schedules or record keeping procedures for inspecting and cleaning oil/water separators. Additionally, the oil/water separators are not currently designed in a way that maximizes the removal of oil prior to its discharge to the stormwater system.
GW/CF-1		SLAC does not have a fully developed Groundwater Protection Management Program or a groundwater monitoring plan as required under DOE 5400.1.
GW/CF-2		The geology and hydrogeology at the SLAC site has not been completely characterized to define aquifer relationships, subsurface stratigraphy, extent of contamination, background conditions, and local flow paths and velocities, in accordance with the DOE, RCRA, and CERCLA guidance and regulations.
GW/CF-3		SLAC does not have a comprehensive formal program to inventory, maintain, and properly abandon groundwater monitoring wells, in a manner that protects groundwater quality in accordance with California Department of Water Resources Bulletin 74-90 and the Groundwater Monitoring Technical Enforcement Guidance Document.
GW/CF-4		An environmental surveillance program has not been developed to assess the environmental impact of SLAC site activities in accordance with DOE 5400.1.
WM/CF-1		SLAC's hazardous waste management training program has not been fully implemented to ensure that all facility personnel with responsibility for hazardous waste management activites have been trained, and to ensure that hazardous waste is managed in accordance with the State of California regulatory requirements.
WM/CF-2		SLAC does not have a formalized waste classification or quality assurance program to ensure that all waste streams are properly identified, as required by State of California Regulations, Title 22.

WM/CF-3		Waste accumulation and storage management activities have not been uniformly implemented across the site to ensure compliance with federal and state requirements.
WM/CF-4		SLAC does not have a finalized waste minimization plan that includes all the elements required for an effective waste minimization program by EPA, DOE, and the State of California.
WM/CF-5		Radioactive waste is not fully managed in a manner to ensure (1) that it is properly handled, segregated, characterized, stored, and shipped; (2) that the waste certification program meets the Hanford Site Radioactive Solid Waste Acceptance Criteria (WHC-EP-0063-2); and (3) that the generation of low-level radioactive waste is minimized.
WM/CF-6		SLAC does not have an integrated contingency plan that meets all the requirements of Article 20 of the California Hazardous Waste Management Regulations.
WM/BMPF-1		SLAC does not have formal procedures in place to formally evaluate or audit commercial TSDFs to which SLAC ships its waste.
TCM/CF-1		SLAC has not developed or implemented a Pollution Prevention Awareness Program Plan in accordance with DOE 5400.1, Chapter III.
TCM/CF-2		SLAC does not have integrated procedures or comprehensive sitewide inventory to manage oil-filled equipment, including PCB equipment, in order to ensure compliance with 40 CFR 761, 40 CFR 112, and DOE 6430.1A.
TCM/BMPF-1		SLAC has not developed and implemented a comprehensive inspection and hazardous material handling program for equipment stored for reuse, excess, or scrap.
TCM/BMPF-2		SLAC does not provide adequate oversight of landscaping and pest control contractors.
TCM/BMPF-3		SLAC lacks a comprehensive program to manage the storage of chemicals used for cooling tower maintenance.
TCM/BMPF-4		SLAC does not have a comprehensive, integrated chemical materials management system.

QA/CF-1		SLAC has not prepared a formal integrated Environmental Monitoring Plan which includes descriptions of effluent monitoring and environmental surveillance activity components, as required by DOE 5400.1, Chapter IV, Section 4. Annual Site Environmental Reports do not include all requirements of DOE 5400.11 Chapter II, Section 4.
QA/CF-2		SLAC lacks a formal QA program for environmental activities that has been approved by the DOE Field Office, San Francisco DOE (SF), as required by DOE 5400.1 and DOE 5700.6B.
QA/CF-3		SLAC has not developed or implemented finalized procedures for all of the environmental activities required by DOE 5700.6B and DOE 5400.1.
QA/CF-4		SLAC's internal auditing and corrective action program does not address all aspects of environmental performance and is not sufficient to assure the quality of all environmental activities, as required by DOE 5700.6B and NQA-1.
QA/CF-5		SLAC's oversight of vendors performing environmental services is deficient with respect to surveillance, written procedures, QA program review, data validation, and audits as required by DOE 5700.6B.
QA/CF-6		Stanford Site Office (SSO) and DOE Field Office, San Francisco DOE (SF) have not provided formal oversight of SLAC to ensure that required QA activities are established and implemented as required by DOE 5700.6B.
RAD/CF-1		DOE Field Office, San Francisco DOE-(SF) has not developed an ALARA program and has not required SLAC to implement the ALARA process in environmental programs as required by DOE 5400.5, Chapter II, Section 2.
RAD/CF-2		SLAC has not developed and documented a Decommissioning Program and Decommissioning Project Plans to provide for the surveillance, maintenance, and decommissioning of facilities containing radioactive materials, as required by DOE 5820.2A, Chapter V, Section 3, and has not documented such activities in the Waste Management Plan, as required in DOE 5820.2A, Chapter VI.

RAD/CF-3		SLAC has not developed finalized plans and procedures specifying requirements for the release of property having residual radioactive material and has not maintained the records of released property as required by DOE 5400.5.
IWS/CF-1		SLAC does not have an adequate program to identify, characterize, and manage inactive waste site activities in accordance with the requirements of DOE 5400.4, CERCLA, the NCP, and Executive Order 12850.
IWS/CF-2		The site has conducted, and is in the process of conducting remedial actions, but does not have a formalized written Community Relations Plan, and has not established an administrative Record available for public inspection.
IWS/CF-3		SLAC has not prepared a comprehensive preliminary assessment of the site to identify all potential inactive waste sites and to rank the SLAC facility using the new Hazard Ranking System model, in accordance with the provisions of DOE 5400.4, CERCLA, and the NCP.
IWS/CF-4		The SLAC Site Development Plan does not include maps or descriptions of known and suspected contaminated areas and does not address the impact of siting facilities in these areas as required by DOE 4320.1B.
IWS/CF-5		SLAC has not met all the reporting requirements of the California Hazardous Materials Release Response and Inventory ("Business Plan") Program, and procedures are not in place to ensure expeditious reporting of any release of hazardous materials to the environment.
IWS/BMPF-1		The methods for tracking the hazardous materials inventory at SLAC do not ensure that all hazardous materials are accounted for and that changes to the inventory are recorded on a regular basis. The inventory information is not maintained in a computerized database program to facilitate inventory management and to ensure regulatory compliance.
NEPA/CF-1		SLAC and SSRL have not established and implemented written procedures to integrate the NEPA process into the review of planning documents, budgetary materials, and other project proposals as required by SAN MD No. 5440.1C, SEN-15-90, DOE 5440.1D, and the Interim Procedural Guidance for Implementation of SEN-15-90.

NEPA/CF-2		SLAC and SSRL do not uniformly apply NEPA early in the planning process for proposed DOE actions as required by SAN MD No. 5440.1C, 40 CFR 1501.2, DOE NEPA Guidelines, SEN-15-90, DOE 5440.1D, DOE 4700.1, DOE 5700.7B, and DOE Notice 5100.3. Project planning documents and internal budget review documents for most DOE-sponsored research (field work proposals and field task proposals), capital equipment (not related to construction), and work-for-others (reimbursables) do not indicate NEPA milestones or financial planning as required. Thus, these documents do not ensure valid, early consideration of environmental issues.
NEPA/CF-3		Actions are taken at SLAC and SSRL without NEPA review early in the planning phase and before decisions are made. In some cases, the level of NEPA documentation is not appropriate for the proposed action, contrary to SAN MD No. 5440.1C, SEN-15-90, and the Interim Procedural Guidance for SEN-15-90.
NEPA/CF-4		The two SLAC environmental assessments and the environmental statement are deficient when judged against the requirements of 40 CFR 1500.2 (e), 1500.2(a), and 1508.9 of the Council on Environmental Quality regulations.
NEPA/CF-5		Neither SLAC nor SSRL submit the required NEPA documentation to SSO (i.e., a monthly list of actions that qualify as categorical exclusions not needing documentation, descriptions and recommendations of the level of NEPA documentation for all other actions, and submittal of draft NEPA documents) as required by SAN MD No. 5440.1C, SEN-15-90, the Interim Procedural Guidance for SEN-15-90, and DOE 5440.1D.
NEPA/CF-6		SLAC/SSRL and SSO do not have an integrated system for tracking the status of NEPA review and documentation for all actions, and there are no formal procedures for record keeping and tracking of the NEPA process as required by SAN MD No. 5440.1C and DOE 5440.1D.
OA.1-1		Position authorities are not documented for Stanford Linear Accelerator Center as required by DOE 5480.19, Chapter 1.
OA.1-2		Functions and responsibilities of Environmental Safety and Health Division are not understood across the organization.

OA.2-1		Safety review and oversight functions are not clearly separated from line functions.
OA.3-1		Measurable safety objectives have not been established by the Stanford Linear Accelerator Center as required in DOE 5480.19, Chapter 1.
OA.5-1		The self-assessment program has not been institutionalized by Stanford Linear Accelerator Center.
OA.6-1		The Stanford Linear Accelerator Center has not established a routine job qualification review system.
OA.7-1		Hazards assessments have not been documented for some facilities as required by DOE 5500.3A.
OA.7-2		The Stanford Linear Accelerator Center does not have a centralized document control system.
OA.8-1		An effective fitness for duty program has not been implemented.
QV.1-1		The institutional Quality Assurance plan at Stanford Linear Accelerator Center has not been consistently implemented by all affected departments, does not reflect current organizational structure, and does not comply with DOE 5700.6B.
QV.1-2		Stanford Linear Accelerator Center activities and equipment that are important to quality have not been identified or defined to enable application of appropriate quality control measures as required by DOE 5700.6B.
QV.1-3		Working-level personnel have not received training on principles of quality achievement or the requirements of the quality control program as required by DOE 5700.6B.
QV.2-1		The Stanford Linear Accelerator Center's procedures for procurement do not define requirements or give guidance to requestors with respect to quality assurance program controls, codes and standards, or technical requirements as required by DOE 5700.6B.
QV.3-1		The Stanford Linear Accelerator Center has not ensured that procured materials are properly inspected on receipt for conformance to design requirements as required by DOE 5700.6B.
QV.4-1		There is no sitewide standard defining the scope and requirements for calibration of measuring and test equipment, process instrumentation, and radiation monitoring instrumentation as required by DOE 5700.6B.

QV.4-2		Several secondary standards used for calibration are not traceable to nationally recognized standards and/or are not maintained in a current state of calibration themselves as required by DOE 5700.6B.
QV.4-3		As-found and as-left data are not recorded and maintained for equipment that is calibrated.
QV.6-1		The programs for ensuring that pressure vessels are properly fabricated, installed, tested, operated, and reinspected are not effectively implemented as required by DOE 5700.6B and generally accepted industry standards.
QV.7-1		Programs are not established to ensure that structural, pressure-vessel, and other important-to-quality welding activities are accomplished in accordance with appropriate codes and standards as required by DOE 5700.6B.
QV.8-1		A program has not been established to provide training to personnel who perform nondestructive examinations.
OP.1-1		Qualification requirements and documented training programs are not in place for all operations positions.
OP.1-2		Official lists of personnel currently qualified as Engineering Operator in Charge and Operator are not maintained in Control Rooms as required by DOE 5480.19.
OP.2-1		Access to Control Rooms at the Stanford Linear Accelerator Center is not effectively limited to persons with official business as required by DOE 5480.19.
OP.3-1		Operational Safety Requirements are not employed along with the associated surveillance and maintenance requirements at the Stanford Linear Accelerator Center.
OP.3-2		Operating Procedures at the Stanford Linear Accelerator Center do not conform to a standard format, approval system, revision system, temporary change system, or review frequency as required by DOE 5480.19.
OP.3-3		Posted operator aids throughout the Stanford Linear Accelerator Center are not standardized, approved, dated, or logged as required by DOE 5480.19.
OP.8-1		No coding convention is employed in Stanford Linear Accelerator Center Control Areas to indicate the meaning of alarm signals, light colors, or whether lights are steady or flashing.

OP.8-2		Appropriate measurement units such as psia and celsius degrees are not placed on or by many instruments nor are they always used in operations communications.
MA.1-1		There are no integrated maintenance procedures or organization governing maintenance activities at the Stanford Linear Accelerator Center that will meet the requirements of DOE 4330.4A
MA.2-1		The lock and tag procedures as implemented at Stanford Linear Accelerator Center do not provide for the safe and effective conduct of maintenance and are not in compliance with DOE 5480.19 and 29 CFR 1910.147.
MA.3-1		Storage of maintenance records in an energized Control Panel is not compliance with the electrical safety practice required by DOE 4330.4A. and 29 CFR 1910.333.
MA.4-1		Planning, scheduling, and control of maintenance at the Stanford Linear Accelerator Center do not meet the requirements of DOE 4330.4A.
MA.5-1		The corrective maintenance activities at Stanford Linear Accelerator Center do not support safe and effective operation of equipment and facilities as required by DOE 4330.4A, Section 9.
MA.6-1		Preventive maintenance is not conducted at the Stanford Linear Accelerator Center in the manner required by DOE 4330.4A.
MA.7-1		Equipment history and predictive maintenance analysis are not being used to optimize equipment performance as required by DOE 4330.4A.
MA.8-1		Maintenance work is performed without the appropriate safety guidance and direction required by DOE 5480.19.
AX.1-1		The Department of Energy has not provided guidelines for consistency in defining what constitutes auxiliary systems.
AX.1-2		Stanford Linear Accelerator Center has not provided definitions of what constitutes auxiliary systems.
AX.5-1		The Plating Shop ventilation system does not minimize the potential to release hazardous material to clean areas or the environment contrary to the requirements in DOE 6430.1A.

AX.6-1		Testing of emergency diesel generators at the Stanford Linear Accelerator Center does not meet the requirements of NFPA 110 to ensure reliability of vital services.
EP.1-1		Stanford Linear Accelerator Center has not prepared a sitewide hazards assessment to provide the technical basis for the emergency management program as required by DOE 5500.3A.
EP.1-2		Stanford Linear Accelerator Center has not established and maintained an emergency management program that meets the requirements of DOE 5500.3A.
EP.1-3		An assessment by DOE-SF of all aspects of the emergency management program has not been conducted annually as required by DOE 5500.3A.
EP.1-4		A Stanford Linear Accelerator Center assessment of all aspects of the emergency management program has not been conducted annually as required by DOE 5500.3A.
EP.2-1		The Stanford Linear Accelerator Center Emergency Preparedness Plan is not based on a hazards assessment and does not accurately describe the provisions for response to emergencies as required by DOE 5500.3A.
EP.2-2		Stanford Linear Accelerator Center does not have implementing procedures that contain the detailed actions and specific instructions needed to carry out the Emergency Preparedness Plan as required by DOE 5500.3A.
EP.3-1		Stanford Linear Accelerator Center has not established a formal training program for emergency response personnel as required by DOE 5500.3A.
EP.4-1		Stanford Linear Accelerator Center does not have a program of drills and exercises as required by DOE 5500.1B and DOE 5500.3A
EP.5-1		The Stanford Linear Accelerator Center Emergency Operations Center does not comply with the requirements of DOE 5500.3A.
EP.6-1		Stanford Linear Accelerator Center has no procedures for assessing the consequences of an emergency involving hazardous materials or procedures for determining an emergency class based on emergency action levels as required by DOE 5500.3A.
EP.6-2		Stanford Linear Accelerator Center has not established a method for prompt initial notification of emergency response personnel and for initial and followup notifications to offsite organizations as required by DOE 5500.3A.

EP.6-3		Stanford Linear Accelerator Center has not established an emergency public information program consistent with the requirements of DOE 5500.3A and 5500.4.
EP.7-1		An effective method for personnel accountability is not in place as required by DOE 5500.3A.
PT.1-1		Stanford Linear Accelerator Center has not developed a program or procedures to ensure shipments comply with DOE 1540.1, DOE 1540.2 and DOE 5480.3, and applicable DOT and EPA regulations.
PT.1-2		Stanford Linear Accelerator Center has no transportation safety manual for onsite transfers.
PT.1-3		Hazardous waste data for the DOE Shipment Mobility/Accountability Concept system is not reported at the frequency required by DOE 1540.1, Chapter I, Section 10.b.
PT.2-1		Training requirements for the job functions of packaging and transportation personnel have not been established, and existing training is not documented.
PT.2-2		Regulatory compliance training provided by offsite contractors for Stanford Linear Accelerator Center packaging and transportation personnel is not effective.
PT.3-1		The Quality Assurance audits of packaging and transportation operations have not been performed as required by DOE 5480.3 to meet the guidelines of DOE 5700.6B.
PT.3-2		There is no documented program of packaging vendor qualification and no verification that packagings meet DOT specifications as required by DOE 5480.3, Sections 9.a and b.
PT.4-1		The Stanford Linear Accelerator Center does not provide 24-hour emergency contact that meets the requirements of 49 CFR 172.604.
PT.6-1		The absence of proper vehicle maintenance at the Stanford Linear Accelerator Center compromises vehicle safety.
PT.6-2		There are no safety and accountability procedures to ensure that all radioisotopes brought onsite are inventoried.
PT.8-1		The Department of Energy, San Francisco Operation Office did not inform the Stanford Linear Accelerator Center of the Department of Transportation interpretation regarding public roads as requested by the Department of Energy Headquarters.
PT.9-1		Shipping papers are not prepared in accordance with 49 CFR 172.

PT.11-1		The Department of Energy San Francisco Operation Office does not have a formal program to appraise packaging and transportation safety as required by DOE 5482.1B, Section 8.e.2, and DOE 5480.3, Section 6.c.5.
PT.12-1		Packaging and storage of hazardous waste is not conducted in compliance with DOT regulations of 49 CFR 177, Subparts B, C, and D.
EA.1-1		No disciplined system is in place to ensure that all experimenters are given health and safety training and indoctrination as required by DOE 5480.11, Section 9.0, and DOE 5480.10, Section 9.b.5.
FR.2-1		Stanford Linear Accelerator Center's safety review process does not include all elements required by DOE 5482.1B.
FR.2-2		There is no formal mechanism to ensure all facility modifcations and experiments receive appropriate safety reviews, as required by DOE Order 5482.1B.
FR.4-1		Periodic, comprehensive operating reviews of the facility are not performed.
FR.5-1		A triennial appraisal to assess the effectiveness of the Stanford Linear Accelerator Center safety review system has not been performed although required by DOE 5482.1B.
FR.6-1		Several corrective actions resulting from the investigation of unusual occurrences have not been implemented in a timely manner as required by DOE 5000.3A.
FR.6-2		Corrective actions resulting from the investigation of some unusual occurrences have not been effective in correcting the root causes of the events.
FR.6-3		The Stanford Linear Accelerator Center has not established a program for using industry experience to improve facility safety.
RP.2-1		The frequency and scope of the internal audits of the Radiation Protection Program do not comply with DOE 5480.11, Section 9.r, and DOE 5482.1B, Section 9.d.
RP.3-1		The documented radiation protection policy is not consistent with the requirements of DOE 5480.11.
RP.3-2		Radiation protection procedures are incomplete and inconsistent with the requirements of DOE 5480.11.
RP.3-3		Posting of radiological controlled areas and labeling of radioactive material are not consistent with the requirements of DOE 5480.11, Section 9.k.

RP.3-4		An accurate inventory of radioactive sources is not maintained and is not consistent with all applicable elements of ANSI N542.
RP.3-5		Radiological protection controls for x-ray generating devices are not in full compliance with DOE 5480.11, the mandatory standards in DOE 5480.4, Attachment 1, Item 2.d1, and DOE 5482.1B, Section 9.d.
RP.4-1		The posting and external radiation exposure controls at the calibration facility do not comply with DOE 5480.11.
RP.5-1		The whole body dosimeter does not measure all the types and energies of radiation anticipated at the Stanford Linear Accelerator Center as required in DOE 5480.11, Section 9.g.1 and DOE 5480.15.
RP.5-2		Stanford Linear Accelerator Center practices for whole body and extremity dosimetry are not in compliance with DOE 5480.11, Section 9.g.1.
RP.5-3		The Personnel Dosimetry Program has not been accredited by the DOE Laboratory Accreditation Program for Personnel Dosimetry as required by DOE 5480.15 and is not in compliance with DOE 5480.11, Section 9.g.1.
RP.5-4		The unsupervised use and unrecorded results of direct-reading pocket dosimeters negate their value and is contrary to the As Low As Reasonably Achievable ALARA policy of DOE 5480.11, Section 9.a.
RP.8-1		The radiation protection instrumentation program is not in compliance with the mandatory standards of DOE 5480.4, Attachment 1, Item 2.d.1 and DOE 5480.11, Section 9.g.3b.
RP.9-1		Stanford Linear Accelerator Center does not have sufficient air monitoring data to demonstrate compliance with DOE 5480.11, Section 9.g.3a.
RP.10-1		The training provided to operations personnel who perform radiation surveys is not in compliance with DOE 5480.11, Section 9.o.
RP.11-1		The Stanford Linear Accelerator Center As Low As Reasonably Achievable ALARA Program does not comply with DOE 5480.11, Sections 9.a. and 9.m.1.
RP.12-1		Radiation exposures to visitors are not reported as required by DOE 5484.1, Change 6, Chapter IV, Section d.1.
RP.12-2		Records of previous occupational exposure are not requested as required by DOE 5480.11, Section 9.m.2.

