

ALS Integrated Safety Management Plan

July 15, 2003

Advanced Light Source Division

Ernest Orlando Lawrence Berkeley National Laboratory

Advanced Light Source Integrated Safety Management Plan

I. Introduction

The ALS Integrated Safety Management (ISM) Plan has been written to implement the Integrated Safety Management System (ISMS) for the division. The ISMS, taken from DOE 450.4, Safety Management Policy, sets forth 7 principles and 5 core work functions. This plan articulates those principles and core work functions specifically for the ALS Division. The Laboratory's ES&H policies and requirements are established in the RPM, Pub 3000, and the OAP. These publications establish line management responsibilities and define authorities and authorizations. The ISM Plan, referred to as the Plan, establishes the fundamental management strategy that will ensure that all institutional Environment, Safety and Health policies and procedures are implemented. The Plan will be reviewed annually as part of the Division's self assessment report. Based on management line management input, assessments, occurrences, lessons learned and other feedback mechanisms, the Plan will be modified as necessary to assure that ES&H continues to be effectively implemented within the Division.

II. Institutional Guiding Principles & Core EH&S Functions

The Ernest Orlando Lawrence Berkeley National Laboratory is a national resource, located on land belonging to the Regents of the University of California and operated with funds furnished mostly by the U. S. Department of Energy. The staff and management of the Berkeley Lab have been entrusted to function as stewards of this national resource. As stewards of this public trust, the staff and management must protect the public's interest and investment in the people, the land and environment, the equipment and facilities, and the intellectual property that make up the Berkeley Lab. This stewardship includes a responsibility to protect the health of the public and the workers, and to maintain the confidence of Congress, the public in general, and the people who work at the Laboratory.

In light of this responsibility, the Berkeley Lab commits itself to perform all work safely, in a manner that strives for the highest degree of protection for employees, participating guests, visitors, subcontractors, the public, and the environment, commensurate with the nature and scale of the work. In the context of this plan, safety refers to all environment, health and safety considerations. In addition, the Berkeley Lab seeks continuous improvement or sustained excellence in the quality of all environment, health and safety efforts. To achieve these goals, the Berkeley Lab has adopted the following principles, which are reflected in the detailed policies and procedures of the Laboratory. Principal investigators, managers and supervisors are expected to incorporate these principles into the management of their work activities. While these principles apply to all work, the exact implementation of these principles is flexible and can be tailored to the complexity of the work and the severity of the hazards and environmental risks.

1. Line Management Responsibility for EH&S. Line management is responsible for the protection of the public, the workers, and the environment. More specifically, Laboratory line managers are responsible for integrating ES&H into work and for ensuring active communication up and down the management line and with the workforce.
2. Clear Roles and Responsibilities. Clear and unambiguous lines of authority and responsibility for ensuring EH&S are established and maintained at all organizational levels within the Laboratory, and for work performed by its contractors. At the Berkeley Lab, this principle is manifested in contract language, position descriptions, PRD reviews and work authorization documents.
3. Competence Commensurate with Responsibilities. Personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities. Berkeley Lab management takes steps to ensure the appropriate depth and breadth of technical talent in EH&S is available and that the Laboratory has in place the means for periodically evaluating competencies. Competence includes training, experience and fitness for duty.

4. Balanced Priorities. Resources are effectively allocated to address EH&S, programmatic, and operational considerations. Protecting the public, workers, and the environment is a priority whenever activities are planned and performed.
5. Identification of EH&S Standards and Requirements. Before work is performed, the associated hazards are evaluated and an agreed upon set of standards and requirements are established which, if properly implemented, provide adequate assurance that the public, workers and the environment are protected from adverse consequences. At the Berkeley Lab this is accomplished through periodic review of the agreed upon set of standards developed using the Work Smart Standards protocol. Results of Self-Assessment roll-ups, planned EH&S Division reviews and other independent or external reviews will be considered during this review. The appropriateness of the current standards set will be established at least annually.
6. Hazard Controls Tailored to Work Being Performed. Administrative and engineering controls to prevent and mitigate hazards are tailored to the work and associated hazards being performed. The Berkeley Lab recognizes that tailoring requires judgment to be exercised at the appropriate decision level.
7. Operations Authorization. The conditions and requirements to be satisfied for operations to be initiated and conducted are clearly established and agreed upon. Chapter six of PUB-3000 outlines a method for ensuring the form and content of authorizations. Examples for the Berkeley Lab include Radiation Work Authorizations (RWAs) and Activity Hazard Documents (AHDs), Safety Analysis Document (SAD) for the NTLF and HWHF, etc. another form of authorization that exists for the Lab is the site-wide Environmental Impact Report (EIR). The Lab conducts an EIR review during renewal of the 5-year ODE/UC Contract.