RP.12-3		Records of the radiation protection program are not maintained in accordance with the requirements of DOE 5480.11, Section 9.m.
RP.13-1		Stanford Linear Accelerator Center does not provide Radiation Worker Training for some occupational workers entering radiological areas including High Radiation Areas as required by DOE 5480.11, Section 9.o 2.
RP.13-2		Documentation of Health Physics Technician Training and Radiation Worker Training is not maintained as required by DOE 5480.11, Section 9.m.5.
RP.13-3		Retraining for Health Physics Technicians and for Radiation Workers is not being done, contrary to DOE 5480.11, Sections 9.o.2 and .3.
RP.13-4		The scope of the Health Physics Technician Training Program does not include all of the elements required by DOE 5480.11, Section 9.o 3.
PP.1-1		Stanford Linear Accelerator Center does not ensure the implementation of the personnel protection programs that effectively maintain the workplace free of health and safety concerns, as required by DOE 5480.4, DOE 5480.10, 29 CFR 1910, and others.
PP.1-2		Necessary industrial hygiene information is not readily communicated to Stanford Linear Accelerator Center management, and to all segments of the organization as required by DOE 5480.8 and DOE 5480.10, Section b.1.
PP.1-3		Stanford Linear Accelerator Center Management does not establish specific goals and objectives for reducing the frequency and severity of occupational accidents, injuries, and illnesses and does not comply with DOE 5480.10, DOE 5482.1B, and DOE 5480.19.
PP.2-1		Stanford Linear Accelerator Center's policies and management directives do not define the lines of authority and management responsibility for the control and support of occupational health and safety hazards as required by DOE 5480.10, and DOE 5482.1B.
PP.2-2		Stanford Linear Accelerator Center has not effectively closed out identified health and safety deficiencies.
PP.2-3		The Department of Energy, San Francisco Operations Office has not consistently enforced the requirements of DOE 5482.1B and DOE 5480.10 at the Stanford Linear Accelerator Center to ensure identified health and safety non-compliances are corrected.

PP.3-1		The Stanford Linear Accelerator Center does not have a documented program for identifying, evaluating, and controlling occupational safety and health hazards as required by DOE 5480.10, DOE 5480.1B, and DOE 5480.4.
PP.3-2		Periodic walk-through surveys of the workplace are not regularly performed to identify potential health and safety hazards, as required in 29 CFR 1910.94 and DOE 5481.1B, Section 9.d.2e.
PP.4-1		The Stanford Linear Accelerator Center does not conduct regular industrial hygiene monitoring to demonstrate compliance with mandatory standards as required by DOE 5480.10, DOE 5482.1B, and DOE 5483.1A.
PP.5-1		Although respirators are used, the Stanford Linear Accelerator Center does not have a respiratory protection program that complies with 29 CFR 1910.134 and DOE 5480.4.
WS.1-1		Internal safety and health compliance oversight appraisals, conducted by technically competent personnel, independent of the operation under scrutiny, are not performed as defined by DOE 5480.1B and required by DOE 5482.1B and DOE 5480.10.
WS.1-2		The Environmental Safety and Health Division has not performed an aggressive, proactive role in addressing safety and health issues, as required by DOE 5480.10, and DOE 5483.1A.
WS.2-1		Overall safety and health performance at the Stanford Linear Accelerator Center is not routinely measured to evaluate the effectiveness of control and does not comply with the requirements of DOE 5480.10 and DOE 5482.1B.
WS.2-2		Recording and reporting of occupational injuries and illnesses at the Stanford Linear Accelerator Center does not comply with 29 CFR 1904.
WS.2-3		The Stanford Linear Accelerator Center safety and health program has not been effective in controlling the lost workday rate.
WS.3-1		The implementation of the industrial hygiene program does not comply with substantive requirements mandated by DOE 5480.4, DOE 5480.10 and DOE 5482.1B.
WS.3-2		The Stanford Linear Accelerator Center Hazard Communication Program does not comply with the requirements of 29 CFR 1910.1200.

WS.3-3		The Stanford Linear Accelerator Center does not have a confined space entry program that complies with DOE 5480.4 and ANSI Z117.1.
WS.3-4		Stanford Linear Accelerator Center does not have a system to control the procurement, inventory, and use of hazardous chemicals as required by DOE 5480.10.
WS.4-1		Means of egress are not marked and maintained to permit a continuous and unobstructed exit as required by 29 CFR 1910, Subpart E.
WS.4-2		Guarding of floor openings, walkways, and aisles does not comply with 29 CFR 1910, Subpart D.
WS.4-3		Machine guarding is not universally in place for equipment as required by 29 CFR 1910, Subpart O.
WS.4-4		Stanford Linear Accelerator Center does not comply with the electrical requirements of 29 CFR 1910, Subpart S.
WS.4-5		Storage and labeling of flammable and combustible liquids, and design and construction of spray rooms at the Stanford Linear Accelerator Center do not comply with 29 CFR 1910.106 and 29 CFR 1910.107, respectively.
WS.6-1		Communications to employees at Stanford Linear Accelerator Center regarding asbestos, lead and formaldehyde does not comply with 29 CFR 1910.1001, 29 CFR 1910.1025, and 29 CFR 1910.1048.
FP.1-1		The Stanford Linear Accelerator Center does not have a complete description and published plan to coordinate activities of the three onsite fire protection organizations.
FP.2-1		The Stanford Linear Acceleration Center does not ensure its facilities comply with the provisions of NFPA 101 as required by DOE 5480.2.
FP.3-1		Stanford Linear Accelerator Center has not reviewed the potential of toxic and hazardous exposure to the public from runoff of fire-fighting water as required by DOE 5480.7.
FP.5-1		The lack of automatic sprinkler protection in the Klystron Gallery makes for a loss potential exceeding the limits expressed in DOE 5480.7.
FP.7-1		Maintenance, testing, and management of impairments to the Fire Protection Systems do not comply with DOE 5480.7.

MS.1-1		The staffing level in the Stanford Linear Accelerator Center Medical Department does not meet current and anticipated needs and does not conform to the guidelines of DOE 5480.8.
MS.1-2		The Physician at the Stanford Linear Accelerator Center does not report at a senior level to ensure program effectiveness by having direct access to top management as required by DOE 5480.8.
MS.3-1		The medical examination and evaluation programs at Stanford Linear Accelerator Center are not conducted as required by DOE 5480.8.
MF-1		SLAC does not have a strategic and subordinate implementation planning process that integrates ES&H and programmatic goals into its mission to define, guide, and prioritize the accomplishment of its ES&H and programmatic objectives.
MF-2		Organizational ES&H roles, responsibilities, and authorities (RRAs) within and between SLAC and SSRL organizations have not been formally defined and clearly communicated and are not well understood at all levels.
MF-3		Individual ES&H RRAs of all individuals at SLAC and SSRL have not been formally defined and clearly communicated and are not well understood.
MF-4		SLAC and SSRL do not have effective ES&H human resource management programs that ensure the availability of sufficient qualified human resources for full implementation of their ES&H requirements.
MF-5		SLAC and SSRL do not have an effective ES&H training program to ensure that all staff are appropriately trained and qualified to perform their ES&H duties, and SLAC and SSRL do not possess the present capability to establish such a program.
MF-6		SLAC and SSRL do not have a formal system for the receipt, distribution, control, and implementation of official DOE correspondence, including DOE Orders, Secretary of Energy Notices (SENs), and other DOE requirements and guidance materials.
MF-7		Operations throughout the SLAC and SSRL site lack the formality required by pertinent ES&H DOE Orders and current best management practices.

MF-8		An integrated sitewide corrective action management system is not in place at SLAC and SSRL to ensure corrective action and closure of ES&H findings and issues arising from reviews, assessments, and occurence reporting.
MF-9		The program of internal independent oversight of ES&H activities by SLAC and SSRL is insufficient in frequency and scope and lacks formality, completeness, consistency, and, in some respects, independence.
MF-10		Stanford University does not maintain a formal program of oversight of the ES&H activities at SLAC and SSRL.
MF-11		The DOE Headquarters Office of Energy Research (ER) does not have a strategic and subordinate implementation planning process that integrates ES&H and programmatic objectives into their mission and defines and guides the allocation of resources and accomplishment of sitewide ES&H objectives at SLAC and SSRL.
MF-12		The DOE Headquarters ER has not clearly defined, documented, or conveyed its ES&H expectations of DOE-SF.
MF-13		The manner in which the DOE SSO is to obtain needed ES&H support services from DOE-SF is undocumented and poorly understood.
MF-14		The DOE-SF has not fully implemented an effective human resource management program to ensure the availability of sufficient qualified staff to meet its SLAC and SSRL ES&H oversight responsibilities.
MF-15		The DOE ER oversight of ES&H activities at SLAC and SSRL is not sufficient in breadth, frequency, or quality to ensure full implementation of DOE's ES&H initiatives.
MF-16		DOE-SF/SSO oversight of ES&H activities at SLAC and SSRL is not sufficient in breadth, frequency, or quality to ensure full implementation of DOE's ES&H initiatives.
MF-17		The prime contracts between DOE and the University for SLAC and SSRL do not reflect DOE's current emphasis on the importance of ES&H objectives relative to programmatic objectives.
SA-1		The SLAC self-assessment report is of good quality. The report was thorough in its identification of specific findings and management issues in all major areas.

SA-2		SLAC lacks a comprehensive and formalized self-assessment program, including policies, procedures, and quality assurance (QA).
SA-3		The SF/SSO self-assessment report is of acceptable quality. The SF/SSO assessment was thorough in its identification of environmental and management findings at SLAC, but less thorough in its identification of safety and health findings. SF/SSO are to be commended for including "ownership" of specific ES&H findings and concerns at SLAC within the scope of their assessment.
SA-4		SF/SSO lack a fully implemented self-assessment program; however, several actions have recently been taken that should implement such a program.
SA-5		ER has not fully institutionalized a self-assessment program. ER has not provided oversight of, and sufficent guidance to, SF and SLAC regarding ES&H self-assessment.

Appendix B Tiger Team Findings and Concerns Cross-referenced to Tasks and, Where Appropriate, Activity Data Sheets

ID	Title	Task List	ADS
A/CF-1	SLAC does not have an ambient air quality surveillance program. The baseline of air quality in the vicinity of SLAC has not been formally established, and the potential impacts of the SLAC emissions on ambient air quality have not been quantified, as required by DOE 5400.1, Chapter IV, Section 5.b.(1).	T1254	None
A/CF-2	SLAC does not have a documented meteorological monitoring program. Meteorological data currently used by SLAC in the AIRDOS modeling are not representative of local conditions.	T1105	None
A/CF-3	An asbestos abatement project conducted during the Tiger Team Assessment did not meet the requirements of BAAQMD, Regulation 11, Rule 2 and 40 CFR 61 145-146.	T1355	None
A/BMPF-1	There are no formal procedures at SLAC to ensure that existing sources of air emissions have the necessary permits and to guarantee that air permits are obtained, where required, for all new projects and/or construction activities.	T1338	None
A/BMPF-2	The procedures used in the air effluent control program at the SLAC are not sufficient and are not effectively enforced to ensure that air emissions are minimized.	T1252	None
A/BMPF-3	SLAC does not have a complete inventory of air emissions that is updated annually, and not all sources in the existing inventory are adequately quantified.	T1127	None
A/BMPF-4	SLAC does not have a comprehensive formal program to manage asbestos and to ensure compliance with federal, state, and local asbestos regulations.	T1355	None
SW/CF-1	Secondary containment sufficient to prevent a release to the environment has not been provided for all oil-filled equipment and hazardous chemicals.	T1298 T1246	None

SW/CF-2	The potential for releases of non-radiological liquid effluents, including petroleum products or other hazardous chemicals, to the storm drains at SLAC have not been fully characterized.	T1109	None
SW/CF-3	The SPCC Plan does not incorporate all of the information as required in 40 CFR 112.	T1109 T1346	None
SW/CF-4	SLAC does not have adequate backflow prevention to protect potable water at some locations as required by 29 CFR 1910.141, and does not maintain a comprehensive inventory of backflow prevention devices.	T1078	None
SW/CF-5	SLAC has never submitted ODIS Reports for effluent and onsite liquid and air radioactive waste discharges as required by DOE 5400.1, Chapter II, Section 5.a.	T1206	None
SW/CF-6	SLAC does not have a fully developed program for monitoring and controlling batch discharges of liquid radiological effluents to ensure that all releases meet the requirements of DOE Orders.	T1122 T1341 T1441	None
SW/BMPF-1	SLAC has no formalized program to update facility plans and layout maps to ensure that they reflect current facility conditions.	T1087	None
SW/BMPF-2	There are no written maintenance schedules or record keeping procedures for inspecting and cleaning oil/water separators. Additionally, the oil/water separators are not currently designed in a way that maximizes the removal of oil prior to its discharge to the stormwater system.	T1262 T1266	None
GW/CF-1	SLAC does not have a fully developed Groundwater Protection Management Program or a groundwater monitoring plan as required under DOE 5400.1.	T1122 T1228	None

GW/CF-2	The geology and hydrogeology at the SLAC site has not been completely characterized to define aquifer relationships, subsurface stratigraphy, extent of contamination, background conditions, and local flow paths and velocities, in accordance with the DOE, RCRA, and CERCLA guidance and regulations.	T1227 T1228	None
GW/CF-3	SLAC does not have a comprehensive formal program to inventory, maintain, and properly abandon groundwater monitoring wells, in a manner that protects groundwater quality in accordance with California Department of Water Resources Bulletin 74-90 and the Groundwater Monitoring Technical Enforcement Guidance Document.	T1226	None
GW/CF-4	An environmental surveillance program has not been developed to assess the environmental impact of SLAC site activities in accordance with DOE 5400.1.	T1343	None
WM/CF-1	SLAC's hazardous waste management training program has not been fully implemented to ensure that all facility personnel with responsibility for hazardous waste management activites have been trained, and to ensure that hazardous waste is managed in accordance with the State of California regulatory requirements.	T1095 T1288 T1116	None
WM/CF-2	SLAC does not have a formalized waste classification or quality assurance program to ensure that all waste streams are properly identified, as required by State of California Regulations, Title 22.	T1288 T1293	None
WM/CF-3	Waste accumulation and storage management activities have not been uniformly implemented across the site to ensure compliance with federal and state requirements.	T1095 T1116 T1119 T1285 T1293	None

WM/CF-4	SLAC does not have a finalized waste minimization plan that includes all the elements required for an effective waste minimization program by EPA, DOE, and the State of California.	T1093	None
WM/CF-5	Radioactive waste is not fully managed in a manner to ensure (1) that it is properly handled, segregated, characterized, stored, and shipped; (2) that the waste certification program meets the Hanford Site Radioactive Solid Waste Acceptance Criteria (WHC-EP-0063-2); and (3) that the generation of low-level radioactive waste is minimized.	T1277	None
WM/CF-6	SLAC does not have an integrated contingency plan that meets all the requirements of Article 20 of the California Hazardous Waste Management Regulations.	T1289	None
WM/BMPF -1	SLAC does not have formal procedures in place to formally evaluate or audit commercial TSDFs to which SLAC ships its waste.	T1293 T1294 T1295	None
TCM/CF-1	SLAC has not developed or implemented a Pollution Prevention Awareness Program Plan in accordance with DOE 5400.1, Chapter III.	T1089	None
TCM/CF-2	SLAC does not have integrated procedures or comprehensive sitewide inventory to manage oil-filled equipment, including PCB equipment, in order to ensure compliance with 40 CFR 761, 40 CFR 112, and DOE 6430.1A.	T1258	None
TCM/BMP F-1	SLAC has not developed and implemented a comprehensive inspection and hazardous material handling program for equipment stored for reuse, excess, or scrap.	T1016 T1056 T1058	None
TCM/BMP F-2	SLAC does not provide adequate oversight of landscaping and pest control contractors.	T1435	None
TCM/BMP F-3	SLAC lacks a comprehensive program to manage the storage of chemicals used for cooling tower maintenance.	T1246 T1248	None

IWS/CF-5	SLAC has not met all the reporting requirements of the California Hazardous Materials Release Response and Inventory ("Business Plan") Program, and procedures are not in place to ensure expeditious reporting of any release of hazardous materials to the environment.	T1095 T1210 T1376	None
IWS/BMPF-1	The methods for tracking the hazardous materials inventory at SLAC do not ensure that all hazardous materials are accounted for and that changes to the inventory are recorded on a regular basis. The inventory information is not maintained in a computerized database program to facilitate inventory management and to ensure regulatory compliance.	T1311	None
NEPA/CF-1	SLAC and SSRL have not established and implemented written procedures to integrate the NEPA process into the review of planning documents, budgetary materials, and other project proposals as required by SAN MD No. 5440.1C, SEN-15-90, DOE 5440.1D, and the Interim Procedural Guidance for Implementation of SEN-15-90.	T1350 T1351	None
NEPA/CF-2	SLAC and SSRL do not uniformly apply NEPA early in the planning process for proposed DOE actions as required by SAN MD No. 5440.1C, 40 CFR 1501.2, DOE NEPA Guidelines, SEN-15-90, DOE 5440.1D, DOE 4700.1, DOE 5700.7B, and DOE Notice 5100.3. Project planning documents and internal budget review documents for most DOE-sponsored research (field work proposals and field task proposals), capital equipment (not related to construction), and work-for-others (reimbursables) do not indicate NEPA milestones or financial planning as required. Thus, these documents do not ensure valid, early consideration of environmental issues.	T1350 T1351	None

NEPA/CF-3	Actions are taken at SLAC and SSRL without NEPA review early in the planning phase and before decisions are made. In some cases, the level of NEPA documentation is not appropriate for the proposed action, contrary to SAN MD No. 5440.1C, SEN-15-90, and the Interim Procedural Guidance for SEN-15-90.	T1350 T1351	None
NEPA/CF-4	The two SLAC environmental assessments and the environmental statement are deficient when judged against the requirements of 40 CFR 1500.2 (e), 1500.2(a), and 1508.9 of the Council on Environmental Quality regulations.	T1350 T1351	None
NEPA/CF-5	Neither SLAC nor SSRL submit the required NEPA documentation to SSO (i.e., a monthly list of actions that qualify as categorical exclusions not needing documentation, descriptions and recommendations of the level of NEPA documentation for all other actions, and submittal of draft NEPA documents) as required by SAN MD No. 5440.1C, SEN-15-90, the Interim Procedural Guidance for SEN-15-90, and DOE 5440.1D.	T1350 T1351	None
NEPA/CF-6	SLAC/SSRL and SSO do not have an integrated system for tracking the status of NEPA review and documentation for all actions, and there are no formal procedures for record keeping and tracking of the NEPA process as required by SAN MD No. 5440.1C and DOE 5440.1D.	T1352	None
OA.1-1	Position authorities are not documented for Stanford Linear Accelerator Center as required by DOE 5480.19, Chapter 1.	T1223 T1224 T1385	None
OA.1-2	Functions and responsibilities of Environmental Safety and Health Division are not understood across the organization.	T1223 T1385	None
OA.2-1	Safety review and oversight functions are not clearly separated from line functions.	T1300	None