These Guiding Principles are implemented through the following Core EH&S Functions, which must become a part of every aspect of work at the Laboratory:

1. Work Planning - Clear definition of the tasks that are to be accomplished as part of any given activity.
2. Hazard and Risk Analysis - Analysis and determination of the hazards and risks associated with any activity, in particular risks to employees, the public, and the environment
3. Establishment of Controls - Controls that are sufficient to reduce the risks associated with any activity to acceptable levels. Acceptable levels are determined by responsible line management, but are always in conformance with all applicable laws and Work Smart Standards.
4. Work Performance - Conduct of the tasks to accomplish the activity in accordance with the established controls.
5. Feedback and Improvement - Implementation of a continuous improvement cycle for the activity, including incorporation of employee suggestions, Lessons Learned, and employee and community outreach, as appropriate.

These Core EH&S Functions apply at all levels of the Laboratory - at the institutional level, the division or department level, and at the level of individual projects or work activities. This plan describes how these core functions are addressed at these three levels at the Berkeley Lab, and how activities involving Laboratory contractors are managed for environment, health and safety concerns.

The Guiding Principles and the Core EH&S Functions are closely related. Each level of organization at the Laboratory will be assessed by determining (1) how each of the Core EH&S Functions are being performed at every level, and (2) how well each of the Core EH&S Functions reflects the Guiding Principles. The self-assessment criteria, which are published each year, will be written to evaluate progress and successful implementation of ISMS.

III. Accountability

The Division Director is responsible and accountable for assuring that all ALS activities are carried out in a safe manner, in accordance with all Laboratory requirements. Program Heads, Group Leaders, and individual contributors are expected to identify hazards, implement controls, and increase general employee awareness of workplace ES&H issues. Division supervisory personnel are responsible and accountable to the Division Director for assuring that all activities are carried out in a safe manner, and in accordance with all of the Laboratory EH&S requirements. While this responsibility and accountability cannot be delegated, all Division employees are responsible for conducting themselves safely at all times. Safe conduct includes adherence to all institutional ES&H policies and procedures as a condition of employment. It is the responsibility of the ALS Division supervisory personnel to ensure all participating guests, subcontractors, and visitors know and follow the safety requirements that apply to their work while at the ALS. Managers, PI's, and supervisors are responsible for the safety of contracted work by assuring qualified contractors are selected, hazards are identified, and work performed at the ALS is performed safely.

The EH&S Coordinator oversees the Division ES&H program. At the ALS, the Division EH&S Coordinator is a full-time professional matrixed from the Environment, Health, and Safety (EH&S) Division. ALS management will supply clear guidance to the ALS EH&S Coordinator as to the needs of the ALS for EH&S support. ALS management will provide constructive input to the Performance Expectations and the PRD of the ALS Division EH&S Coordinator, and will review the completed PRD's of the ALS Division EH&S Coordinator and the support personnel for accuracy and completeness with respect to performance of their duties at the ALS. The ALS also has a matrixed radiation technician. The ES&H Administrator functions are performed by AFRD personnel matrixed part-time to ALS.

The EH&S Liaison is invited to the meetings of the ALS ES&H Committee. The EH&S Liaison provides technical support to ALS operations and coordinates requests for additional EH&S services.

The Division is divided into Groups concentrating on certain areas of operations and/or research. Each Group is headed by a Group Leader who reports to the Division Head and is responsible for ensuring that work performed by members of the group is conducted in accordance with applicable QA and ES&H programs, procedures, and requirements.

All supervisors (including Principal Investigators) are responsible for ensuring work is planned considering ES&H risks, all assigned employees are trained in ES&H responsibilities appropriate to the tasks performed, and work is performed in accordance with all applicable ES&H work authorizations and requirements.