OA.3-1	Measurable safety objectives have not been established by the Stanford Linear Accelerator Center as required in DOE 5480.19, Chapter 1.	T1358	None
OA.5-1	The self-assessment program has not been institutionalized by Stanford Linear Accelerator Center.	T1366	None
OA.6-1	The Stanford Linear Accelerator Center has not established a routine job qualification review system.	T1368	None
OA.7-1	Hazards assessments have not been documented for some facilities as required by DOE 5500.3A.	T1376	None
OA.7-2	The Stanford Linear Accelerator Center does not have a centralized document control system.	T1203	None
OA.8-1	An effective fitness for duty program has not been implemented.	T1291	None
QV.1-1	The institutional Quality Assurance plan at Stanford Linear Accelerator Center has not been consistently implemented by all affected departments, does not reflect current organizational structure, and does not comply with DOE 5700.6B.	T1044	None
QV.1-2	Stanford Linear Accelerator Center activities and equipment that are important to quality have not been identified or defined to enable application of appropriate quality control measures as required by DOE 5700.6B.	T1236	None
QV.1-3	Working-level personnel have not received training on principles of quality achievement or the requirements of the quality control program as required by DOE 5700.6B.	T1286	None
QV.2-1	The Stanford Linear Accelerator Center's procedures for procurement do not define requirements or give guidance to requestors with respect to quality assurance program controls, codes and standards, or technical requirements as required by DOE 5700.6B.	T1007	None

QV.3-1	The Stanford Linear Accelerator Center has not ensured that procured materials are properly inspected on receipt for conformance to design requirements as required by DOE 5700.6B.	T1045	None
QV.4-1	There is no sitewide standard defining the scope and requirements for calibration of measuring and test equipment, process instrumentation, and radiation monitoring instrumentation as required by DOE 5700.6B.	T1328 T1331 T1332 T1333	None
QV.4-2	Several secondary standards used for calibration are not traceable to nationally recognized standards and/or are not maintained in a current state of calibration themselves as required by DOE 5700.6B.	T1328 T1331 T1332 T1333	None
QV.4-3	As-found and as-left data are not recorded and maintained for equipment that is calibrated.	T1332 T1333	None
QV.6-1	The programs for ensuring that pressure vessels are properly fabricated, installed, tested, operated, and reinspected are not effectively implemented as required by DOE 5700.6B and generally accepted industry standards.	T1218	None
QV.7-1	Programs are not established to ensure that structural, pressure-vessel, and other important-to-quality welding activities are accomplished in accordance with appropriate codes and standards as required by DOE 5700.6B.	T1218 T1309	None
QV.8-1	A program has not been established to provide training to personnel who perform nondestructive examinations.	T1315	None
OP.1-1	Qualification requirements and documented training programs are not in place for all operations positions.	T1292	None
OP.1-2	Official lists of personnel currently qualified as Engineering Operator in Charge and Operator are not maintained in Control Rooms as required by DOE 5480.19.	T1049	None

OP.2-1	Access to Control Rooms at the Stanford Linear Accelerator Center is not effectively limited to persons with official business as required by DOE 5480.19.	T1047	None
OP.3-1	Operational Safety Requirements are not employed along with the associated surveillance and maintenance requirements at the Stanford Linear Accelerator Center.	T1359	None
OP.3-2	Operating Procedures at the Stanford Linear Accelerator Center do not conform to a standard format, approval system, revision system, temporary change system, or review frequency as required by DOE 5480.19.	T1205	None
OP.3-3	Posted operator aids throughout the Stanford Linear Accelerator Center are not standardized, approved, dated, or logged as required by DOE 5480.19.	T1268	None
OP.8-1	No coding convention is employed in Stanford Linear Accelerator Center Control Areas to indicate the meaning of alarm signals, light colors, or whether lights are steady or flashing.	T1148 T1153 T1155	None
OP.8-2	Appropriate measurement units such as psia and celsius degrees are not placed on or by many instruments nor are they always used in operations communications.	T1148 T1153 T1155	None
MA.1-1	There are no integrated maintenance procedures or organization governing maintenance activities at the Stanford Linear Accelerator Center that will meet the requirements of DOE 4330.4A	T1327	None
MA.2-1	The lock and tag procedures as implemented at Stanford Linear Accelerator Center do not provide for the safe and effective conduct of maintenance and are not in compliance with DOE 5480.19 and 29 CFR 1910.147.	T1389 T1391 T1392	None
MA.3-1	Storage of maintenance records in an energized Control Panel is not compliance with the electrical safety practice required by DOE 4330.4A. and 29 CFR 1910.333.	T1001	None

MA.4-1	Planning, scheduling, and control of maintenance at the Stanford Linear Accelerator Center do not meet the requirements of DOE 4330.4A.	T1327	None
MA.5-1	The corrective maintenance activities at Stanford Linear Accelerator Center do not support safe and effective operation of equipment and facilities as required by DOE 4330.4A, Section 9.	T1242 T1327	None
MA.6-1	Preventive maintenance is not conducted at the Stanford Linear Accelerator Center in the manner required by DOE 4330.4A.	T1327	None
MA.7-1	Equipment history and predictive maintenance analysis are not being used to optimize equipment performance as required by DOE 4330.4A.	T1327	None
MA.8-1	Maintenance work is performed without the appropriate safety guidance and direction required by DOE 5480.19.	T1242	None
AX.1-1	The Department of Energy has not provided guidelines for consistency in defining what constitutes auxiliary systems.	T1440	None
AX.1-2	Stanford Linear Accelerator Center has not provided definitions of what constitutes auxiliary systems.	T1165	None
AX.5-1	The Plating Shop ventilation system does not minimize the potential to release hazardous material to clean areas or the environment contrary to the requirements in DOE 6430.1A.	T1310	None
AX.6-1	Testing of emergency diesel generators at the Stanford Linear Accelerator Center does not meet the requirements of NFPA 110 to ensure reliability of vital services.	T1260	None
EP.1-1	Stanford Linear Accelerator Center has not prepared a sitewide hazards assessment to provide the technical basis for the emergency management program as required by DOE 5500.3A.	T1376	None
EP.1-2	Stanford Linear Accelerator Center has not established and maintained an emergency management program that meets the requirements of DOE 5500.3A.	T1373 T1376	None

EP.1-3	An assessment by DOE-SF of all aspects of the emergency management program has not been conducted annually as required by DOE 5500.3A.	T1418 T1419	None
EP.1-4	A Stanford Linear Accelerator Center assessment of all aspects of the emergency management program has not been conducted annually as required by DOE 5500.3A.	T1378	None
EP.2-1	The Stanford Linear Accelerator Center Emergency Preparedness Plan is not based on a hazards assessment and does not accurately describe the provisions for response to emergencies as required by DOE 5500.3A.	T1373 T1376	None
EP.2-2	Stanford Linear Accelerator Center does not have implementing procedures that contain the detailed actions and specific instructions needed to carry out the Emergency Preparedness Plan as required by DOE 5500.3A.	T1373 T1396	None
EP.3-1	Stanford Linear Accelerator Center has not established a formal training program for emergency response personnel as required by DOE 5500.3A.	T1398 T1399	None
EP.4-1	Stanford Linear Accelerator Center does not have a program of drills and exercises as required by DOE 5500.1B and DOE 5500.3A	T1399	None
EP.5-1	The Stanford Linear Accelerator Center Emergency Operations Center does not comply with the requirements of DOE 5500.3A.	T1402	None
EP.6-1	Stanford Linear Accelerator Center has no procedures for assessing the consequences of an emergency involving hazardous materials or procedures for determining an emergency class based on emergency action levels as required by DOE 5500.3A.	T1373	None
EP.6-2	Stanford Linear Accelerator Center has not established a method for prompt initial notification of emergency response personnel and for initial and followup notifications to offsite organizations as required by DOE 5500.3A.	T1373	None

EP.6-3	Stanford Linear Accelerator Center has not established an emergency public information program consistent with the requirements of DOE 5500.3A and 5500.4.	T1373	None
EP.7-1	An effective method for personnel accountability is not in place as required by DOE 5500.3A.	T1373 T1396 T1398 T1399	None
PT.1-1	Stanford Linear Accelerator Center has not developed a program or procedures to ensure shipments comply with DOE 1540.1, DOE 1540.2 and DOE 5480.3, and applicable DOT and EPA regulations.	T1239	None
PT.1-2	Stanford Linear Accelerator Center has no transportation safety manual for onsite transfers.	T1239	None
PT.1-3	Hazardous waste data for the DOE Shipment Mobility/Accountability Concept system is not reported at the frequency required by DOE 1540.1, Chapter I, Section 10.b.	T1008	None
PT.2-1	Training requirements for the job functions of packaging and transportation personnel have not been established, and existing training is not documented.	T1409	None
PT.2-2	Regulatory compliance training provided by offsite contractors for Stanford Linear Accelerator Center packaging and transportation personnel is not effective.	T1409	None
PT.3-1	The Quality Assurance audits of packaging and transportation operations have not been performed as required by DOE 5480.3 to meet the guidelines of DOE 5700.6B.	T1293 T1294 T1295	None
PT.3-2	There is no documented program of packaging vendor qualification and no verification that packagings meet DOT specifications as required by DOE 5480.3, Sections 9.a and b.	T1005	None
PT.4-1	The Stanford Linear Accelerator Center does not provide 24-hour emergency contact that meets the requirements of 49 CFR 172.604.	T1014	None

RP.5-1	The whole body dosimeter does not measure all the types and energies of radiation anticipated at the Stanford Linear Accelerator Center as required in DOE 5480.11, Section 9.g.1 and DOE 5480.15.	T1054	None
RP.5-2	Stanford Linear Accelerator Center practices for whole body and extremity dosimetry are not in compliance with DOE 5480.11, Section 9.g.1.	T1114 T1145	None
RP.5-3	The Personnel Dosimetry Program has not been accredited by the DOE Laboratory Accreditation Program for Personnel Dosimetry as required by DOE 5480.15 and is not in compliance with DOE 5480.11, Section 9.g.1.	T1243	None
RP.5-4	The unsupervised use and unrecorded results of direct-reading pocket dosimeters negate their value and is contrary to the As Low As Reasonably Achievable ALARA policy of DOE 5480.11, Section 9.a.	T1273	None
RP.8-1	The radiation protection instrumentation program is not in compliance with the mandatory standards of DOE 5480.4, Attachment 1, Item 2.d.1 and DOE 5480.11, Section 9.g.3b.	T1230 T1231 T1270	None
RP.9-1	Stanford Linear Accelerator Center does not have sufficient air monitoring data to demonstrate compliance with DOE 5480.11, Section 9.g.3a.	T1272	None
RP.10-1	The training provided to operations personnel who perform radiation surveys is not in compliance with DOE 5480.11, Section 9.o.	T1275	None
RP.11-1	The Stanford Linear Accelerator Center As Low As Reasonably Achievable ALARA Program does not comply with DOE 5480.11, Sections 9.a. and 9.m.1.	T1052 T1273	None
RP.12-1	Radiation exposures to visitors are not reported as required by DOE 5484.1, Change 6, Chapter IV, Section d.1.	T1183	None
RP.12-2	Records of previous occupational exposure are not requested as required by DOE 5480.11, Section 9.m.2.	T1322	None

RP.12-3	Records of the radiation protection program are not maintained in accordance with the requirements of DOE 5480.11, Section 9.m.	T1107	None
RP.13-1	Stanford Linear Accelerator Center does not provide Radiation Worker Training for some occupational workers entering radiological areas including High Radiation Areas as required by DOE 5480.11, Section 9.o 2.	T1121 T1409	None
RP.13-2	Documentation of Health Physics Technician Training and Radiation Worker Training is not maintained as required by DOE 5480.11, Section 9.m.5.	T1030 T1032	None
RP.13-3	Retraining for Health Physics Technicians and for Radiation Workers is not being done, contrary to DOE 5480.11, Sections 9.o.2 and .3.	T1279	None
RP.13-4	The scope of the Health Physics Technician Training Program does not include all of the elements required by DOE 5480.11, Section 9.o 3.	T1124	None
PP.1-1	Stanford Linear Accelerator Center does not ensure the implementation of the personnel protection programs that effectively maintain the workplace free of health and safety concerns, as required by DOE 5480.4, DOE 5480.10, 29 CFR 1910, and others.	T1335 T1414	None
PP.1-2	Necessary industrial hygiene information is not readily communicated to Stanford Linear Accelerator Center management, and to all segments of the organization as required by DOE 5480.8 and DOE 5480.10, Section b.1.	T1018 T1335 T1414	None
PP.1-3	Stanford Linear Accelerator Center Management does not establish specific goals and objectives for reducing the frequency and severity of occupational accidents, injuries, and illnesses and does not comply with DOE 5480.10, DOE 5482.1B, and DOE 5480.19.	T1335 T1358	None

PP.2-1	Stanford Linear Accelerator Center's policies and management directives do not define the lines of authority and management responsibility for the control and support of occupational health and safety hazards as required by DOE 5480.10, and DOE 5482.1B.	T1018	None
PP.2-2	Stanford Linear Accelerator Center has not effectively closed out identified health and safety deficiencies.	T1361 T1176 T1335 T1345	None
PP.2-3	The Department of Energy, San Francisco Operations Office has not consistently enforced the requirements of DOE 5482.1B and DOE 5480.10 at the Stanford Linear Accelerator Center to ensure identified health and safety non-compliances are corrected.	T1425 T1428 T1429	None
PP.3-1	The Stanford Linear Accelerator Center does not have a documented program for identifying, evaluating, and controlling occupational safety and health hazards as required by DOE 5480.10, DOE 5480.1B, and DOE 5480.4.	T1311 T1335 T1345 T1414	None
PP.3-2	Periodic walk-through surveys of the workplace are not regularly performed to identify potential health and safety hazards, as required in 29 CFR 1910.94 and DOE 5481.1B, Section 9.d.2e.	T1064 T1067 T1224 T1345 T1414	None
PP.4-1	The Stanford Linear Accelerator Center does not conduct regular industrial hygiene monitoring to demonstrate compliance with mandatory standards as required by DOE 5480.10, DOE 5482.1B, and DOE 5483.1A.	T1345 T1414	None
PP.5-1	Although respirators are used, the Stanford Linear Accelerator Center does not have a respiratory protection program that complies with 29 CFR 1910.134 and DOE 5480.4.	T1191 T1345 T1414	None

WS.1-1	Internal safety and health compliance oversight appraisals, conducted by technically competent personnel, independent of the operation under scrutiny, are not performed as defined by DOE 5480.1B and required by DOE 5482.1B and DOE 5480.10.	T1293 T1437	None
WS.1-2	The Environmental Safety and Health Division has not performed an aggressive, proactive role in addressing safety and health issues, as required by DOE 5480.10, and DOE 5483.1A.	T1358 T1385 T1414 T1437	None
WS.2-1	Overall safety and health performance at the Stanford Linear Accelerator Center is not routinely measured to evaluate the effectiveness of control and does not comply with the requirements of DOE 5480.10 and DOE 5482.1B.	T1335 T1358 T1414	None
WS.2-2	Recording and reporting of occupational injuries and illnesses at the Stanford Linear Accelerator Center does not comply with 29 CFR 1904.	T1282	None
WS.2-3	The Stanford Linear Accelerator Center safety and health program has not been effective in controlling the lost workday rate.	T1383	None
WS.3-1	The implementation of the industrial hygiene program does not comply with substantive requirements mandated by DOE 5480.4, DOE 5480.10 and DOE 5482.1B.	T1335 T1345	None
WS.3-2	The Stanford Linear Accelerator Center Hazard Communication Program does not comply with the requirements of 29 CFR 1910.1200.	T1176	None
WS.3-3	The Stanford Linear Accelerator Center does not have a confined space entry program that complies with DOE 5480.4 and ANSI Z117.1.	T1172 T1177 T1178	None
WS.3-4	Stanford Linear Accelerator Center does not have a system to control the procurement, inventory, and use of hazardous chemicals as required by DOE 5480.10.	T1176 T1311	None

WS.4-1	Means of egress are not marked and maintained to permit a continuous and unobstructed exit as required by 29 CFR 1910, Subpart E.	T1025 T1235	None
WS.4-2	Guarding of floor openings, walkways, and aisles does not comply with 29 CFR 1910, Subpart D.	T1023 T1060 T1062	None
WS.4-3	Machine guarding is not universally in place for equipment as required by 29 CFR 1910, Subpart O.	T1296 T1297	None
WS.4-4	Stanford Linear Accelerator Center does not comply with the electrical requirements of 29 CFR 1910, Subpart S.	T1256	None
WS.4-5	Storage and labeling of flammable and combustible liquids, and design and construction of spray rooms at the Stanford Linear Accelerator Center do not comply with 29 CFR 1910.106 and 29 CFR 1910.107, respectively.	T1176 T1233	None
WS.6-1	Communications to employees at Stanford Linear Accelerator Center regarding asbestos, lead and formaldehyde does not comply with 29 CFR 1910.1001, 29 CFR 1910.1025, and 29 CFR 1910.1048.	T1028 T1176	None
FP.1-1	The Stanford Linear Accelerator Center does not have a complete description and published plan to coordinate activities of the three onsite fire protection organizations.	T1164 T1223	None
FP.2-1	The Stanford Linear Acceleration Center does not ensure its facilities comply with the provisions of NFPA 101 as required by DOE 5480.2.	T1235 T1434	None
FP.3-1	Stanford Linear Accelerator Center has not reviewed the potential of toxic and hazardous exposure to the public from runoff of fire-fighting water as required by DOE 5480.7.	T1235	None
FP.5-1	The lack of automatic sprinkler protection in the Klystron Gallery makes for a loss potential exceeding the limits expressed in DOE 5480.7.	T1019	None

FP.7-1	Maintenance, testing, and management of impairments to the Fire Protection Systems do not comply with DOE 5480.7.	T1164 T1235	None
MS.1-1	The staffing level in the Stanford Linear Accelerator Center Medical Department does not meet current and anticipated needs and does not conform to the guidelines of DOE 5480.8.	T1040	None
MS.1-2	The Physician at the Stanford Linear Accelerator Center does not report at a senior level to ensure program effectiveness by having direct access to top management as required by DOE 5480.8.	T1042	None
MS.3-1	The medical examination and evaluation programs at Stanford Linear Accelerator Center are not conducted as required by DOE 5480.8.	T1034	None
MF-1	SLAC does not have a strategic and subordinate implementation planning process that integrates ES&H and programmatic goals into its mission to define, guide, and prioritize the accomplishment of its ES&H and programmatic objectives.	T1196 T1197 T1198	None
MF-2	Organizational ES&H roles, responsibilities, and authorities (RRAs) within and between SLAC and SSRL organizations have not been formally defined and clearly communicated and are not well understood at all levels.	T1222 T1223 T1385	None
MF-3	Individual ES&H RRAs of all individuals at SLAC and SSRL have not been formally defined and clearly communicated and are not well understood.	T1224	None
MF-4	SLAC and SSRL do not have effective ES&H human resource management programs that ensure the availability of sufficient qualified human resources for full implementation of their ES&H requirements.	T1290	None

MF-5	SLAC and SSRL do not have an effective ES&H training program to ensure that all staff are appropriately trained and qualified to perform their ES&H duties, and SLAC and SSRL do not possess the present capability to establish such a program.	T1290 T1409 T1411	None
MF-6	SLAC and SSRL do not have a formal system for the receipt, distribution, control, and implementation of official DOE correspondence, including DOE Orders, Secretary of Energy Notices (SENs), and other DOE requirements and guidance materials.	T1354	None
MF-7	Operations throughout the SLAC and SSRL site lack the formality required by pertinent ES&H DOE Orders and current best management practices.	T1301 T1303 T1376	None
MF-8	An integrated sitewide corrective action management system is not in place at SLAC and SSRL to ensure corrective action and closure of ES&H findings and issues arising from reviews, assessments, and occurence reporting.	T1361	None
MF-9	The program of internal independent oversight of ES&H activities by SLAC and SSRL is insufficient in frequency and scope and lacks formality, completeness, consistency, and, in some respects, independence.	T1293 T1294 T1295 T1437 T1438	None
MF-10	Stanford University does not maintain a formal program of oversight of the ES&H activities at SLAC and SSRL.	T1339	None
MF-11	The DOE Headquarters Office of Energy Research (ER) does not have a strategic and subordinate implementation planning process that integrates ES&H and programmatic objectives into their mission and defines and guides the allocation of resources and accomplishment of sitewide ES&H objectives at SLAC and SSRL.	T1362	None
MF-12	The DOE Headquarters ER has not clearly defined, documented, or conveyed its ES&H expectations of DOE-SF.	T1363	None

MF-13	The manner in which the DOE SSO is to obtain needed ES&H support services from DOE-SF is undocumented and poorly understood.	T1425 T1430	None
MF-14	The DOE-SF has not fully implemented an effective human resource management program to ensure the availability of sufficient qualified staff to meet its SLAC and SSRL ES&H oversight responsibilities.	T1420 T1421	None
MF-15	The DOE ER oversight of ES&H activities at SLAC and SSRL is not sufficient in breadth, frequency, or quality to ensure full implementation of DOE's ES&H initiatives.	T1364 T1431	None
MF-16	DOE-SF/SSO oversight of ES&H activities at SLAC and SSRL is not sufficient in breadth, frequency, or quality to ensure full implementation of DOE's ES&H initiatives.	T1425	None
MF-17	The prime contracts between DOE and the University for SLAC and SSRL do not reflect DOE's current emphasis on the importance of ES&H objectives relative to programmatic objectives.	T1424	None
SA-1	The SLAC self-assessment report is of good quality. The report was thorough in its identification of specific findings and management issues in all major areas.	None	None
SA-2	SLAC lacks a comprehensive and formalized self-assessment program, including policies, procedures, and quality assurance (QA).	T1366	None
SA-3	The SF/SSO self-assessment report is of acceptable quality. The SF/SSO assessment was thorough in its identification of environmental and management findings at SLAC, but less thorough in its identification of safety and health findings. SF/SSO are to be commended for including "ownership" of specific ES&H findings and concerns at SLAC within the scope of their assessment.	None	None

SA-4	SF/SSO lack a fully implemented self-assessment program; however, several actions have recently been taken that should implement such a program.	None	None
SA-5	ER has not fully institutionalized a self-assessment program. ER has not provided oversight of, and sufficent guidance to, SF and SLAC regarding ES&H self-assessment.	T1431	None

Appendix C Prioritization System

Overview

Each concern and finding in the *Corrective Action Plan* is assigned a priority, based upon the Department of Energy's approved system for prioritization (memorandum from David Durham to Admiral Watkins, *Request for approval of revised tiger team action plan prioritization system,* dated August 1, 1990, and approved August 2, 1990).

A formal prioritization system used at the Department of Energy was used at SLAC to aid in developing schedules for these concerns and findings. This CAMP priority system, used by DOE-HQ to prioritize capital projects, provides a way to assign a numeric priority value, based on risk, to diverse activities which might otherwise be difficult to compare.

The CAMP process consisted of rating each concern or finding in each of the safety and health, environment, security and safeguards, and program categories. The committee that was formed to prioritize tasks assessed the potential risk(s) of not responding to a finding or concern against the text descriptions of the consequence and frequency of occurrence given in the CAMP literature. To each of these text descriptions is attached a priority value ranging between 0 and 80, with 0 representing no risk and 80 depicting the highest risk. For example, "minor incidents slightly likely"are assigned a value of 20 and "mission accomplishment at high risk" receives a value of 60. The essential component of CAMP is a multipage table of categories, descriptive text, and numbers used to derive the final risk number. Since the findings or concerns are all issues that the Tiger Team expects SLAC to correct, the minimum priority for this group was defined as 20. The committee met several times and was able to calibrate each member to a consistent standard, to produce a uniform rating. A committee with different personnel could conceivably arrive at a different distribution of priorities, but the relative overall order of priority would probably vary only slightly from that obtained here.

The CAMP priorities thus obtained guided SLAC in developing a balanced schedule and budget, through which progress could be obtained in responding to all the concerns and findings of the Tiger Team, with priority given to those tasks associated with concerns or findings with the highest ratings. Factors other than CAMP risk were considered in the corrective action planning process, where progress was limited by known constraints (e.g., time to recruit, time to obtain approvals for new GPP funds).

The accompanying tables provide lists of all findings and concerns, with priorities, and sorted by both the order of the Tiger Team Report and the calculated CAMP priority order.

SLAC/SSRL Tiger Team Concerns and Findings Listed by Tiger Team Report Order

SLAC / SSRL TIGER SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY TIGER TEAM REPORT ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
1	30	2	A/CF-1	SLAC does not have an ambient air quality surveillance program. The baseline of air quality in the vicinity of SLAC has not been formally established, and the potential impacts of the SLAC emissions on ambient air quality have not been quantified, as req
2	30	3	A/CF-2	SLAC does not have a documented meteorological monitoring program. Meteorological data currently used by SLAC in the AIRDOS modeling are not representative of local conditions.
3	53	2	A/CF-3	An asbestos abatement project conducted during the Tiger Team Assessment did not meet the requirements of BAAQMD, Regulation 11, Rule 2 and 40 CFR 61 145-146.
4	20	3	A/BMPF-1	There are no formal procedures at SLAC to ensure that existing sources of air emissions have the necessary permits and to guarantee that air permits are obtained, where required, for all new projects and/or construction activities.
5	20	3	A/BMPF-2	The procedures used in the air effluent control program at the SLAC are not sufficient and are not effectively enforced to ensure that air emissions are minimized.
6	20	3	A/BMPF-3	SLAC does not have a complete inventory of air emissions that is updated annually, and not all sources in the existing inventory are adequately quantified.
7	20	2	A/BMPF-4	SLAC does not have a comprehensive formal program to manage asbestos and to ensure compliance with federal, state, and local asbestos regulations.
8	62	2	SW/CF-1	Secondary containment sufficient to prevent a release to the environment has not been provided for all oil-filled equipment and hazardous chemicals.
9	45	2	SW/CF-2	The potential for releases of non-radiological liquid effluents, including petroleum products or other hazardous chemicals, to the storm drains at SLAC have not been fully characterized.
10	55	2	SW/CF-3	The SPCC Plan does not incorporate all of the information as required in 40 CFR 112.
11	43	2	SW/CF-4	SLAC does not have adequate backflow prevention to protect potable water at some locations as required by 29 CFR 1910.141, and does not maintain a comprehensive inventory of backflow prevention devices.
12	30	2	SW/CF-5	SLAC has never submitted ODIS Reports for effluent and onsite liquid and air radioactive waste discharges as required by DOE 5400.1, Chapter II, Section 5.a.
13	40	2	SW/CF-6	SLAC does not have a fully developed program for monitoring and controlling batch discharges of liquid radiological effluents to ensure that all releases meet the requirements of DOE Orders.
14	20	3	SW/BMPF-1	SLAC has no formalized program to update facility plans and layout maps to ensure that they reflect current facility conditions.
15	20	3	SW/BMPF-2	There are no written maintenance schedules or record keeping procedures for inspecting and cleaning oil/water separators. Additionally, the oil/water separators are not currently designed in a way that maximizes the removal of oil prior to its discharge
16	55	2	GW/CF-1	SLAC does not have a fully developed Groundwater Protection Management Program or a groundwater monitoring plan as required under DOE 5400.1.
17	39	2	GW/CF-2	The geology and hydrogeology at the SLAC site has not been completely characterized to define aquifer relationships, subsurface stratigraphy, extent of contamination, background conditions, and local flow paths and velocities, in accordance with the DOE,
18	50	2	GW/CF-3	SLAC does not have a comprehensive formal program to inventory, maintain, and properly abandon groundwater monitoring wells, in a manner that protects groundwater quality in accordance with California Department of Water Resources Bulletin 74-90 and the
19	62	2	GW/CF-4	An environmental surveillance program has not been developed to assess the environmental impact of SLAC site activities in accordance with DOE 5400.1.
20	69	2	WM/CF-1	SLAC's hazardous waste management training program has not been fully implemented to ensure that all facility personnel with responsibility for hazardous waste management activites have been trained, and to ensure that hazardous waste is managed in accord
21	69	2	WM/CF-2	SLAC does not have a formalized waste classification or quality assurance program to ensure that all waste streams are properly identified, as required by State of California Regulations, Title 22.
22	69	2	WM/CF-3	Waste accumulation and storage management activities have not been uniformly implemented across the site to ensure compliance with federal and state requirements.

SLAC / SSRL TIGER SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY TIGER TEAM REPORT ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
23	43	2	WM/CF-4	SLAC does not have a finalized waste minimization plan that includes all the elements required for an effective waste minimization program by EPA, DOE, and the State of California.
24	65	2	WM/CF-5	Radioactive waste is not fully managed in a manner to ensure (1) that it is properly handled, segregated, characterized, stored, and shipped; (2) that the waste certification program meets the Hanford Site Radioactive Solid Waste Acceptance Criteria (WHC-
25	58	2	WM/CF-6	SLAC does not have an integrated contingency plan that meets all the requirements of Article 20 of the California Hazardous Waste Management Regulations.
26	20	3	WM/BMPF-1	SLAC does not have formal procedures in place to formally evaluate or audit commercial TSDFs to which SLAC ships its waste.
27	30	2	TCM/CF-1	SLAC has not developed or implemented a Pollution Prevention Awareness Program Plan in accordance with DOE 5400.1, Chapter III.
28	75	2	TCM/CF-2	SLAC does not have integrated procedures or comprehensive sitewide inventory to manage oil-filled equipment, including PCB equipment, in order to ensure compliance with 40 CFR 761, 40 CFR 112, and DOE 6430.1A.
29	20	3	TCM/BMPF-1	SLAC has not developed and implemented a comprehensive inspection and hazardous material handling program for equipment stored for reuse, excess, or scrap.
30	20	3	TCM/BMPF-2	SLAC does not provide adequate oversight of landscaping and pest control contractors.
31	20	3	TCM/BMPF-3	SLAC lacks a comprehensive program to manage the storage of chemicals used for cooling tower maintenance.
32	20	3	TCM/BMPF-4	SLAC does not have a comprehensive, integrated chemical materials management system.
33	55	2	QA/CF-1	SLAC has not prepared a formal integrated Environmental Monitoring Plan which includes descriptions of effluent monitoring and environmental surveillance activity components, as required by DOE 5400.1, Chapter IV, Section 4. Annual Site Environmental Rep
34	40	2	QA/CF-2	SLAC lacks a formal QA program for environmental activities that has been approved by the DOE Field Office, San Francisco DOE (SF), as required by DOE 5400.1 and DOE 5700.6B.
35	55	2	QA/CF-3	SLAC has not developed or implemented finalized procedures for all of the environmental activities required by DOE 5700.6B and DOE 5400.1.
36	35	2	QA/CF-4	SLAC's internal auditing and corrective action program does not address all aspects of environmental performance and is not sufficient to assure the quality of all environmental activities, as required by DOE 5700.6B and NQA-1.
37	30	2	QA/CF-5	SLAC's oversight of vendors performing environmental services is deficient with respect to surveillance, written procedures, QA program review, data validation, and audits as required by DOE 5700.6B.
38	09	0	QA/CF-6	Stanford Site Office (SSO) and DOE Field Office, San Francisco DOE (SF) have not provided formal oversight of SLAC to ensure that required QA activities are established and implemented as required by DOE 5700.6B.
39	30	2	RAD/CF-1	DOE Field Office, San Francisco DOE-(SF) has not developed an ALARA program and has not required SLAC to implement the ALARA process in environmental programs as required by DOE 5400.5, Chapter II, Section 2.
40	30	2	RAD/CF-2	SLAC has not developed and documented a Decommissioning Program and Decommissioning Project Plans to provide for the surveillance, maintenance, and decommissioning of facilities containing radioactive materials, as required by DOE 5820.2A, Chapter V, Sect
41	62	2	RAD/CF-3	SLAC has not developed finalized plans and procedures specifying requirements for the release of property having residual radioactive material and has not maintained the records of released property as required by DOE 5400.5.
42	61	2	IWS/CF-1	SLAC does not have an adequate program to identify, characterize, and manage inactive waste site activities in accordance with the requirements of DOE 5400.4, CERCLA, the NCP, and Executive Order 12850.
43	30	2	IWS/CF-2	The site has conducted, and is in the process of conducting remedial actions, but does not have a formalized written Community Relations Plan, and has not established an administrative Record available for public inspection.

SLAC / SSRL TIGER SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY TIGER TEAM REPORT ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
44	35	2	IWS/CF-3	SLAC has not prepared a comprehensive preliminary assessment of the site to identify all potential inactive waste sites and to rank the SLAC facility using the new Hazard Ranking System model, in accordance with the provisions of DOE 5400.4, CERCLA, and t
45	30	2	IWS/CF-4	The SLAC Site Development Plan does not include maps or descriptions of known and suspected contaminated areas and does not address the impact of siting facilities in these areas as required by DOE 4320.1B.
46	62	2	IWS/CF-5	SLAC has not met all the reporting requirements of the California Hazardous Materials Release Response and Inventory ("Business Plan") Program, and procedures are not in place to ensure expeditious reporting of any release of hazardous materials to the en
47	20	3	IWS/BMPF-1	The methods for tracking the hazardous materials inventory at SLAC do not ensure that all hazardous materials are accounted for and that changes to the inventory are recorded on a regular basis. The inventory information is not maintained in a computeriz
48	40	2	NEPA/CF-1	SLAC and SSRL have not established and implemented written procedures to integrate the NEPA process into the review of planning documents, budgetary materials, and other project proposals as required by SAN MD No. 5440.1C, SEN-15-90, DOE 5440.1D, and the
49	30	2	NEPA/CF-2	SLAC and SSRL do not uniformly apply NEPA early in the planning process for proposed DOE actions as required by SAN MD No. 5440.1C, 40 CFR 1501.2, DOE NEPA Guidelines, SEN-15-90, DOE 5440.1D, DOE 4700.1, DOE 5700.7B, and DOE Notice 5100.3. Project planni
50	40	2	NEPA/CF-3	Actions are taken at SLAC and SSRL without NEPA review early in the planning phase and before decisions are made. In some cases, the level of NEPA documentation is not appropriate for the proposed action, contrary to SAN MD No. 5440.1C, SEN-15-90, and th
51	60	2	NEPA/CF-4	The two SLAC environmental assessments and the environmental statement are deficient when judged against the requirements of 40 CFR 1500.2 (e), 1500.2(a), and 1508.9 of the Council on Environmental Quality regulations.
52	30	2	NEPA/CF-5	Neither SLAC nor SSRL submit the required NEPA documentation to SSO (i.e., a monthly list of actions that qualify as categorical exclusions not needing documentation, descriptions and recommendations of the level of NEPA documentation for all other action
53	30	2	NEPA/CF-6	SLAC/SSRL and SSO do not have an integrated system for tracking the status of NEPA review and documentation for all actions, and there are no formal procedures for record keeping and tracking of the NEPA process as required by SAN MD No. 5440.1C and DOE
54	33	2	OA.1-1	Position authorities are not documented for Stanford Linear Accelerator Center as required by DOE 5480.19, Chapter 1.
55	39	3	OA.1-2	Functions and responsibilities of Environmental Safety and Health Division are not understood across the organization.
56	25	3	OA.2-1	Safety review and oversight functions are not clearly separated from line functions.
57	56	2	OA.3-1	Measurable safety objectives have not been established by the Stanford Linear Accelerator Center as required in DOE 5480.19, Chapter 1.
58	46	2	OA.5-1	The self-assessment program has not been institutionalized by Stanford Linear Accelerator Center.
59	45	3	OA.6-1	The Stanford Linear Accelerator Center has not established a routine job qualification review system.
60	63	2	OA.7-1	Hazards assessments have not been documented for some facilities as required by DOE 5500.3A.
61	33	3	OA.7-2	The Stanford Linear Accelerator Center does not have a centralized document control system.
62	36	3	OA.8-1	An effective fitness for duty program has not been implemented.
63	49	2	QV.1-1	The institutional Quality Assurance plan at Stanford Linear Accelerator Center has not been consistently implemented by all affected departments, does not reflect current organizational structure, and does not comply with DOE 5700.6B.
64	54	2	QV.1-2	Stanford Linear Accelerator Center activities and equipment that are important to quality have not been identified or defined to enable application of appropriate quality control measures as required by DOE 5700.6B.

SLAC / SSRL TIGER SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY TIGER TEAM REPORT ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
65	49	2	QV.1-3	Working-level personnel have not received training on principles of quality achievement or the requirements of the quality control program as required by DOE 5700.6B.
66	28	2	QV.2-1	The Stanford Linear Accelerator Center's procedures for procurement do not define requirements or give guidance to requestors with respect to quality assurance program controls, codes and standards, or technical requirements as required by DOE 5700.6B.
67	36	2	QV.3-1	The Stanford Linear Accelerator Center has not ensured that procured materials are properly inspected on receipt for conformance to design requirements as required by DOE 5700.6B.
68	49	2	QV.4-1	There is no sitewide standard defining the scope and requirements for calibration of measuring and test equipment, process instrumentation, and radiation monitoring instrumentation as required by DOE 5700.6B.
69	49	2	QV.4-2	Several secondary standards used for calibration are not traceable to nationally recognized standards and/or are not maintained in a current state of calibration themselves as required by DOE 5700.6B.
70	35	4	QV.4-3	As-found and as-left data are not recorded and maintained for equipment that is calibrated.
71	59	2	QV.6-1	The programs for ensuring that pressure vessels are properly fabricated, installed, tested, operated, and reinspected are not effectively implemented as required by DOE 5700.6B and generally accepted industry standards.
72	59	2	QV.7-1	Programs are not established to ensure that structural, pressure-vessel, and other important-to-quality welding activities are accomplished in accordance with appropriate codes and standards as required by DOE 5700.6B.
73	20	3	QV.8-1	A program has not been established to provide training to personnel who perform nondestructive examinations.
74	36	3	OP.1-1	Qualification requirements and documented training programs are not in place for all operations positions.
75	21	2	OP.1-2	Official lists of personnel currently qualified as Engineering Operator in Charge and Operator are not maintained in Control Rooms as required by DOE 5480.19.
76	25	2	OP.2-1	Access to Control Rooms at the Stanford Linear Accelerator Center is not effectively limited to persons with official business as required by DOE 5480.19.
77	32	3	OP.3-1	Operational Safety Requirements are not employed along with the associated surveillance and maintenance requirements at the Stanford Linear Accelerator Center.
78	33	2	OP.3-2	Operating Procedures at the Stanford Linear Accelerator Center do not conform to a standard format, approval system, revision system, temporary change system, or review frequency as required by DOE 5480.19.
79	32	2	OP.3-3	Posted operator aids throughout the Stanford Linear Accelerator Center are not standardized, approved, dated, or logged as required by DOE 5480.19.
80	32	3	OP.8-1	No coding convention is employed in Stanford Linear Accelerator Center Control Areas to indicate the meaning of alarm signals, light colors, or whether lights are steady or flashing.
81	24	3	OP.8-2	Appropriate measurement units such as psia and celsius degrees are not placed on or by many instruments nor are they always used in operations communications.
82	45	2	MA.1-1	There are no integrated maintenance procedures or organization governing maintenance activities at the Stanford Linear Accelerator Center that will meet the requirements of DOE 4330.4A
83	57	2	MA.2-1	The lock and tag procedures as implemented at Stanford Linear Accelerator Center do not provide for the safe and effective conduct of maintenance and are not in compliance with DOE 5480.19 and 29 CFR 1910.147.
84	55	2	MA.3-1	Storage of maintenance records in an energized Control Panel is not compliance with the electrical safety practice required by DOE 4330.4A. and 29 CFR 1910.333.
85	45	2	MA.4-1	Planning, scheduling, and control of maintenance at the Stanford Linear Accelerator Center do not meet the requirements of DOE 4330.4A.
86	44	2	MA.5-1	The corrective maintenance activities at Stanford Linear Accelerator Center do not support safe and effective operation of equipment and facilities as required by DOE 4330.4A, Section 9.