All ALS personnel (including ALS employees, matrixed employees, temporary employees, and students) are assigned to a QUEST team, with the exception of short-term personnel. Persons whose participation in work activities at ALS are anticipated to occur over a period of less than 90 days may be included in QUEST team activities as determined by the Division Head. Each QUEST team has charge of self-assessment for the workspace of its members.

Matrixed Personnel

Technical and administrative personnel from other Divisions are matrixed to ALS, and ALS personnel are matrixed to other Divisions. Matrix customers, Home division supervisors, and matrixed employees talk to each other about job hazards and ES&H training requirements for the work to be done in the matrix assignment.

It is the responsibility of the originating or approving engineer to ensure that design documents are processed in accordance with Engineering Division safety procedures.

The Home Division is responsible to ensure that its employees are knowledgeable, and trained, as necessary, in the basic environment, safety and health policies and procedures of the Laboratory. Matrix customer supervisors may request specific or unique training for Matrix personnel assigned to their unit, and may provide on-the-job ES&H training specific to the assignment. Home division supervisors identify and develop appropriate training plans for matrixed personnel, including ensuring the matrixed employee's ES&H Training Profile requires training appropriate to the hazards of his/her current assignment. The Job Hazard Questionnaire or ES&H Training Profile for employees who are matrixed to or from ALS must be reviewed by the home division supervisor annually as part of the PDR process. The matrixed division supports matrixed employees ES&H training efforts through direct and indirect funding as established on an annual basis. The Home division is responsible for ensuring that ES&H training needs are met.

The Matrix customer supervisor assigns the day to day work of the matrix employee and responds to assignment-related questions. For personnel matrixed to ALS, ALS is responsible for leadership in the ES&H aspects of day-to-day activities

specific to the assignment. The Matrix customer refers matrixed employees to their Home division supervisor to address issues that are not directly related to the day to day tasks of the matrix assignment. The Matrix customer and Home division supervisors stay appropriately informed of and sensitive to employee issues that may be covered by collective bargaining agreements. The Home division supervisor stays in regular communication with both the Matrix customer supervisor and the matrixed employee.

Throughout the assignment, the Matrix customer and Home division supervisor talk to each other about the employee's job performance. The Matrix customer supervisor provides timely information on performance problems to the Home division supervisor. The Home division supervisor requests the primary customer supervisor to complete the expectation section of PRD. The primary Matrix customer supervisor provides comments on performance expectations and submits them to the Home division supervisor. The Home division provides the PRD to the matrix customer for review, discussion, and comment. The employee prepares the Employee Worksheet and provides a copy to both the Matrix customer and the Home Supervisor. The Home division supervisor determines the final PRD rating. When the Home division supervisor has completed the PRD, the Matrix customer supervisor initials it, acknowledging having read the PRD. The Home division supervisor reviews the PRD with the employee. The employee addresses questions or issues related to the PRD to the Home division supervisor.

The Matrix customer and Home division supervisor discuss corrective actions for performance issues relative to the matrix assignment. Performance issues or corrective actions that may be taken relative to matters outside the scope of the matrix assignment, e.g., conduct, may be discussed with Matrix customers on a need to know basis, e.g., when action taken affects delivery of service to the customer. The Home division determines and implements any disciplinary action or counseling needed. The matrixed employee interacts with the Home division management on issues related to corrective actions.

Contractors

Division management (including Principal Investigators) takes responsibility for the safety of contracted work by assuring qualified contractors are selected, hazards are identified, and work is performed safely.

ALS contractor oversight will comply with the requirements of the ISMS. In accordance with Chapter 10 of PUB-3000, the safety rights and obligations of contract employees are the same as those of LBNL employees. ALS supervisors assigned to direct the work of contract employees must provide instruction, safety equipment, and conditions equivalent to those provided to LBNL employees.

Construction work must be authorized by LBNL Facilities. The safety and health of construction subcontractor employees is the responsibility of the construction subcontractor.

All ALS employees, contractors, and participating guests are responsible for stopping work activities considered to be an imminent danger. An imminent danger is defined as any conditions or practices that could reasonably be expected to cause death or serious injury, or environmental harm. Stopping work involves:

- Alerting the affected employees and requesting the work be stopped.
- Calling the Berkeley lab emergency telephone number (x7911) and reporting the incident. The EH&S duty officer will be notified through this contact.
- Notify the immediate supervisor and ALS management and or EH&S coordinator.

IV. ES&H Committee

The Division will maintain an ES&H/QA Committee is headed by the Division Director, chaired by his representative (the Division EH&S Coordinator), and attended by at least one representative from each group in the Division, QA Representative, and QUEST team leaders. The ALS ES&H/QA Committee will meet monthly and discusses ES&H/QA problem areas and suggests improvements to the self-assessment program. The Committee discusses ES&H and QA concerns of the programs and lessons learned from them, and information on lab-wide ES&H and QA issues. Committee participation will be recorded in minutes which are distributed electronically and located on the ALS safety web page. The minutes together with action items and dissemination of any lessons learned will be distributed to all division employees through their individual QUEST team

The Committee will maintain the Division Safety Plan, promote ES&H awareness and training, and ensure that the Division works to improve the effectiveness of the Division safety program through the safety meeting and self-assessment from the QUEST team.

This Committee will perform an annual self-assessment of all spaces within its respective jurisdiction. This assessment is described in Appendix 1.

V. Scope of the Work Authorized

The Advanced Light Source (ALS) is a national facility for scientific research and development located at the Lawrence Berkeley National Laboratory of the University of California. Its purpose is to generate beams of very bright light in the far ultraviolet and soft x-ray regions of the spectrum. Within these regions, the ALS produces the world's brightest light available as an experimental tool. This national user facility, funded by the US Department of Energy, is available to qualified researchers from industry, universities, and government laboratories.

The ALS produces light in the form of bright beams of x-rays using a synchrotron storage ring. A hair-thin beam of electrons is generated by an electron gun and accelerated to 50 MeV in a linear accelerator, and then to 1.5 GeV-1.9 GeV in a booster synchrotron. The electrons are then transferred to the 200-meter storage ring. After the 10-minute filling time, the electrons remain stored for about 8 hours. As they travel around the storage ring, the electrons emit synchrotron radiation—energy in the form of photons—, which is directed by specialized optics down 12-meter long beamlines to experiment end stations.

Since the light is produced continuously while the electrons circulate in the ring, many beamlines (presently about 40) can be used simultaneously for different experiments. This bright x ray light is used for research in materials and surfaces, combustion dynamics, protein crystallography, biological microscopy, and many other fields.

Division and Program Managers, group leaders, and supervisors (including principal investigators) are responsible for considering ES&H hazards, risks, and concerns during the work planning process and appropriate controls are determined prior to authorizing work. ALS work authorization procedures are tailored to the level of hazard of the work. General duties

are authorized by the employee job descriptions and by completion of training requirements determined by the supervisor. Work recognized as posing special hazards is planned and authorized as described in PUB 3000, the ISMS, Section 1.3 of the OAP, and ALS procedures. Work authorization methods commonly utilized for ALS operations are described below:

Field Task Proposal/Agreements (FTP/As), Work For Others requests (WFOs), Cooperative Research and Development Agreements (CRADAs), and Laboratory Directed Research and Development (LDRD) documents are carefully reviewed for compliance with environment, health, and safety concerns. The conceptual design process includes documented involvement of applicable EH&S Division personnel in the review of performance and regulatory requirements, codes and standards, and EH&S criteria.

Major projects (according to DOE classification criteria) undergo a formal Operational Readiness Review (ORR) or Accelerator Readiness Review (ARR) under DOE direction. Smaller projects undergo an internal readiness review and work authorization process performed by program and Division management as described below.

For experiments or facilities that require an Activity Hazard Document (AHD), the AHD is reviewed and signed by the Division Director, ALS Division EH&S Coordinator, Principal Investigator, and EH&S Division representatives.

The hazards associated with operations at LBNL are described in the Hazards, Equipment, Authorizations and Review (HEAR) database. The HEAR database is one of the tools used by the division for defining its authorized scope of work and for identifying the hazards associated with its work activities. The database information is reviewed and updated at least annually by the ALS ES&H Administrator. Program/Project ES&H Coordinators inform the Administrator of planned changes to work scope and associated hazards.

Work requiring a Radiological Work Authorization, Sealed Source Authorization, or other EH&S permit or authorization will be performed in accordance with the authorization issued by the EH&S Division.