SLAC / SSRL TIGER SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY TIGER TEAM REPORT ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
87	36	2	MA.6-1	Preventive maintenance is not conducted at the Stanford Linear Accelerator Center in the manner required by DOE 4330.4A.
88	20	2	MA.7-1	Equipment history and predictive maintenance analysis are not being used to optimize equipment performance as required by DOE 4330.4A.
89	67	2	MA.8-1	Maintenance work is performed without the appropriate safety guidance and direction required by DOE 5480.19.
90	09	0	AX.1-1	The Department of Energy has not provided guidelines for consistency in defining what constitutes auxiliary systems.
91	20	4	AX.1-2	Stanford Linear Accelerator Center has not provided definitions of what constitutes auxiliary systems.
92	32	2	AX.5-1	The Plating Shop ventilation system does not minimize the potential to release hazardous material to clean areas or the environment contrary to the requirements in DOE 6430.1A.
93	25	2	AX.6-1	Testing of emergency diesel generators at the Stanford Linear Accelerator Center does not meet the requirements of NFPA 110 to ensure reliability of vital services.
94	62	2	EP.1-1	Stanford Linear Accelerator Center has not prepared a sitewide hazards assessment to provide the technical basis for the emergency management program as required by DOE 5500.3A.
95	53	2	EP.1-2	Stanford Linear Accelerator Center has not established and maintained an emergency management program that meets the requirements of DOE 5500.3A.
96	09	0	EP.1-3	An assessment by DOE-SF of all aspects of the emergency management program has not been conducted annually as required by DOE 5500.3A.
97	35	2	EP.1-4	A Stanford Linear Accelerator Center assessment of all aspects of the emergency management program has not been conducted annually as required by DOE 5500.3A.
98	42	2	EP.2-1	The Stanford Linear Accelerator Center Emergency Preparedness Plan is not based on a hazards assessment and does not accurately describe the provisions for response to emergencies as required by DOE 5500.3A.
99	47	2	EP.2-2	Stanford Linear Accelerator Center does not have implementing procedures that contain the detailed actions and specific instructions needed to carry out the Emergency Preparedness Plan as required by DOE 5500.3A.
100	44	2	EP.3-1	Stanford Linear Accelerator Center has not established a formal training program for emergency response personnel as required by DOE 5500.3A.
101	38	2	EP.4-1	Stanford Linear Accelerator Center does not have a program of drills and exercises as required by DOE 5500.1B and DOE 5500.3A
102	28	2	EP.5-1	The Stanford Linear Accelerator Center Emergency Operations Center does not comply with the requirements of DOE 5500.3A.
103	30	2	EP.6-1	Stanford Linear Accelerator Center has no procedures for assessing the consequences of an emergency involving hazardous materials or procedures for determining an emergency class based on emergency action levels as required by DOE 5500.3A.
104	31	2	EP.6-2	Stanford Linear Accelerator Center has not established a method for prompt initial notification of emergency response personnel and for initial and followup notifications to offsite organizations as required by DOE 5500.3A.
105	27	2	EP.6-3	Stanford Linear Accelerator Center has not established an emergency public information program consistent with the requirements of DOE 5500.3A and 5500.4.
106	55	2	EP.7-1	An effective method for personnel accountability is not in place as required by DOE 5500.3A.
107	52	2	PT.1-1	Stanford Linear Accelerator Center has not developed a program or procedures to ensure shipments comply with DOE 1540.1, DOE 1540.2 and DOE 5480.3, and applicable DOT and EPA regulations.
108	28	3	PT.1-2	Stanford Linear Accelerator Center has no transportation safety manual for onsite transfers.
109	30	2	PT.1-3	Hazardous waste data for the DOE Shipment Mobility/Accountability Concept system is not reported at the frequency required by DOE 1540.1, Chapter I, Section 10.b.
110	43	3	PT.2-1	Training requirements for the job functions of packaging and transportation personnel have not been established, and existing training is not documented.

SLAC / SSRL TIGER SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY TIGER TEAM REPORT ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
111	47	3	PT.2-2	Regulatory compliance training provided by offsite contractors for Stanford Linear Accelerator Center packaging and transportation personnel is not effective.
112	33	2	PT.3-1	The Quality Assurance audits of packaging and transportation operations have not been performed as required by DOE 5480.3 to meet the guidelines of DOE 5700.6B.
113	28	2	PT.3-2	There is no documented program of packaging vendor qualification and no verification that packagings meet DOT specifications as required by DOE 5480.3, Sections 9.a and b.
114	62	2	PT.4-1	The Stanford Linear Accelerator Center does not provide 24-hour emergency contact that meets the requirements of 49 CFR 172.604.
115	57	3	PT.6-1	The absence of proper vehicle maintenance at the Stanford Linear Accelerator Center compromises vehicle safety.
116	49	3	PT.6-2	There are no safety and accountability procedures to ensure that all radioisotopes brought onsite are inventoried.
117	09	0	PT.8-1	The Department of Energy, San Francisco Operation Office did not inform the Stanford Linear Accelerator Center of the Department of Transportation interpretation regarding public roads as requested by the Department of Energy Headquarters.
118	57	2	PT.9-1	Shipping papers are not prepared in accordance with 49 CFR 172.
119	09	0	PT.11-1	The Department of Energy San Francisco Operation Office does not have a formal program to appraise packaging and transportation safety as required by DOE 5482.1B, Section 8.e.2, and DOE 5480.3, Section 6.c.5.
120	63	2	PT.12-1	Packaging and storage of hazardous waste is not conducted in compliance with DOT regulations of 49 CFR 177, Subparts B, C, and D.
121	33	2	EA.1-1	No disciplined system is in place to ensure that all experimenters are given health and safety training and indoctrination as required by DOE 5480.11, Section 9.0, and DOE 5480.10, Section 9.b.5.
122	27	2	FR.2-1	Stanford Linear Accelerator Center's safety review process does not include all elements required by DOE 5482.1B.
123	42	2	FR.2-2	There is no formal mechanism to ensure all facility modifcations and experiments receive appropriate safety reviews, as required by DOE Order 5482.1B.
124	30	3	FR.4-1	Periodic, comprehensive operating reviews of the facility are not performed.
125	26	2	FR.5-1	A triennial appraisal to assess the effectiveness of the Stanford Linear Accelerator Center safety review system has not been performed although required by DOE 5482.1B.
126	26	2	FR.6-1	Several corrective actions resulting from the investigation of unusual occurrences have not been implemented in a timely manner as required by DOE 5000.3A.
127	42	3	FR.6-2	Corrective actions resulting from the investigation of some unusual occurrences have not been effective in correcting the root causes of the events.
128	28	4	FR.6-3	The Stanford Linear Accelerator Center has not established a program for using industry experience to improve facility safety.
129	30	2	RP.2-1	The frequency and scope of the internal audits of the Radiation Protection Program do not comply with DOE 5480.11, Section 9.r, and DOE 5482.1B, Section 9.d.
130	60	2	RP.3-1	The documented radiation protection policy is not consistent with the requirements of DOE 5480.11.
131	40	2	RP.3-2	Radiation protection procedures are incomplete and inconsistent with the requirements of DOE 5480.11.
132	40	2	RP.3-3	Posting of radiological controlled areas and labeling of radioactive material are not consistent with the requirements of DOE 5480.11, Section 9.k.
133	40	2	RP.3-4	An accurate inventory of radioactive sources is not maintained and is not consistent with all applicable elements of ANSI N542.
134	40	2	RP.3-5	Radiological protection controls for x-ray generating devices are not in full compliance with DOE 5480.11, the mandatory standards in DOE 5480.4, Attachment 1, Item 2.d1, and DOE 5482.1B, Section 9.d.
135	60	2	RP.4-1	The posting and external radiation exposure controls at the calibration facility do not comply with DOE 5480.11.

SLAC / SSRL TIGER SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY TIGER TEAM REPORT ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
136	60	2	RP.5-1	The whole body dosimeter does not measure all the types and energies of radiation anticipated at the Stanford Linear Accelerator Center as required in DOE 5480.11, Section 9.g.1 and DOE 5480.15.
137	60	2	RP.5-2	Stanford Linear Accelerator Center practices for whole body and extremity dosimetry are not in compliance with DOE 5480.11, Section 9.g.1.
138	50	2	RP.5-3	The Personnel Dosimetry Program has not been accredited by the DOE Laboratory Accreditation Program for Personnel Dosimetry as required by DOE 5480.15 and is not in compliance with DOE 5480.11, Section 9.g.1.
139	30	2	RP.5-4	The unsupervised use and unrecorded results of direct-reading pocket dosimeters negate their value and is contrary to the As Low As Reasonably Achievable ALARA policy of DOE 5480.11, Section 9.a.
140	60	2	RP.8-1	The radiation protection instrumentation program is not in compliance with the mandatory standards of DOE 5480.4, Attachment 1, Item 2.d.1 and DOE 5480.11, Section 9.g.3b.
141	40	2	RP.9-1	Stanford Linear Accelerator Center does not have sufficient air monitoring data to demonstrate compliance with DOE 5480.11, Section 9.g.3a.
142	40	2	RP.10-1	The training provided to operations personnel who perform radiation surveys is not in compliance with DOE 5480.11, Section 9.o.
143	30	2	RP.11-1	The Stanford Linear Accelerator Center As Low As Reasonably Achievable ALARA Program does not comply with DOE 5480.11, Sections 9.a. and 9.m.1.
144	30	2	RP.12-1	Radiation exposures to visitors are not reported as required by DOE 5484.1, Change 6, Chapter IV, Section d.1.
145	35	2	RP.12-2	Records of previous occupational exposure are not requested as required by DOE 5480.11, Section 9.m.2.
146	40	2	RP.12-3	Records of the radiation protection program are not maintained in accordance with the requirements of DOE 5480.11, Section 9.m.
147	60	2	RP.13-1	Stanford Linear Accelerator Center does not provide Radiation Worker Training for some occupational workers entering radiological areas including High Radiation Areas as required by DOE 5480.11, Section 9.o 2.
148	30	2	RP.13-2	Documentation of Health Physics Technician Training and Radiation Worker Training is not maintained as required by DOE 5480.11, Section 9.m.5.
149	60	2	RP.13-3	Retraining for Health Physics Technicians and for Radiation Workers is not being done, contrary to DOE 5480.11, Sections 9.o.2 and .3.
150	35	2	RP.13-4	The scope of the Health Physics Technician Training Program does not include all of the elements required by DOE 5480.11, Section 9.o 3.
151	57	2	PP.1-1	Stanford Linear Accelerator Center does not ensure the implementation of the personnel protection programs that effectively maintain the workplace free of health and safety concerns, as required by DOE 5480.4, DOE 5480.10, 29 CFR 1910, and others.
152	47	2	PP.1-2	Necessary industrial hygiene information is not readily communicated to Stanford Linear Accelerator Center management, and to all segments of the organization as required by DOE 5480.8 and DOE 5480.10, Section b.1.
153	47	2	PP.1-3	Stanford Linear Accelerator Center Management does not establish specific goals and objectives for reducing the frequency and severity of occupational accidents, injuries, and illnesses and does not comply with DOE 5480.10, DOE 5482.1B, and DOE 5480.19.
154	58	2	PP.2-1	Stanford Linear Accelerator Center's policies and management directives do not define the lines of authority and management responsibility for the control and support of occupational health and safety hazards as required by DOE 5480.10, and DOE 5482.1B.
155	42	3	PP.2-2	Stanford Linear Accelerator Center has not effectively closed out identified health and safety deficiencies.
156	09	0	PP.2-3	The Department of Energy, San Francisco Operations Office has not consistently enforced the requirements of DOE 5482.1B and DOE 5480.10 at the Stanford Linear Accelerator Center to ensure identified health and safety non-compliances are corrected.

SLAC / SSRL TIGER SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY TIGER TEAM REPORT ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
157	60	2	PP.3-1	The Stanford Linear Accelerator Center does not have a documented program for identifying, evaluating, and controlling occupational safety and health hazards as required by DOE 5480.10, DOE 5480.1B, and DOE 5480.4.
158	61	2	PP.3-2	Periodic walk-through surveys of the workplace are not regularly performed to identify potential health and safety hazards, as required in 29 CFR 1910.94 and DOE 5481.1B, Section 9.d.2e.
159	43	2	PP.4-1	The Stanford Linear Accelerator Center does not conduct regular industrial hygiene monitoring to demonstrate compliance with mandatory standards as required by DOE 5480.10, DOE 5482.1B, and DOE 5483.1A.
160	47	2	PP.5-1	Although respirators are used, the Stanford Linear Accelerator Center does not have a respiratory protection program that complies with 29 CFR 1910.134 and DOE 5480.4.
161	53	2	WS.1-1	Internal safety and health compliance oversight appraisals, conducted by technically competent personnel, independent of the operation under scrutiny, are not performed as defined by DOE 5480.1B and required by DOE 5482.1B and DOE 5480.10.
162	67	2	WS.1-2	The Environmental Safety and Health Division has not performed an aggressive, proactive role in addressing safety and health issues, as required by DOE 5480.10, and DOE 5483.1A.
163	57	2	WS.2-1	Overall safety and health performance at the Stanford Linear Accelerator Center is not routinely measured to evaluate the effectiveness of control and does not comply with the requirements of DOE 5480.10 and DOE 5482.1B.
164	57	2	WS.2-2	Recording and reporting of occupational injuries and illnesses at the Stanford Linear Accelerator Center does not comply with 29 CFR 1904.
165	30	4	WS.2-3	The Stanford Linear Accelerator Center safety and health program has not been effective in controlling the lost workday rate.
166	57	2	WS.3-1	The implementation of the industrial hygiene program does not comply with substantive requirements mandated by DOE 5480.4, DOE 5480.10 and DOE 5482.1B.
167	62	2	WS.3-2	The Stanford Linear Accelerator Center Hazard Communication Program does not comply with the requirements of 29 CFR 1910.1200.
168	67	2	WS.3-3	The Stanford Linear Accelerator Center does not have a confined space entry program that complies with DOE 5480.4 and ANSI Z117.1.
169	42	2	WS.3-4	Stanford Linear Accelerator Center does not have a system to control the procurement, inventory, and use of hazardous chemicals as required by DOE 5480.10.
170	57	2	WS.4-1	Means of egress are not marked and maintained to permit a continuous and unobstructed exit as required by 29 CFR 1910, Subpart E.
171	57	2	WS.4-2	Guarding of floor openings, walkways, and aisles does not comply with 29 CFR 1910, Subpart D.
172	60	2	WS.4-3	Machine guarding is not universally in place for equipment as required by 29 CFR 1910, Subpart O.
173	62	2	WS.4-4	Stanford Linear Accelerator Center does not comply with the electrical requirements of 29 CFR 1910, Subpart S.
174	59	2	WS.4-5	Storage and labeling of flammable and combustible liquids, and design and construction of spray rooms at the Stanford Linear Accelerator Center do not comply with 29 CFR 1910.106 and 29 CFR 1910.107, respectively.
175	55	2	WS.6-1	Communications to employees at Stanford Linear Accelerator Center regarding asbestos, lead and formaldehyde does not comply with 29 CFR 1910.1001, 29 CFR 1910.1025, and 29 CFR 1910.1048.
176	20	2	FP.1-1	The Stanford Linear Accelerator Center does not have a complete description and published plan to coordinate activities of the three onsite fire protection organizations.
177	30	2	FP.2-1	The Stanford Linear Acceleration Center does not ensure its facilities comply with the provisions of NFPA 101 as required by DOE 5480.2.
178	36	2	FP.3-1	Stanford Linear Accelerator Center has not reviewed the potential of toxic and hazardous exposure to the public from runoff of fire-fighting water as required by DOE 5480.7.
179	25	2	FP.5-1	The lack of automatic sprinkler protection in the Klystron Gallery makes for a loss potential exceeding the limits expressed in DOE 5480.7.

SLAC / SSRL TIGER SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY TIGER TEAM REPORT ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
180	25	2	FP.7-1	Maintenance, testing, and management of impairments to the Fire Protection Systems do not comply with DOE 5480.7.
181	45	2	MS.1-1	The staffing level in the Stanford Linear Accelerator Center Medical Department does not meet current and anticipated needs and does not conform to the guidelines of DOE 5480.8.
182	45	2	MS.1-2	The Physician at the Stanford Linear Accelerator Center does not report at a senior level to ensure program effectiveness by having direct access to top management as required by DOE 5480.8.
183	40	2	MS.3-1	The medical examination and evaluation programs at Stanford Linear Accelerator Center are not conducted as required by DOE 5480.8.
184	66	2	MF-1	SLAC does not have a strategic and subordinate implementation planning process that integrates ES&H and programmatic goals into its mission to define, guide, and prioritize the accomplishment of its ES&H and programmatic objectives.
185	63	2	MF-2	Organizational ES&H roles, responsibilities, and authorities (RRAs) within and between SLAC and SSRL organizations have not been formally defined and clearly communicated and are not well understood at all levels.
186	63	2	MF-3	Individual ES&H RRAs of all individuals at SLAC and SSRL have not been formally defined and clearly communicated and are not well understood.
187	58	2	MF-4	SLAC and SSRL do not have effective ES&H human resource management programs that ensure the availability of sufficient qualified human resources for full implementation of their ES&H requirements.
188	63	2	MF-5	SLAC and SSRL do not have an effective ES&H training program to ensure that all staff are appropriately trained and qualified to perform their ES&H duties, and SLAC and SSRL do not possess the present capability to establish such a program.
189	60	2	MF-6	SLAC and SSRL do not have a formal system for the receipt, distribution, control, and implementation of official DOE correspondence, including DOE Orders, Secretary of Energy Notices (SENs), and other DOE requirements and guidance materials.
190	65	2	MF-7	Operations throughout the SLAC and SSRL site lack the formality required by pertinent ES&H DOE Orders and current best management practices.
191	58	2	MF-8	An integrated sitewide corrective action management system is not in place at SLAC and SSRL to ensure corrective action and closure of ES&H findings and issues arising from reviews, assessments, and occurence reporting.
192	58	2	MF-9	The program of internal independent oversight of ES&H activities by SLAC and SSRL is insufficient in frequency and scope and lacks formality, completeness, consistency, and, in some respects, independence.
193	63	2	MF-10	Stanford University does not maintain a formal program of oversight of the ES&H activities at SLAC and SSRL.
194	09	0	MF-11	The DOE Headquarters Office of Energy Research (ER) does not have a strategic and subordinate implementation planning process that integrates ES&H and programmatic objectives into their mission and defines and guides the allocation of resources and accomp
195	09	0	MF-12	The DOE Headquarters ER has not clearly defined, documented, or conveyed its ES&H expectations of DOE-SF.
196	09	0	MF-13	The manner in which the DOE SSO is to obtain needed ES&H support services from DOE-SF is undocumented and poorly understood.
197	09	0	MF-14	The DOE-SF has not fully implemented an effective human resource management program to ensure the availability of sufficient qualified staff to meet its SLAC and SSRL ES&H oversight responsibilities.
198	09	0	MF-15	The DOE ER oversight of ES&H activities at SLAC and SSRL is not sufficient in breadth, frequency, or quality to ensure full implementation of DOE's ES&H initiatives.
199	09	0	MF-16	DOE-SF/SSO oversight of ES&H activities at SLAC and SSRL is not sufficient in breadth, frequency, or quality to ensure full implementation of DOE's ES&H initiatives.
200	09	0	MF-17	The prime contracts between DOE and the University for SLAC and SSRL do not reflect DOE's current emphasis on the importance of ES&H objectives relative to programmatic objectives.
201	00	0	SA-1	The SLAC self-assessment report is of good quality. The report was thorough in its identification of specific findings and management issues in all major areas.

SLAC / SSRL TIGER SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY TIGER TEAM REPORT ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
202	00	0	SA-2	SLAC lacks a comprehensive and formalized self-assessment program, including policies, procedures, and quality assurance (QA).
203	00	0	SA-3	The SF/SSO self-assessment report is of acceptable quality. The SF/SSO assessment was thorough in its identification of environmental and management findings at SLAC, but less thorough in its identification of safety and health findings. SF/SSO are to b
204	00	0	SA-4	SF/SSO lack a fully implemented self-assessment program; however, several actions have recently been taken that should implement such a program.
205	00	0	SA-5	ER has not fully institutionalized a self-assessment program. ER has not provided oversight of, and sufficent guidance to, SF and SLAC regarding ES&H self-assessment.