All modifications to the ALS personnel safety systems are authorized by the ALS Technical Safety Committee according to ALS Procedure EE 02-01. The ALS Technical Safety Committee is an ad hoc committee that also reviews and approves all changes in policies that have potential safety impact. The members of the committee are its ex-officio members, the Head of ALS Operations and the ALS Division safety coordinator, and whichever experts are technically qualified to advocate the changes and those who are qualified to approve them. The committee is convened by the ALS Division EH&S Coordinator.

New and modified beamlines at the ALS are reviewed and authorized by the Beamline Review Committee in accordance with Procedure BL 08-16.

To conduct research at the ALS, the user submits an ALS Experiment Form describing the experiment and all potentially hazardous materials and equipment to be brought to the ALS. The ALS identifies any problems or safety issues that need to be resolved before the experiment begins. The ALS uses the Experiment Form to generate an Experiment Safety Sheet (ESS) that must be completed and posted by the beamline before the experiment may begin. The ESS is used to verify that the safety and training/medical requirements are met by the equipment and users.

ALS personnel working off-site are required, at a minimum, to comply with the EH&S requirements applicable to the site at which they are working.

ALS contractor oversight will comply with the requirements of PUB-3000 and the RPM.

VI. Qualification and Training

ALS selects, assigns, and retains personnel in accordance with the RPM procedures. In selecting from a group of applicants, the Division director or Division head selects the person who, based on the evaluation of the Division director or Division head, possesses the qualifications to perform the duties of the position most effectively. In making this judgment, the Division director or Division head compares the knowledge, skills, abilities, and other qualifications of the applicants with those required for successful performance of the duties of the position. ALS contractor selection will comply with the requirements of PUB-3000 and the RPM. Effective and successful performance of duties includes performance in a manner that protects the health and safety of employees and the general public and that does not endanger the environment, as defined by the Laboratory's EH&S policies and requirements contained in the RPM, PUB-3000, ISMS, and OAP.

Each supervisor is responsible for ensuring all assigned employees whose anticipated assignment with ALS exceeds three months have completed a Job Hazards Questionnaire within the first month of employment. Whenever an employee's job assignment changes, the Job Hazards Questionnaire is reviewed to ensure that the hazards, program assignments, and safety roles entered are still valid. Annually, in conjunction with the Performance Review process, the Job Hazards Questionnaire and the employee's completion of required training is reviewed, and a training plan is developed for each employee for the next twelve-month period.

User Training

ALS Users are managed by a Group Training Record that accurately captures the records in the LBNL institutional training database. The ALS has a system that provides assurance that users receive timely, appropriate safety training. An important component of this system is an access card system. Training records are checked before card keys are issued, to ensure personnel have received essential ALS-specific safety training before they are allowed to enter the facility unescorted. In addition, ALS has a separate reception point for ALS visitors with recording of appropriate orientation training. Experiment-specific training is internally documented and tracked through Experiment Safety Sheets that must be signed and posted at the experiment location prior to the beginning of an experiment.

VII. Balanced Resources

Principal Investigators incorporate appropriate resource allocation for ES&H concerns in all research proposals, including cost of safety equipment, permits, training, maintenance, waste disposal, and facilities modifications unless covered by institutional funding sources.

VIII. ES&H Resources

To facilitate implementation and execution of the Division ES&H Program, the following resource is matrixed from AFRD:
0.2 FTE Division ES&H Administrator

ES&H efforts are integral part of all ALS activities and are performed by all ALS personnel as needed and appropriate to the job task. The estimated level of effort is anticipated to include, but is not limited to:

≥ 1.5 hr/employee/month QUEST activities

The following resource is made available by the EH&S Division on a matrix basis. They are available to assist ALS with any aspects relating to the implementation of this Plan.

1.00 FTE ALS Radiation Technician

The matrixed individual is accountable to the Director of the Advanced Light Source.

In addition to the matrixed personnel, ALS will require support from EH&S Division professionals on an as-needed basis. EH&S estimates that direct support activities may require a level of effort of approximately 2.5 FTE, as described in Appendix 2, Estimated EHS Support of ALS. ALS also expects to receive EH&S general programmatic support as described in PUB 3000, including, but not limited to, EH&S training courses.

IX. Validation, Feedback, and Improvement

ALS' primary method of assessing and validating the effective implementation of this Plan is our self-assessment process, described in detail in Appendix 1, the QUEST Program Guide. Our self-assessment process is evaluated annually and findings are summarized in the annual ALS Self-Assessment Report. Performance measurement criteria for this report are described in Appendix 3. All walkthrough and QUEST action items not completed within 60 days are placed on the LCATS database. LCATS completion status, trends, and root causes are summarized in the ALS Self-Assessment Report.

Additional opportunities for improvement will be identified through LBNL self-assessment activities, as described in PUB-5344, ES&H Self-Assessment Program, including Integrated Functional Appraisals, Integrated Hazard Assessments, Safety Review Committee MESH reviews, and Appendix F performance reports. If any discrepancies between authorization information provided by EH&S and records maintained by ALS are noted, these discrepancies will be discussed with the appropriate EH&S personnel and the relevant documents will be corrected or clarified as necessary. DOE, UC, and ES&H regulatory agency oversight activities may identify necessary improvements. Applicable information from the LBNL Lessons Learned program will be disseminated by the ES&H coordinator as another means to share information for accident prevention and hazard awareness.

This Plan will be reviewed and updated annually, and may be revised more frequently as needed to facilitate compliance with regulatory and contract requirements and enhance the effectiveness of the Plan.



**Advanced Light Source
Environment, Safety, and Health Management Plan**

Review and Approval

Signatures:

Submitted by:

Daniel Chemla, Director
Advanced Light Source

EH&S Resource Commitment:

David C. McGraw, Director
Environment, Safety, and Health Division

Accepted:

Charles V. Shank, Director
Lawrence Berkeley National Laboratory

APPENDIX 1

INTRODUCTION

QUEST is an integrated way to examine **Q**uality Assurance/Improvement and **E**nvironment, Safety, and Health through **S**elf-Assessment and **T**eamwork. Its basic premise is that teams composed of employees actually performing the work of the Programs are in the best position to evaluate the quality and safety of their workplace.

HISTORY

- **QUEST** was developed in 1994
- It was revised as **QUEST-II** in 1996.
- The April 1998 update aligned the **QUEST** program with the Lab Integrated Safety Management System by incorporating **QUEST** into the ALS ES&H Management Plan.
- The October 1998 update provided greater flexibility to teams in deciding how to implement **QUEST**.
- The January 2000 update established an annual **QUEST** review as the required minimum level of **QUEST** participation and revised the Quality Assurance aspects of self-assessment.
- The April 2002 update simplifies the **QUEST** Fundamentals checklist and revises the Quality Assurance section.
- ALS management will review the **QUEST** program annually as part of our Integrated Safety Management Plan update.

OBJECTIVES

The main objective of **QUEST** is the identification and mitigation of any condition or process that jeopardizes the safety and health of employees, protection of the environment, or the quality of ALS research or operations. The **QUEST** process involves all long-term ALS personnel to raise awareness of ES&H and quality issues and develop the habit of identifying, reporting, and resolving potential problems before accidents or occurrences result. **QUEST** teams are also encouraged to identify opportunities for improvement, examine each of these opportunities, and implement those actions that they believe will lead to the improvement desired.

PROCESS

Required Activities:

All ALS personnel (including Division employees, matrixed employees, visitors, temporary employees, students, and participating guests) are assigned to a QUEST self-assessment team. The exceptions are short-term personnel (persons whose participation in ALS work activities at LBNL are anticipated to occur over a period of less than 90 days/year) and the electricians assigned to the ALS who participate in safety meetings and other functions with their home division.. Persons whose participation in work activities at ALS are anticipated to occur over a period of less than 90 days may be included in a QUEST team as determined by the Program Head. Composition of the teams is left to the discretion of the appropriate Program Head or Project Leader, but each team should have charge of self-assessment for the workspace of its members.

QUEST safety team leaders must coordinate team assignments to ensure the annual inspections cover all the Program/Project space at LBNL. Teams may work together or exchange areas.

Each QUEST team is required to perform an assessment of workplace ES&H hazards at least once each year. The Team Leader may select a subset of team members to perform the actual workplace inspection and report the findings to the team.