SLAC/SSRL Tiger Team Concerns and Findings Listed by Priority

SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY CAMP PRIORITY ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
1	75	2	TCM/CF-2	SLAC does not have integrated procedures or comprehensive sitewide inventory to manage oil-filled equipment, including PCB equipment, in order to ensure compliance with 40 CFR 761, 40 CFR 112, and DOE 6430.1A.
2	69	2	WM/CF-1	SLAC's hazardous waste management training program has not been fully implemented to ensure that all facility personnel with responsibility for hazardous waste management activites have been trained, and to ensure that hazardous waste is managed in accord
3	69	2	WM/CF-2	SLAC does not have a formalized waste classification or quality assurance program to ensure that all waste streams are properly identified, as required by State of California Regulations, Title 22.
4	69	2	WM/CF-3	Waste accumulation and storage management activities have not been uniformly implemented across the site to ensure compliance with federal and state requirements.
5	67	2	WS.3-3	The Stanford Linear Accelerator Center does not have a confined space entry program that complies with DOE 5480.4 and ANSI Z117.1.
6	67	2	WS.1-2	The Environmental Safety and Health Division has not performed an aggressive, proactive role in addressing safety and health issues, as required by DOE 5480.10, and DOE 5483.1A.
7	67	2	MA.8-1	Maintenance work is performed without the appropriate safety guidance and direction required by DOE 5480.19.
8	66	2	MF-1	SLAC does not have a strategic and subordinate implementation planning process that integrates ES&H and programmatic goals into its mission to define, guide, and prioritize the accomplishment of its ES&H and programmatic objectives.
9	65	2	MF-7	Operations throughout the SLAC and SSRL site lack the formality required by pertinent ES&H DOE Orders and current best management practices.
10	65	2	WM/CF-5	Radioactive waste is not fully managed in a manner to ensure (1) that it is properly handled, segregated, characterized, stored, and shipped; (2) that the waste certification program meets the Hanford Site Radioactive Solid Waste Acceptance Criteria (WHC-
11	63	2	OA.7-1	Hazards assessments have not been documented for some facilities as required by DOE 5500.3A
12	63	2	MF-2	Organizational ES&H roles, responsibilities, and authorities (RRAs) within and between SLAC and SSRL organizations have not been formally defined and clearly communicated and are not well understood at all levels.
13	63	2	MF-3	Individual ES&H RRAs of all individuals at SLAC and SSRL have not been formally defined and clearly communicated and are not well understood.
14	63	2	MF-5	SLAC and SSRL do not have an effective ES&H training program to ensure that all staff are appropriately trained and qualified to perform their ES&H duties, and SLAC and SSRL do not possess the present capability to establish such a program.
15	63	2	MF-10	Stanford University does not maintain a formal program of oversight of the ES&H activities at SLAC and SSRL.
16	63	2	PT.12-1	Packaging and storage of hazardous waste is not conducted in compliance with DOT regulations of 49 CFR 177, Subparts B, C, and D.
17	62	2	WS.3-2	The Stanford Linear Accelerator Center Hazard Communication Program does not comply with the requirements of 29 CFR 1910.1200.
18	62	2	WS.4-4	Stanford Linear Accelerator Center does not comply with the electrical requirements of 29 CFR 1910, Subpart S.
19	62	2	EP.1-1	Stanford Linear Accelerator Center has not prepared a sitewide hazards assessment to provide the technical basis for the emergency management program as required by DOE 5500.3A.
20	62	2	SW/CF-1	Secondary containment sufficient to prevent a release to the environment has not been provided for all oil-filled equipment and hazardous chemicals.
21	62	2	GW/CF-4	An environmental surveillance program has not been developed to assess the environmental impact of SLAC site activities in accordance with DOE 5400.1.
22	62	2	RAD/CF-3	SLAC has not developed finalized plans and procedures specifying requirements for the release of property having residual radioactive material and has not maintained the records of released property as required by DOE 5400.5.

SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY CAMP PRIORITY ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
23	62	2	IWS/CF-5	SLAC has not met all the reporting requirements of the California Hazardous Materials Release Response and Inventory ("Business Plan") Program, and procedures are not in place to ensure expeditious reporting of any release of hazardous materials to the en
24	62	2	PT.4-1	The Stanford Linear Accelerator Center does not provide 24-hour emergency contact that meets the requirements of 49 CFR 172.604.
25	61	2	PP.3-2	Periodic walk-through surveys of the workplace are not regularly performed to identify potential health and safety hazards, as required in 29 CFR 1910.94 and DOE 5481.1B, Section 9.d.2e.
26	61	2	IWS/CF-1	SLAC does not have an adequate program to identify, characterize, and manage inactive waste site activities in accordance with the requirements of DOE 5400.4, CERCLA, the NCP, and Executive Order 12850.
27	60	2	WS.4-3	Machine guarding is not universally in place for equipment as required by 29 CFR 1910, Subpart O.
28	60	2	NEPA/CF-4	The two SLAC environmental assessments and the environmental statement are deficient when judged against the requirements of 40 CFR 1500.2 (e), 1500.2(a), and 1508.9 of the Council on Environmental Quality regulations.
29	60	2	RP.3-1	The documented radiation protection policy is not consistent with the requirements of DOE 5480.11.
30	60	2	RP.4-1	The posting and external radiation exposure controls at the calibration facility do not comply with DOE 5480.11.
31	60	2	RP.5-1	The whole body dosimeter does not measure all the types and energies of radiation anticipated at the Stanford Linear Accelerator Center as required in DOE 5480.11, Section 9.g.1 and DOE 5480.15.
32	60	2	RP.5-2	Stanford Linear Accelerator Center practices for whole body and extremity dosimetry are not in compliance with DOE 5480.11, Section 9.g.1.
33	60	2	RP.8-1	The radiation protection instrumentation program is not in compliance with the mandatory standards of DOE 5480.4, Attachment 1, Item 2.d.1 and DOE 5480.11, Section 9.g.3b.
34	60	2	RP.13-1	Stanford Linear Accelerator Center does not provide Radiation Worker Training for some occupational workers entering radiological areas including High Radiation Areas as required by DOE 5480.11, Section 9.o 2.
35	60	2	RP.13-3	Retraining for Health Physics Technicians and for Radiation Workers is not being done, contrary to DOE 5480.11, Sections 9.o.2 and .3.
36	60	2	PP.3-1	The Stanford Linear Accelerator Center does not have a documented program for identifying, evaluating, and controlling occupational safety and health hazards as required by DOE 5480.10, DOE 5480.1B, and DOE 5480.4.
37	60	2	MF-6	SLAC and SSRL do not have a formal system for the receipt, distribution, control, and implementation of official DOE correspondence, including DOE Orders, Secretary of Energy Notices (SENs), and other DOE requirements and guidance materials.
38	59	2	QV.7-1	Programs are not established to ensure that structural, pressure-vessel, and other important-to-quality welding activities are accomplished in accordance with appropriate codes and standards as required by DOE 5700.6B.
39	59	2	QV.6-1	The programs for ensuring that pressure vessels are properly fabricated, installed, tested, operated, and reinspected are not effectively implemented as required by DOE 5700.6B and generally accepted industry standards.
40	59	2	WS.4-5	Storage and labeling of flammable and combustible liquids, and design and construction of spray rooms at the Stanford Linear Accelerator Center do not comply with 29 CFR 1910.106 and 29 CFR 1910.107, respectively.
41	58	2	WM/CF-6	SLAC does not have an integrated contingency plan that meets all the requirements of Article 20 of the California Hazardous Waste Management Regulations.
42	58	2	MF-4	SLAC and SSRL do not have effective ES&H human resource management programs that ensure the availability of sufficient qualified human resources for full implementation of their ES&H requirements.
43	58	2	MF-8	An integrated sitewide corrective action management system is not in place at SLAC and SSRL to ensure corrective action and closure of ES&H findings and issues arising from reviews, assessments, and occurence reporting.

SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY CAMP PRIORITY ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
44	58	2	MF-9	The program of internal independent oversight of ES&H activities by SLAC and SSRL is insufficient in frequency and scope and lacks formality, completeness, consistency, and, in some respects, independence.
45	58	2	PP.2-1	Stanford Linear Accelerator Center's policies and management directives do not define the lines of authority and management responsibility for the control and support of occupational health and safety hazards as required by DOE 5480.10, and DOE 5482.1B.
46	57	2	WS.3-1	The implementation of the industrial hygiene program does not comply with substantive requirements mandated by DOE 5480.4, DOE 5480.10 and DOE 5482.1B.
47	57	2	WS.4-1	Means of egress are not marked and maintained to permit a continuous and unobstructed exit as required by 29 CFR 1910, Subpart E.
48	57	2	MA.2-1	The lock and tag procedures as implemented at Stanford Linear Accelerator Center do not provide for the safe and effective conduct of maintenance and are not in compliance with DOE 5480.19 and 29 CFR 1910.147.
49	57	3	PT.6-1	The absence of proper vehicle maintenance at the Stanford Linear Accelerator Center compromises vehicle safety.
50	57	2	PT.9-1	Shipping papers are not prepared in accordance with 49 CFR 172.
51	57	2	PP.1-1	Stanford Linear Accelerator Center does not ensure the implementation of the personnel protection programs that effectively maintain the workplace free of health and safety concerns, as required by DOE 5480.4, DOE 5480.10, 29 CFR 1910, and others.
52	57	2	WS.2-1	Overall safety and health performance at the Stanford Linear Accelerator Center is not routinely measured to evaluate the effectiveness of control and does not comply with the requirements of DOE 5480.10 and DOE 5482.1B.
53	57	2	WS.2-2	Recording and reporting of occupational injuries and illnesses at the Stanford Linear Accelerator Center does not comply with 29 CFR 1904.
54	57	2	WS.4-2	Guarding of floor openings, walkways, and aisles does not comply with 29 CFR 1910, Subpart D.
55	56	2	OA.3-1	Measurable safety objectives have not been established by the Stanford Linear Accelerator Center as required in DOE 5480.19, Chapter 1.
56	55	2	EP.7-1	An effective method for personnel accountability is not in place as required by DOE 5500.3A.
57	55	2	SW/CF-3	The SPCC Plan does not incorporate all of the information as required in 40 CFR 112.
58	55	2	GW/CF-1	SLAC does not have a fully developed Groundwater Protection Management Program or a groundwater monitoring plan as required under DOE 5400.1.
59	55	2	QA/CF-1	SLAC has not prepared a formal integrated Environmental Monitoring Plan which includes descriptions of effluent monitoring and environmental surveillance activity components, as required by DOE 5400.1, Chapter IV, Section 4. Annual Site Environmental Rep
60	55	2	QA/CF-3	SLAC has not developed or implemented finalized procedures for all of the environmental activities required by DOE 5700.6B and DOE 5400.1.
61	55	2	MA.3-1	Storage of maintenance records in an energized Control Panel is not compliance with the electrical safety practice required by DOE 4330.4A. and 29 CFR 1910.333.
62	55	2	WS.6-1	Communications to employees at Stanford Linear Accelerator Center regarding asbestos, lead and formaldehyde does not comply with 29 CFR 1910.1001, 29 CFR 1910.1025, and 29 CFR 1910.1048.
63	54	2	QV.1-2	Stanford Linear Accelerator Center activities and equipment that are important to quality have not been identified or defined to enable application of appropriate quality control measures as required by DOE 5700.6B.
64	53	2	A/CF-3	An asbestos abatement project conducted during the Tiger Team Assessment did not meet the requirements of BAAQMD, Regulation 11, Rule 2 and 40 CFR 61 145-146.
65	53	2	EP.1-2	Stanford Linear Accelerator Center has not established and maintained an emergency management program that meets the requirements of DOE 5500.3A.
66	53	2	WS.1-1	Internal safety and health compliance oversight appraisals, conducted by technically competent personnel, independent of the operation under scrutiny, are not performed as defined by DOE 5480.1B and required by DOE 5482.1B and DOE 5480.10.

SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY CAMP PRIORITY ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
67	52	2	PT.1-1	Stanford Linear Accelerator Center has not developed a program or procedures to ensure shipments comply with DOE 1540.1, DOE 1540.2 and DOE 5480.3, and applicable DOT and EPA regulations.
68	50	2	GW/CF-3	SLAC does not have a comprehensive formal program to inventory, maintain, and properly abandon groundwater monitoring wells, in a manner that protects groundwater quality in accordance with California Department of Water Resources Bulletin 74-90 and the
69	50	2	RP.5-3	The Personnel Dosimetry Program has not been accredited by the DOE Laboratory Accreditation Program for Personnel Dosimetry as required by DOE 5480.15 and is not in compliance with DOE 5480.11, Section 9.g.1.
70	49	2	QV.1-1	The institutional Quality Assurance plan at Stanford Linear Accelerator Center has not been consistently implemented by all affected departments, does not reflect current organizational structure, and does not comply with DOE 5700.6B.
71	49	2	QV.1-3	Working-level personnel have not received training on principles of quality achievement or the requirements of the quality control program as required by DOE 5700.6B.
72	49	2	QV.4-1	There is no sitewide standard defining the scope and requirements for calibration of measuring and test equipment, process instrumentation, and radiation monitoring instrumentation as required by DOE 5700.6B.
73	49	2	QV.4-2	Several secondary standards used for calibration are not traceable to nationally recognized standards and/or are not maintained in a current state of calibration themselves as required by DOE 5700.6B.
74	49	3	PT.6-2	There are no safety and accountability procedures to ensure that all radioisotopes brought onsite are inventoried.
75	47	2	EP.2-2	Stanford Linear Accelerator Center does not have implementing procedures that contain the detailed actions and specific instructions needed to carry out the Emergency Preparedness Plan as required by DOE 5500.3A.
76	47	3	PT.2-2	Regulatory compliance training provided by offsite contractors for Stanford Linear Accelerator Center packaging and transportation personnel is not effective.
77	47	2	PP.1-2	Necessary industrial hygiene information is not readily communicated to Stanford Linear Accelerator Center management, and to all segments of the organization as required by DOE 5480.8 and DOE 5480.10, Section b.1.
78	47	2	PP.1-3	Stanford Linear Accelerator Center Management does not establish specific goals and objectives for reducing the frequency and severity of occupational accidents, injuries, and illnesses and does not comply with DOE 5480.10, DOE 5482.1B, and DOE 5480.19.
79	47	2	PP.5-1	Although respirators are used, the Stanford Linear Accelerator Center does not have a respiratory protection program that complies with 29 CFR 1910.134 and DOE 5480.4.
80	46	2	OA.5-1	The self-assessment program has not been institutionalized by Stanford Linear Accelerator Center.
81	45	2	SW/CF-2	The potential for releases of non-radiological liquid effluents, including petroleum products or other hazardous chemicals, to the storm drains at SLAC have not been fully characterized.
82	45	2	MS.1-1	The staffing level in the Stanford Linear Accelerator Center Medical Department does not meet current and anticipated needs and does not conform to the guidelines of DOE 5480.8.
83	45	2	MS.1-2	The Physician at the Stanford Linear Accelerator Center does not report at a senior level to ensure program effectiveness by having direct access to top management as required by DOE 5480.8.
84	45	3	OA.6-1	The Stanford Linear Accelerator Center has not established a routine job qualification review system.
85	45	2	MA.1-1	There are no integrated maintenance procedures or organization governing maintenance activities at the Stanford Linear Accelerator Center that will meet the requirements of DOE 4330.4A
86	45	2	MA.4-1	Planning, scheduling, and control of maintenance at the Stanford Linear Accelerator Center do not meet the requirements of DOE 4330.4A.
87	44	2	EP.3-1	Stanford Linear Accelerator Center has not established a formal training program for emergency response personnel as required by DOE 5500.3A.
88	44	2	MA.5-1	The corrective maintenance activities at Stanford Linear Accelerator Center do not support safe and effective operation of equipment and facilities as required by DOE 4330.4A, Section 9.

SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY CAMP PRIORITY ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
89	43	2	SW/CF-4	SLAC does not have adequate backflow prevention to protect potable water at some locations as required by 29 CFR 1910.141, and does not maintain a comprehensive inventory of backflow prevention devices.
90	43	2	WM/CF-4	SLAC does not have a finalized waste minimization plan that includes all the elements required for an effective waste minimization program by EPA, DOE, and the State of California.
91	43	3	PT.2-1	Training requirements for the job functions of packaging and transportation personnel have not been established, and existing training is not documented.
92	43	2	PP.4-1	The Stanford Linear Accelerator Center does not conduct regular industrial hygiene monitoring to demonstrate compliance with mandatory standards as required by DOE 5480.10, DOE 5482.1B, and DOE 5483.1A.
93	42	2	EP.2-1	The Stanford Linear Accelerator Center Emergency Preparedness Plan is not based on a hazards assessment and does not accurately describe the provisions for response to emergencies as required by DOE 5500.3A.
94	42	3	PP.2-2	Stanford Linear Accelerator Center has not effectively closed out identified health and safety deficiencies.
95	42	2	WS.3-4	Stanford Linear Accelerator Center does not have a system to control the procurement, inventory, and use of hazardous chemicals as required by DOE 5480.10.
96	42	2	FR.2-2	There is no formal mechanism to ensure all facility modifcations and experiments receive appropriate safety reviews, as required by DOE Order 5482.1B.
97	42	3	FR.6-2	Corrective actions resulting from the investigation of some unusual occurrences have not been effective in correcting the root causes of the events.
98	40	2	SW/CF-6	SLAC does not have a fully developed program for monitoring and controlling batch discharges of liquid radiological effluents to ensure that all releases meet the requirements of DOE Orders.
99	40	2	QA/CF-2	SLAC lacks a formal QA program for environmental activities that has been approved by the DOE Field Office, San Francisco DOE (SF), as required by DOE 5400.1 and DOE 5700.6B.
100	40	2	NEPA/CF-1	SLAC and SSRL have not established and implemented written procedures to integrate the NEPA process into the review of planning documents, budgetary materials, and other project proposals as required by SAN MD No. 5440.1C, SEN-15-90, DOE 5440.1D, and the
101	40	2	NEPA/CF-3	Actions are taken at SLAC and SSRL without NEPA review early in the planning phase and before decisions are made. In some cases, the level of NEPA documentation is not appropriate for the proposed action, contrary to SAN MD No. 5440.1C, SEN-15-90, and th
102	40	2	RP.3-2	Radiation protection procedures are incomplete and inconsistent with the requirements of DOE 5480.11.
103	40	2	RP.3-3	Posting of radiological controlled areas and labeling of radioactive material are not consistent with the requirements of DOE 5480.11, Section 9.k.
104	40	2	RP.3-4	An accurate inventory of radioactive sources is not maintained and is not consistent with all applicable elements of ANSI N542.
105	40	2	RP.3-5	Radiological protection controls for x-ray generating devices are not in full compliance with DOE 5480.11, the mandatory standards in DOE 5480.4, Attachment 1, Item 2.d1, and DOE 5482.1B, Section 9.d.
106	40	2	RP.9-1	Stanford Linear Accelerator Center does not have sufficient air monitoring data to demonstrate compliance with DOE 5480.11, Section 9.g.3a.
107	40	2	RP.10-1	The training provided to operations personnel who perform radiation surveys is not in compliance with DOE 5480.11, Section 9.o.
108	40	2	RP.12-3	Records of the radiation protection program are not maintained in accordance with the requirements of DOE 5480.11, Section 9.m.
109	40	2	MS.3-1	The medical examination and evaluation programs at Stanford Linear Accelerator Center are not conducted as required by DOE 5480.8.
110	39	2	GW/CF-2	The geology and hydrogeology at the SLAC site has not been completely characterized to define aquifer relationships, subsurface stratigraphy, extent of contamination, background conditions, and local flow paths and velocities, in accordance with the DOE,
111	39	3	OA.1-2	Functions and responsibilities of Environmental Safety and Health Division are not understood across the organization.

SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY CAMP PRIORITY ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
112	38	2	EP.4-1	Stanford Linear Accelerator Center does not have a program of drills and exercises as required by DOE 5500.1B and DOE 5500.3A
113	36	3	OA.8-1	An effective fitness for duty program has not been implemented.
114	36	2	QV.3-1	The Stanford Linear Accelerator Center has not ensured that procured materials are properly inspected on receipt for conformance to design requirements as required by DOE 5700.6B.
115	36	3	OP.1-1	Qualification requirements and documented training programs are not in place for all operations positions.
116	36	2	MA.6-1	Preventive maintenance is not conducted at the Stanford Linear Accelerator Center in the manner required by DOE 4330.4A.
117	36	2	FP.3-1	Stanford Linear Accelerator Center has not reviewed the potential of toxic and hazardous exposure to the public from runoff of fire-fighting water as required by DOE 5480.7.
118	35	2	EP.1-4	A Stanford Linear Accelerator Center assessment of all aspects of the emergency management program has not been conducted annually as required by DOE 5500.3A.
119	35	2	QA/CF-4	SLAC's internal auditing and corrective action program does not address all aspects of environmental performance and is not sufficient to assure the quality of all environmental activities, as required by DOE 5700.6B and NQA-1.
120	35	2	IWS/CF-3	SLAC has not prepared a comprehensive preliminary assessment of the site to identify all potential inactive waste sites and to rank the SLAC facility using the new Hazard Ranking System model, in accordance with the provisions of DOE 5400.4, CERCLA, and t
121	35	4	QV.4-3	As-found and as-left data are not recorded and maintained for equipment that is calibrated.
122	35	2	RP.12-2	Records of previous occupational exposure are not requested as required by DOE 5480.11, Section 9.m.2.
123	35	2	RP.13-4	The scope of the Health Physics Technician Training Program does not include all of the elements required by DOE 5480.11, Section 9.o 3.
124	33	2	OA.1-1	Position authorities are not documented for Stanford Linear Accelerator Center as required by DOE 5480.19, Chapter 1.
125	33	3	OA.7-2	The Stanford Linear Accelerator Center does not have a centralized document control system.
126	33	2	OP.3-2	Operating Procedures at the Stanford Linear Accelerator Center do not conform to a standard format, approval system, revision system, temporary change system, or review frequency as required by DOE 5480.19.
127	33	2	PT.3-1	The Quality Assurance audits of packaging and transportation operations have not been performed as required by DOE 5480.3 to meet the guidelines of DOE 5700.6B.
128	33	2	EA.1-1	No disciplined system is in place to ensure that all experimenters are given health and safety training and indoctrination as required by DOE 5480.11, Section 9.0, and DOE 5480.10, Section 9.b.5.
129	32	2	OP.3-3	Posted operator aids throughout the Stanford Linear Accelerator Center are not standardized, approved, dated, or logged as required by DOE 5480.19.
130	32	3	OP.3-1	Operational Safety Requirements are not employed along with the associated surveillance and maintenance requirements at the Stanford Linear Accelerator Center.
131	32	3	OP.8-1	No coding convention is employed in Stanford Linear Accelerator Center Control Areas to indicate the meaning of alarm signals, light colors, or whether lights are steady or flashing.
132	32	2	AX.5-1	The Plating Shop ventilation system does not minimize the potential to release hazardous material to clean areas or the environment contrary to the requirements in DOE 6430.1A.
133	31	2	EP.6-2	Stanford Linear Accelerator Center has not established a method for prompt initial notification of emergency response personnel and for initial and followup notifications to offsite organizations as required by DOE 5500.3A.
134	30	2	A/CF-1	SLAC does not have an ambient air quality surveillance program. The baseline of air quality in the vicinity of SLAC has not been formally established, and the potential impacts of the SLAC emissions on ambient air quality have not been quantified, as req
135	30	3	A/CF-2	SLAC does not have a documented meteorological monitoring program. Meteorological data currently used by SLAC in the AIRDOS modeling are not representative of local conditions.

SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY CAMP PRIORITY ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
136	30	2	SW/CF-5	SLAC has never submitted ODIS Reports for effluent and onsite liquid and air radioactive waste discharges as required by DOE 5400.1, Chapter II, Section 5.a.
137	30	2	TCM/CF-1	SLAC has not developed or implemented a Pollution Prevention Awareness Program Plan in accordance with DOE 5400.1, Chapter III.
138	30	2	QA/CF-5	SLAC's oversight of vendors performing environmental services is deficient with respect to surveillance, written procedures, QA program review, data validation, and audits as required by DOE 5700.6B.
139	30	2	RAD/CF-1	DOE Field Office, San Francisco DOE-(SF) has not developed an ALARA program and has not required SLAC to implement the ALARA process in environmental programs as required by DOE 5400.5, Chapter II, Section 2.
140	30	2	RAD/CF-2	SLAC has not developed and documented a Decommissioning Program and Decommissioning Project Plans to provide for the surveillance, maintenance, and decommissioning of facilities containing radioactive materials, as required by DOE 5820.2A, Chapter V, Sect
141	30	2	IWS/CF-2	The site has conducted, and is in the process of conducting remedial actions, but does not have a formalized written Community Relations Plan, and has not established an administrative Record available for public inspection.
142	30	2	IWS/CF-4	The SLAC Site Development Plan does not include maps or descriptions of known and suspected contaminated areas and does not address the impact of siting facilities in these areas as required by DOE 4320.1B.
143	30	2	NEPA/CF-2	SLAC and SSRL do not uniformly apply NEPA early in the planning process for proposed DOE actions as required by SAN MD No. 5440.1C, 40 CFR 1501.2, DOE NEPA Guidelines, SEN-15-90, DOE 5440.1D, DOE 4700.1, DOE 5700.7B, and DOE Notice 5100.3. Project planni
144	30	2	NEPA/CF-5	Neither SLAC nor SSRL submit the required NEPA documentation to SSO (i.e., a monthly list of actions that qualify as categorical exclusions not needing documentation, descriptions and recommendations of the level of NEPA documentation for all other action
145	30	2	NEPA/CF-6	SLAC/SSRL and SSO do not have an integrated system for tracking the status of NEPA review and documentation for all actions, and there are no formal procedures for record keeping and tracking of the NEPA process as required by SAN MD No. 5440.1C and DOE
146	30	2	EP.6-1	Stanford Linear Accelerator Center has no procedures for assessing the consequences of an emergency involving hazardous materials or procedures for determining an emergency class based on emergency action levels as required by DOE 5500.3A.
147	30	2	PT.1-3	Hazardous waste data for the DOE Shipment Mobility/Accountability Concept system is not reported at the frequency required by DOE 1540.1, Chapter I, Section 10.b.
148	30	2	RP.2-1	The frequency and scope of the internal audits of the Radiation Protection Program do not comply with DOE 5480.11, Section 9.r, and DOE 5482.1B, Section 9.d.
149	30	2	RP.5-4	The unsupervised use and unrecorded results of direct-reading pocket dosimeters negate their value and is contrary to the As Low As Reasonably Achievable ALARA policy of DOE 5480.11, Section 9.a.
150	30	2	RP.11-1	The Stanford Linear Accelerator Center As Low As Reasonably Achievable ALARA Program does not comply with DOE 5480.11, Sections 9.a. and 9.m.1.
151	30	2	RP.12-1	Radiation exposures to visitors are not reported as required by DOE 5484.1, Change 6, Chapter IV, Section d.1.
152	30	2	RP.13-2	Documentation of Health Physics Technician Training and Radiation Worker Training is not maintained as required by DOE 5480.11, Section 9.m.5.
153	30	4	WS.2-3	The Stanford Linear Accelerator Center safety and health program has not been effective in controlling the lost workday rate.
154	30	2	FP.2-1	The Stanford Linear Acceleration Center does not ensure its facilities comply with the provisions of NFPA 101 as required by DOE 5480.2.
155	30	3	FR.4-1	Periodic, comprehensive operating reviews of the facility are not performed.
156	28	2	QV.2-1	The Stanford Linear Accelerator Center's procedures for procurement do not define requirements or give guidance to requestors with respect to quality assurance program controls, codes and standards, or technical requirements as required by DOE 5700.6B.

SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY CAMP PRIORITY ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
157	28	2	EP.5-1	The Stanford Linear Accelerator Center Emergency Operations Center does not comply with the requirements of DOE 5500.3A.
158	28	3	PT.1-2	Stanford Linear Accelerator Center has no transportation safety manual for onsite transfers.
159	28	2	PT.3-2	There is no documented program of packaging vendor qualification and no verification that packagings meet DOT specifications as required by DOE 5480.3, Sections 9.a and b.
160	28	4	FR.6-3	The Stanford Linear Accelerator Center has not established a program for using industry experience to improve facility safety.
161	27	2	EP.6-3	Stanford Linear Accelerator Center has not established an emergency public information program consistent with the requirements of DOE 5500.3A and 5500.4.
162	27	2	FR.2-1	Stanford Linear Accelerator Center's safety review process does not include all elements required by DOE 5482.1B.
163	26	2	FR.5-1	A triennial appraisal to assess the effectiveness of the Stanford Linear Accelerator Center safety review system has not been performed although required by DOE 5482.1B.
164	26	2	FR.6-1	Several corrective actions resulting from the investigation of unusual occurrences have not been implemented in a timely manner as required by DOE 5000.3A.
165	25	3	OA.2-1	Safety review and oversight functions are not clearly separated from line functions.
166	25	2	OP.2-1	Access to Control Rooms at the Stanford Linear Accelerator Center is not effectively limited to persons with official business as required by DOE 5480.19.
167	25	2	AX.6-1	Testing of emergency diesel generators at the Stanford Linear Accelerator Center does not meet the requirements of NFPA 110 to ensure reliability of vital services.
168	25	2	FP.5-1	The lack of automatic sprinkler protection in the Klystron Gallery makes for a loss potential exceeding the limits expressed in DOE 5480.7.
169	25	2	FP.7-1	Maintenance, testing, and management of impairments to the Fire Protection Systems do not comply with DOE 5480.7.
170	24	3	OP.8-2	Appropriate measurement units such as psia and celsius degrees are not placed on or by many instruments nor are they always used in operations communications.
171	21	2	OP.1-2	Official lists of personnel currently qualified as Engineering Operator in Charge and Operator are not maintained in Control Rooms as required by DOE 5480.19.
172	20	3	A/BMPF-1	There are no formal procedures at SLAC to ensure that existing sources of air emissions have the necessary permits and to guarantee that air permits are obtained, where required, for all new projects and/or construction activities.
173	20	3	A/BMPF-2	The procedures used in the air effluent control program at the SLAC are not sufficient and are not effectively enforced to ensure that air emissions are minimized.
174	20	3	A/BMPF-3	SLAC does not have a complete inventory of air emissions that is updated annually, and not all sources in the existing inventory are adequately quantified.
175	20	2	A/BMPF-4	SLAC does not have a comprehensive formal program to manage asbestos and to ensure compliance with federal, state, and local asbestos regulations.
176	20	3	SW/BMPF-1	SLAC has no formalized program to update facility plans and layout maps to ensure that they reflect current facility conditions.
177	20	3	SW/BMPF-2	There are no written maintenance schedules or record keeping procedures for inspecting and cleaning oil/water separators. Additionally, the oil/water separators are not currently designed in a way that maximizes the removal of oil prior to its discharge
178	20	3	WM/BMPF-1	SLAC does not have formal procedures in place to formally evaluate or audit commercial TSDFs to which SLAC ships its waste.
179	20	3	TCM/BMPF-1	SLAC has not developed and implemented a comprehensive inspection and hazardous material handling program for equipment stored for reuse, excess, or scrap.
180	20	3	TCM/BMPF-2	SLAC does not provide adequate oversight of landscaping and pest control contractors.
181	20	3	TCM/BMPF-3	SLAC lacks a comprehensive program to manage the storage of chemicals used for cooling tower maintenance.

SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY CAMP PRIORITY ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
182	20	3	TCM/BMPF-4	SLAC does not have a comprehensive, integrated chemical materials management system.
183	20	3	IWS/BMPF-1	The methods for tracking the hazardous materials inventory at SLAC do not ensure that all hazardous materials are accounted for and that changes to the inventory are recorded on a regular basis. The inventory information is not maintained in a computeriz
184	20	3	QV.8-1	A program has not been established to provide training to personnel who perform nondestructive examinations.
185	20	2	MA.7-1	Equipment history and predictive maintenance analysis are not being used to optimize equipment performance as required by DOE 4330.4A.
186	20	4	AX.1-2	Stanford Linear Accelerator Center has not provided definitions of what constitutes auxiliary systems.
187	20	2	FP.1-1	The Stanford Linear Accelerator Center does not have a complete description and published plan to coordinate activities of the three onsite fire protection organizations.
188	09	0	QA/CF-6	Stanford Site Office (SSO) and DOE Field Office, San Francisco DOE (SF) have not provided formal oversight of SLAC to ensure that required QA activities are established and implemented as required by DOE 5700.6B.
189	09	0	AX.1-1	The Department of Energy has not provided guidelines for consistency in defining what constitutes auxiliary systems.
190	09	0	EP.1-3	An assessment by DOE-SF of all aspects of the emergency management program has not been conducted annually as required by DOE 5500.3A.
191	09	0	PT.8-1	The Department of Energy, San Francisco Operation Office did not inform the Stanford Linear Accelerator Center of the Department of Transportation interpretation regarding public roads as requested by the Department of Energy Headquarters.
192	09	0	PT.11-1	The Department of Energy San Francisco Operation Office does not have a formal program to appraise packaging and transportation safety as required by DOE 5482.1B, Section 8.e.2, and DOE 5480.3, Section 6.c.5.
193	09	0	PP.2-3	The Department of Energy, San Francisco Operations Office has not consistently enforced the requirements of DOE 5482.1B and DOE 5480.10 at the Stanford Linear Accelerator Center to ensure identified health and safety non-compliances are corrected.
194	09	0	MF-11	The DOE Headquarters Office of Energy Research (ER) does not have a strategic and subordinate implementation planning process that integrates ES&H and programmatic objectives into their mission and defines and guides the allocation of resources and accomp
195	09	0	MF-12	The DOE Headquarters ER has not clearly defined, documented, or conveyed its ES&H expectations of DOE-SF.
196	09	0	MF-13	The manner in which the DOE SSO is to obtain needed ES&H support services from DOE-SF is undocumented and poorly understood.
197	09	0	MF-14	The DOE-SF has not fully implemented an effective human resource management program to ensure the availability of sufficient qualified staff to meet its SLAC and SSRL ES&H oversight responsibilities.
198	09	0	MF-15	The DOE ER oversight of ES&H activities at SLAC and SSRL is not sufficient in breadth, frequency, or quality to ensure full implementation of DOE's ES&H initiatives.
199	09	0	MF-16	DOE-SF/SSO oversight of ES&H activities at SLAC and SSRL is not sufficient in breadth, frequency, or quality to ensure full implementation of DOE's ES&H initiatives.
200	09	0	MF-17	The prime contracts between DOE and the University for SLAC and SSRL do not reflect DOE's current emphasis on the importance of ES&H objectives relative to programmatic objectives.
201	00	0	SA-1	The SLAC self-assessment report is of good quality. The report was thorough in its identification of specific findings and management issues in all major areas.
202	00	0	SA-2	SLAC lacks a comprehensive and formalized self-assessment program, including policies, procedures, and quality assurance (QA).
203	00	0	SA-3	The SF/SSO self-assessment report is of acceptable quality. The SF/SSO assessment was thorough in its identification of environmental and management findings at SLAC, but less thorough in its identification of safety and health findings. SF/SSO are to b

SLAC / SSRL TIGER TEAM CONCERNS AND FINDINGS LISTED BY CAMP PRIORITY ORDER				
LINE NUMBER	CAMP PRIORITY	DOE PRIORITY	CONCERN OR FINDING NUMBER	DESCRIPTION OF CONCERN OR FINDING [Note: Some descriptions may be truncated]
204	00	0	SA-4	SF/SSO lack a fully implemented self-assessment program; however, several actions have recently been taken that should implement such a program.
205	00	0	SA-5	ER has not fully institutionalized a self-assessment program. ER has not provided oversight of, and sufficent guidance to, SF and SLAC regarding ES&H self-assessment.

Appendix D SLAC Corrective Action Data Tracking System

Overview

During the development of SLAC's response to the Tiger Team Assessment, every effort was made to learn from the experiences of other facilities within the DOE complex, and to use tools already developed in support of the effort. SLAC, like Lawrence Berkeley Laboratory (LBL), has an extensive network of Macintosh® computers and experience with Acius' 4th-Dimension™ relational database management system. Therefore, SLAC decided to use LBL's LCATS proprietary corrective action tracking software.

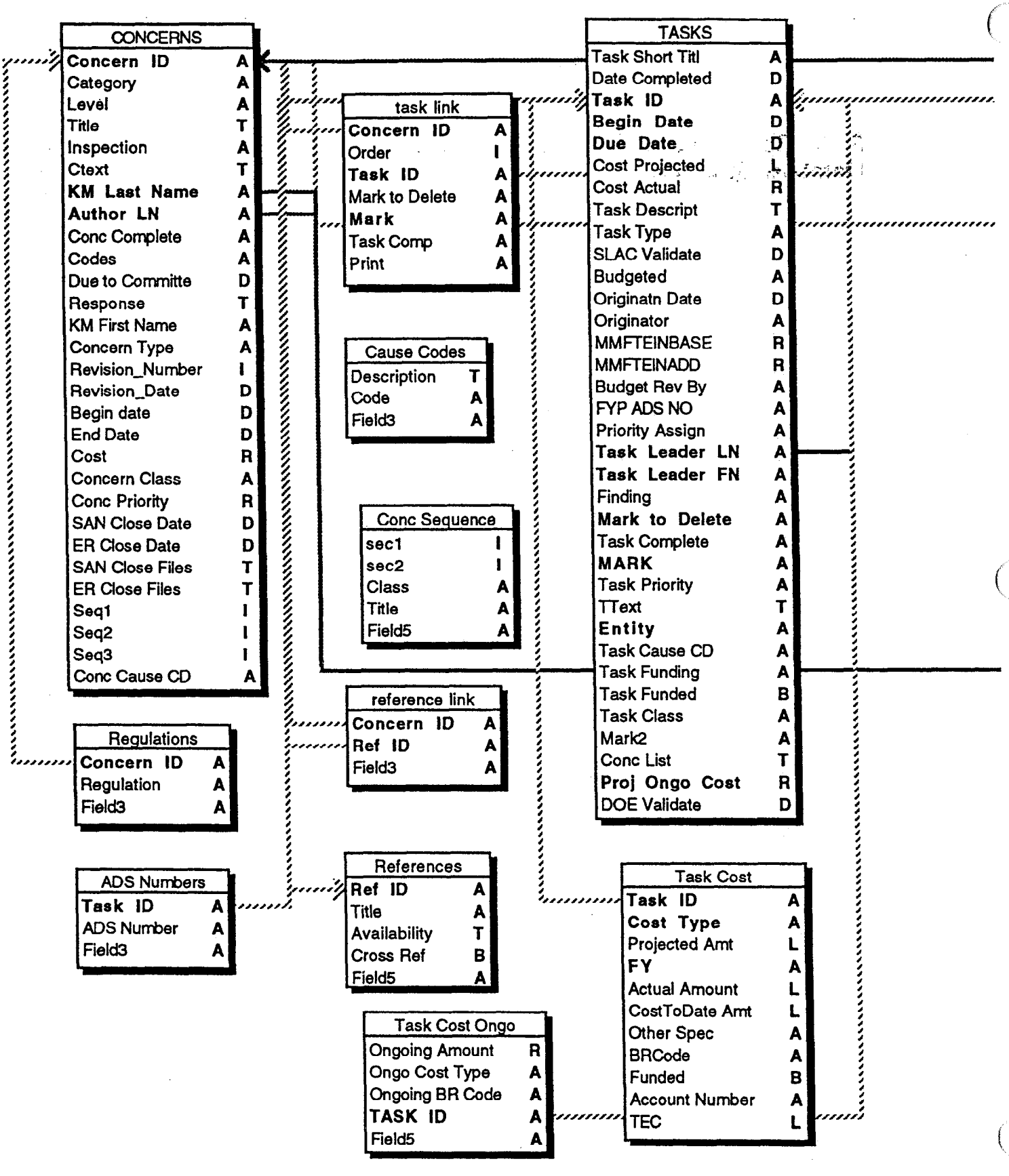
The LBL LCATS system is a relational database that creates multiple links between all concerns/findings, appropriate tasks, and related information. The linkage process enables the planning, progress monitoring, cost accounting, reporting, closeout, and documentation functions to be performed efficiently. SLAC programmers modified the existing LCATS configuration to include additional information, and modified the report and printout formats to make the database SLAC-specific. The basic structure of the LCATS database was not altered. SLAC named the database the SLAC Corrective Action Data Tracking System, or SCADTS. Attachment 1 depicts this structure. Note that many of the fields shown were not in use during the development of this report, but will come into use during the future tracking of corrections.

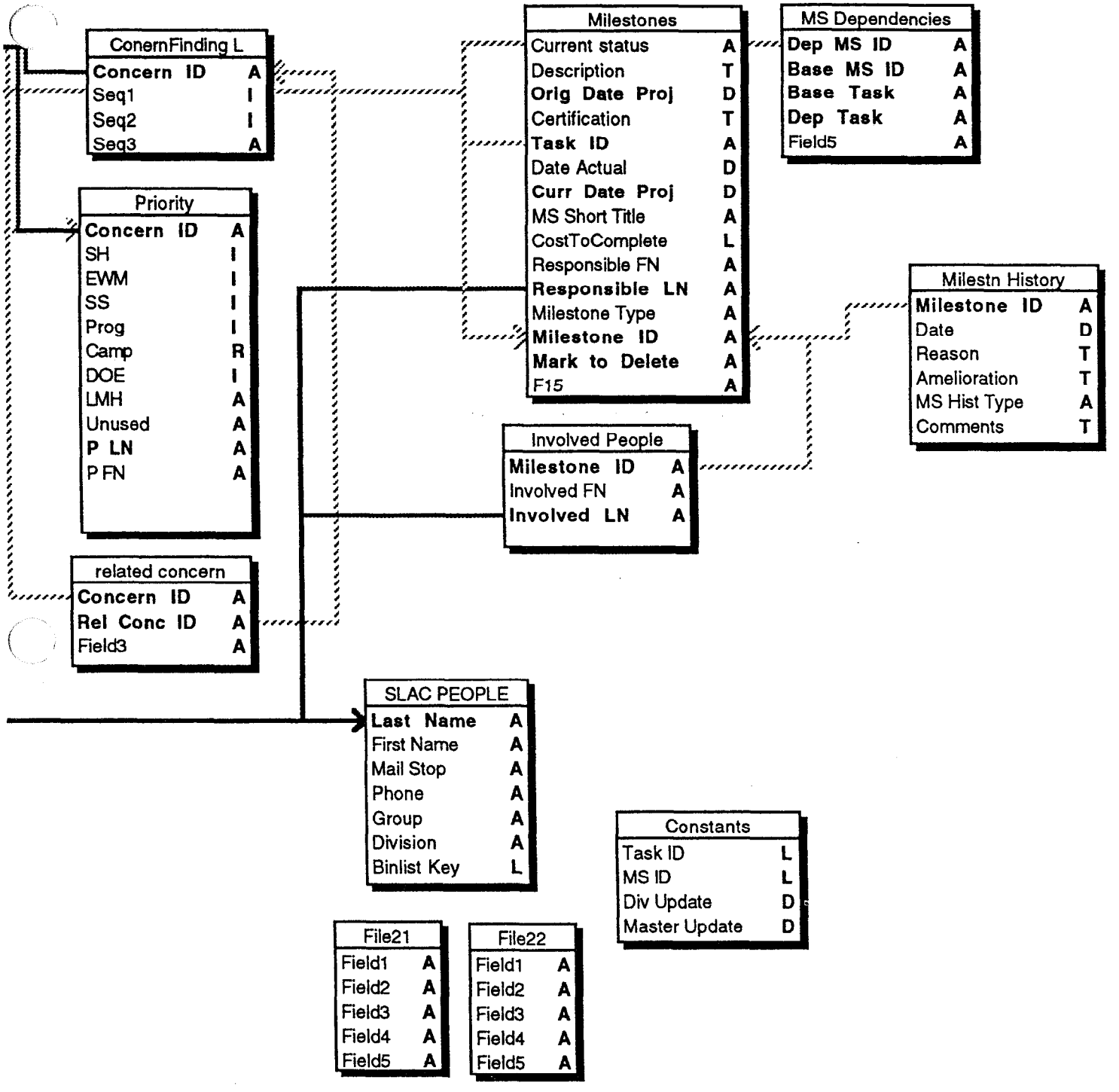
Original data from the Tiger Team Assessment was directly imported into the database from word processing files. Data-entry packets (Attachment 2) for each finding or concern were produced and distributed to the individuals responsible for developing responses. When the completed packets were returned, the data was entered into SCADTS. All changes could then be made electronically, using the database capabilities to update information accurately.

Current plans call for modifications to the SCADTS system to eventually provide limited site-wide system access for progress monitoring and other functions. The system may also be expanded to accommodate data for self-assessment and other activities related to corrective action management. Current plans also call for the system to be enhanced to operate on a Structured Query Language (SQL) client/server architecture, enabling a central database server to provide SCADTS data system access to users of computer platforms other than Macintosh®. This configuration will also allow a large quantity of users to gain simultaneous access to the database and provide a secure central location for the data, with more reliable backup capabilities.

Attachment 1

SLAC Corrective Action Data Tracking System (SCADTS) Database Structure


CONCERNS
Concern ID A
Category A
Level A
Title T
Inspection A
Ctext T
KM Last Name A
Author LN A
Conc Complete A
Codes A
Due to Committe D
Response T
KM First Name A
Concern Type A
Revision_Number I
Revision_Date D
Begin date D
End Date D
Cost R
Concern Class A
Conc Priority R
SAN Close Date D
ER Close Date D
SAN Close Files T
ER Close Files T
Seq1 I
Seq2 I
Seq3 I
Conc Cause CD A
task link
Concern ID A
Order I
Task ID A
Mark to Delete A
Mark A
Task Comp A
Print A
Cause Codes
Description T
Code A
Field3 A
Conc Sequence
sec1 I
sec2 I
Class A
Title A
Field5 A
reference link
Concern ID A
Ref ID A
Field3 A
Regulations
Concern ID A
Regulation A
Field3 A
ADS Numbers
Task ID A
ADS Number A
Field3 A
References
Ref ID A
Title A
Availability T
Cross Ref B
Field5 A
Task Cost Ongo
Ongoing Amount R
Ongo Cost Type A
Ongoing BR Code A
TASK ID A
Field5 A
TASKS
Task Short Titl A
Date Completed D
Task ID A
Begin Date D
Due Date D
Cost Projected L
Cost Actual R
Task Descript T
Task Type A
SLAC Validate D
Budgeted A
Originatn Date D
Originator A
MMFTEINBASE R
MMFTEINADD R
Budget Rev By A
FYP ADS NO A
Priority Assign A
Task Leader LN A
Task Leader FN A
Finding A
Mark to Delete A
Task Complete A
MARK A
Task Priority A
TText T
Entity A
Task Cause CD A
Task Funding A
Task Funded B
Task Class A
Mark2 A
Conc List T
Proj Ongo Cost R
DOE Validate D
Task Cost
Task ID A
Cost Type A
Projected Amt L
FY A
Actual Amount L
CostToDate Amt L
Other Spec A
BRCode A
Funded B
Account Number A
TEC L


ConernFinding L
Concern ID A
Seq1 I
Seq2 I
Seq3 A
Milestones
Current status A
Description T
Orig Date Proj D
Certification T
Task ID A
Date Actual D
Curr Date Proj D
MS Short Title A
CostToComplete L
Responsible FN A
Responsible LN A
Milestone Type A
Milestone ID A
Mark to Delete A
F15 A
MS Dependencies
Dep MS ID A
Base MS ID A
Base Task A
Dep Task A
Field5 A
Priority
Concern ID A
SH I
EWM I
SS I
Prog I
Camp R
DOE I
LMH A
Unused A
P LN A
P FN A
Milestn History
Milestone ID A
Date D
Reason T
Amelioration T
MS Hist Type A
Comments T
Involved People
Milestone ID A
Involved FN A
Involved LN A
related concern
Concern ID A
Rel Conc ID A
Field3 A
SLAC PEOPLE
Last Name A
First Name A
Mail Stop A
Phone A
Group A
Division A
Binlist Key L
Constants
Task ID L
MS ID L
Div Update D
Master Update D
File21
Field1 A
Field2 A
Field3 A
Field4 A
Field5 A
File22
Field1 A
Field2 A
Field3 A
Field4 A
Field5 A

Structure: CONCERNS		
Concern ID	Alpha 15	Indexed; Unique; Enterable
Category	Alpha 10	Enterable; Modifiable
Level	Alpha 10	Enterable; Modifiable
Title	Text	Enterable; Modifiable
Inspection	Alpha 10	Choices; Enterable; Modifiable
Ctext	Text	Enterable; Modifiable
KM Last Name	Alpha 15	Indexed; Enterable; Modifiable
Author LN	Alpha 15	Indexed; Enterable; Modifiable
Conc Complete	Alpha 2	Enterable; Modifiable
Codes	Alpha 10	Choices; Enterable; Modifiable
Due to Committe	Date	Enterable; Modifiable
Response	Text	Enterable; Modifiable
KM First Name	Alpha 15	Enterable; Modifiable
Concern Type	Alpha 40	Choices; Enterable; Modifiable
Revision_Number	Integer	Enterable; Modifiable
Revision_Date	Date	Enterable; Modifiable
Begin date	Date	Enterable; Modifiable
End Date	Date	Enterable; Modifiable
Cost	Real	Enterable; Modifiable
Concern Class	Alpha 20	Choices; Enterable; Modifiable
Conc Priority	Real	Enterable; Modifiable
SAN Close Date	Date	Enterable; Modifiable
ER Close Date	Date	Enterable; Modifiable
SAN Close Files	Text	Enterable; Modifiable
ER Close Files	Text	Enterable; Modifiable
Seq1	Integer	Enterable; Modifiable
eq2	Integer	Enterable; Modifiable
Seq3	Integer	Enterable; Modifiable
Conc Cause CD	Alpha 2	Enterable; Modifiable
Author FN	Alpha 15	Enterable; Modifiable
Field31	Alpha 2	Enterable; Modifiable
Field32	Alpha 2	Enterable; Modifiable
Field33	Alpha 2	Enterable; Modifiable
Field34	Alpha 2	Enterable; Modifiable

Structure: related concern		
Concern ID	Alpha 15	Indexed; Enterable; Modifiable
Rel Conc ID	Alpha 15	Indexed; Enterable; Modifiable
Field3	Alpha 2	Enterable; Modifiable
Field4	Alpha 2	Enterable; Modifiable

Structure: Task Cost		
Task ID	Alpha 10	Indexed; Enterable; Modifiable
Cost Type	Alpha 30	Choices; Indexed; Enterable; Modifiable
Projected Amt	Long Integer	Enterable; Modifiable
FY	Alpha 8	Indexed; Enterable; Modifiable
Actual Amount	Long Integer	Enterable; Modifiable
CostToDate Amt	Long Integer	Enterable; Modifiable
Other Spec	Alpha 20	Enterable; Modifiable
BRCode	Alpha 4	Choices; Enterable; Modifiable
Funded	Boolean	Enterable; Modifiable
Account Number	Alpha 20	Enterable; Modifiable
TEC	Long Integer	Enterable; Modifiable

Structure: TASKS		
Task Short Titl	Alpha 50	Enterable; Modifiable
Date Completed	Date	Enterable; Modifiable
Task ID	Alpha 10	Indexed; Unique; Enterable
Begin Date	Date	Indexed; Enterable; Modifiable
Due Date	Date	Indexed; Enterable; Modifiable
Cost Projected	Long Integer	Enterable; Modifiable
Cost Actual	Real	Enterable; Modifiable
Task Descript	Text	Enterable; Modifiable
Task Type	Alpha 30	Choices; Enterable; Modifiable
SLAC Validate	Date	Enterable; Modifiable
Budgeted	Alpha 20	Enterable; Modifiable
Originatn Date	Date	Enterable; Modifiable
Originator	Alpha 30	Enterable; Modifiable
MMFTEINBASE	Real	Enterable; Modifiable
MMFTEINADD	Real	Enterable; Modifiable
Budget Rev By	Alpha 30	Enterable; Modifiable
FYP ADS NO	Alpha 80	Enterable; Modifiable
Priority Assign	Alpha 20	Choices; Enterable; Modifiable
Task Leader LN	Alpha 15	Indexed; Enterable; Modifiable
Task Leader FN	Alpha 15	Indexed; Enterable; Modifiable
Finding	Alpha 2	Enterable; Modifiable
Mark to Delete	Alpha 2	Indexed; Enterable; Modifiable
Task Complete	Alpha 2	Enterable; Modifiable
MARK	Alpha 2	Indexed; Enterable; Modifiable
Task Priority	Alpha 2	Enterable; Modifiable
TText	Text	Enterable; Modifiable
Entity	Alpha 8	Choices; Indexed; Enterable; Modifiable
Task Cause CD	Alpha 2	Enterable; Modifiable
Task Funding	Alpha 20	Choices; Enterable; Modifiable
Task Funded	Boolean	Enterable; Modifiable
Task Class	Alpha 20	Choices; Enterable; Modifiable
Mark2	Alpha 2	Enterable; Modifiable
Conc List	Text	Enterable; Modifiable
Proj Ongo Cost	Real	Indexed; Enterable; Modifiable
DOE Validate	Date	Enterable; Modifiable

Structure: SLAC PEOPLE		
Last Name	Alpha 15	Indexed; Enterable; Modifiable
First Name	Alpha 15	Enterable; Modifiable
Mail Stop	Alpha 10	Enterable; Modifiable
Phone	Alpha 8	Enterable; Modifiable
Group	Alpha 5	Choices; Enterable; Modifiable
Division	Alpha 3	Enterable; Modifiable
Binlist Key	Long Integer	Enterable; Modifiable
Field8	Alpha 2	Enterable; Modifiable
Field9	Alpha 2	Enterable; Modifiable

Structure: task link		
Concern ID	Alpha 15	Indexed; Enterable; Modifiable
Order	Integer	Enterable; Modifiable
Task ID	Alpha 10	Indexed; Enterable; Modifiable
Mark to Delete	Alpha 2	Choices; Enterable; Modifiable
Mark	Alpha 2	Indexed; Enterable; Modifiable
Task Comp	Alpha 2	Enterable; Modifiable
Print	Alpha 2	Enterable; Modifiable

Structure: ADS Numbers		
Task ID	Alpha 10	Indexed; Enterable; Modifiable
ADS Number	Alpha 10	Enterable; Modifiable
Field3	Alpha 2	Enterable; Modifiable
Field4	Alpha 2	Enterable; Modifiable
Field5	Alpha 2	Enterable; Modifiable
Field6	Alpha 2	Enterable; Modifiable
Field7	Alpha 2	Enterable; Modifiable
F1	Alpha 2	Enterable; Modifiable
F2	Alpha 2	Enterable; Modifiable

Structure: Milestones		
Current status	Alpha 20	Choices; Enterable; Modifiable
Description	Text	Enterable; Modifiable
Orig Date Proj	Date	Indexed; Enterable; Modifiable
Certification	Text	Enterable; Modifiable
Task ID	Alpha 10	Indexed; Enterable; Modifiable
Date Actual	Date	Enterable; Modifiable
Curr Date Proj	Date	Indexed; Enterable; Modifiable
MS Short Title	Alpha 50	Enterable; Modifiable
CostToComplete	Long Integer	Enterable; Modifiable
Responsible FN	Alpha 15	Enterable; Modifiable
Responsible LN	Alpha 15	Indexed; Enterable; Modifiable
Milestone Type	Alpha 30	Choices; Enterable; Modifiable
Milestone ID	Alpha 20	Indexed; Unique; Enterable
Mark to Delete	Alpha 2	Choices; Indexed; Enterable; Modifiable
F15	Alpha 2	Choices; Enterable; Modifiable
F16	Alpha 2	Choices; Enterable; Modifiable
Field17	Alpha 2	Enterable; Modifiable
Field18	Alpha 2	Enterable; Modifiable
Field19	Alpha 2	Enterable; Modifiable

Structure: reference link		
Concern ID	Alpha 15	Indexed; Enterable; Modifiable
Ref ID	Alpha 20	Indexed; Enterable; Modifiable
Field3	Alpha 2	Enterable; Modifiable
Field4	Alpha 2	Enterable; Modifiable

Structure: References		
Ref ID	Alpha 20	Indexed; Unique; Enterable
Title	Alpha 50	Enterable; Modifiable
Availability	Text	Enterable; Modifiable
Cross Ref	Boolean	Enterable; Modifiable
Field5	Alpha 2	Enterable; Modifiable
Field6	Alpha 2	Enterable; Modifiable
Field7	Alpha 20	Enterable; Modifiable

Structure: Task Cost Ongo		
Ongoing Amount	Real	Enterable; Modifiable
Ongo Cost Type	Alpha 22	Choices; Enterable; Modifiable
Ongoing BR Code	Alpha 4	Choices; Enterable; Modifiable
TASK ID	Alpha 10	Indexed; Enterable; Modifiable
Field5	Alpha 2	Enterable; Modifiable
Field 6	Alpha 2	Enterable; Modifiable
Field7	Alpha 2	Enterable; Modifiable
Field8	Alpha 2	Enterable; Modifiable
Field9	Alpha 20	Enterable; Modifiable

Structure: Involved People		
Milestone ID	Alpha 20	Indexed; Enterable; Modifiable
Involved FN	Alpha 15	Enterable; Modifiable
Involved LN	Alpha 15	Indexed; Enterable; Modifiable
Field4	Alpha 2	Enterable; Modifiable
Field5	Alpha 2	Enterable; Modifiable
Field6	Alpha 2	Enterable; Modifiable
Field7	Alpha 2	Enterable; Modifiable

Structure: Milestn History		
Milestone ID	Alpha 20	Indexed; Enterable; Modifiable
Date	Date	Enterable; Modifiable
Reason	Text	Enterable; Modifiable
Amelioration	Text	Enterable; Modifiable
MS Hist Type	Alpha 12	Choices; Enterable; Modifiable
Comments	Text	Enterable; Modifiable

Structure: Regulations		
Concern ID	Alpha 15	Indexed; Enterable; Modifiable
Regulation	Alpha 80	Enterable; Modifiable
Field3	Alpha 2	Enterable; Modifiable
Field4	Alpha 2	Enterable; Modifiable

Structure: Conc Sequence		
sec1	Integer	Enterable; Modifiable
sec2	Integer	Enterable; Modifiable
Class	Alpha 40	Choices; Enterable; Modifiable
Title	Alpha 50	Enterable; Modifiable
Field5	Alpha 2	Enterable; Modifiable
Field6	Alpha 2	Enterable; Modifiable
Field7	Alpha 2	Enterable; Modifiable
Field8	Alpha 2	Enterable; Modifiable

Structure: Constants		
Task ID	Long Integer	Enterable; Modifiable
MS ID	Long Integer	Enterable; Modifiable
Div Update	Date	Enterable; Modifiable
Master Update	Date	Enterable; Modifiable

Structure: Cause Codes		
Description	Text	Enterable; Modifiable
Code	Alpha 2	Enterable; Modifiable
Field3	Alpha 2	Enterable; Modifiable
Field4	Alpha 2	Enterable; Modifiable

Structure: MS Dependencies		
Dep MS ID	Alpha 20	Indexed; Enterable; Modifiable
Base MS ID	Alpha 20	Indexed; Enterable; Modifiable
Base Task	Alpha 10	Indexed; Enterable; Modifiable
Dep Task	Alpha 10	Indexed; Enterable; Modifiable
Field5	Alpha 2	Enterable; Modifiable
Field6	Alpha 2	Enterable; Modifiable

Structure: Priority		
Concern ID	Alpha 15	Indexed; Enterable; Modifiable
SH	Integer	Enterable; Modifiable
EWM	Integer	Enterable; Modifiable
SS	Integer	Enterable; Modifiable
Prog	Integer	Enterable; Modifiable
Camp	Real	Enterable; Modifiable
DOE	Integer	Enterable; Modifiable
LMH	Alpha 2	Enterable; Modifiable
Unused	Alpha 2	Enterable; Modifiable
P LN	Alpha 15	Indexed; Enterable; Modifiable
P FN	Alpha 15	Enterable; Modifiable

Structure: ConernFinding L		
Concern ID	Alpha 15	Indexed; Unique; Enterable
Seq1	Integer	Enterable; Modifiable
Seq2	Integer	Enterable; Modifiable
Seq3	Alpha 2	Enterable; Modifiable

Structure: File21		
Field1	Alpha 2	Enterable; Modifiable
Field2	Alpha 2	Enterable; Modifiable
Field3	Alpha 2	Enterable; Modifiable
Field4	Alpha 2	Enterable; Modifiable
Field5	Alpha 2	Enterable; Modifiable

Structure: File22		
Field1	Alpha 2	Enterable; Modifiable
Field2	Alpha 2	Enterable; Modifiable
Field3	Alpha 2	Enterable; Modifiable
Field4	Alpha 2	Enterable; Modifiable
Field5	Alpha 20	Enterable; Modifiable

Attachment 2

SLAC Corrective Action Data Tracking System (SCADTS) Data Entry Forms