The applicable items on the QUEST Fundamentals checklist must be checked. (NOTE: ALS may designate different checklists for ALS assessments.) The additional checklists from Section 4 of this Guide are provided as tools teams may use when conducting inspections. Team members are also encouraged to identify quality assurance issues. The annual inspection must be completed before the end of the designated QUEST inspection month. The inspection may take place before the designated QUEST month to accommodate the work schedules of team members.

Each team must meet at least once each year to discuss the workplace inspection findings and solicit additional reports of concerns from its members. Teams must report any unresolved concerns to the ALS ES&H Coordinator. The ALS ES&H/QA Administrator will enter ES&H action items past 60 days into the Laboratory's Self-Assessment Database (LCATS) and track them to completion. QA action items will be forwarded to the ALS QA Operations Committee.

Program Heads and Group Leaders may establish additional requirements for QUEST activities within their Program.

Recommended Activities:

In addition to the required annual inspection, QUEST teams are encouraged to remain active throughout the year. QUEST teams can play an important role in assisting personnel in identifying and solving problems. Team meetings are one way of providing feedback to the team on the actions that have been taken as a result of the concerns team members have identified. QUEST team meetings are also an opportunity to pass along relevant information from the ALS ES&H and QA committees. QUEST teams meet monthly. Appropriate meeting topics include any issue affecting safety, the environment, or quality assurance. Teams are encouraged to choose topics that are "local issues" and fit their needs.

Teams may choose to perform additional assessments of particular areas or aspects of their work. If deficiencies are uncovered, corrections should be made immediately when practical. Section 4 of this guide includes an example of a form for recording all deficiencies found and corrections made. Items requiring the assistance of other LBNL organizations to correct, or for which additional guidance is needed should be promptly referred to the ALS ES&H Coordinator.

TEAM STRUCTURE

Teams may comprise those with similar job descriptions, those who work in a given area, those who work together on specific projects, or any other selection criteria deemed appropriate by the Program.

Each QUEST team must have a team leader. The team leader may be appointed by Program management or elected by the team members.

Every team member is encouraged to attend all scheduled QUEST meetings. Each team member should have an active role to play in some facet of QUEST activities each year, e.g., writing a quality assurance policy or procedure, recording team activities, participating in self-assessment inspections, etc.

RECORDS

Each QUEST team will maintain a record of its activities including minutes and attendance rosters for all meetings, copies of inspection/correction lists, and a final report of actions taken or planned. The team leader will provide copies of these documents to the ALS ES&H Coordinator. As an agenda item on each ALS ES&H Operations Committee meeting, items considered by the Division to be significant will be discussed. Quality assurance issues will be forwarded to the ALS QA Officer.

QUEST ROLE IN DIVISION SELF-ASSESSMENT

The Laboratory has implemented a self-assessment system that ALS fully supports and in which the Division actively participates. This system includes the following assessments:

- Management Environment, Safety, and Health (MESH) assessments, conducted every three years by the senior research personnel on the Safety Review Committee, review how well the management systems described in our ALS ES&H Management Plan are functioning.
- Integrated Functional Appraisals (IFA), performed every three years by teams of EH&S Division specialists who make comprehensive inspections of ALS operations based on identified risk levels.
- Division Self-Assessments, performed annually by each Division, measure the implementation of the Division ES&H Management Plans.

QUEST is an important part of this system. Instead of waiting for an EH&S or Safety Review Committee self-assessment team to inspect our areas before we take action, we constantly assess the quality and safety of the locations where we work. After all, who is more familiar with our work and the hazards we face than we are? Assessment of Division spaces for day-to-day deficiencies (in both the ES&H and QA areas), and correction of these deficiencies, is accomplished by **QUEST** teams. Identifying and resolving easily correctable deficiencies within the Division permits Integrated Functional Appraisal teams to direct more of their attention to helping us improve our performance in less obvious areas. To avoid duplicated effort, the IFA teams review our **QUEST** action items as part of their appraisal and then focus their inspections on the more difficult to identify deficiencies.

The annual Division Self-Assessment report is compiled (by the AFRD ES&H Administrator) by reviewing **QUEST** documentation, findings from safety walkthroughs by Division and Program management, and other performance information such as accident reports, regulatory agency inspection reports, and findings of EH&S Division and Safety Review Committee assessments. Your **QUEST** findings help us identify ways of improving our ES&H/QA efforts. Our Division ES&H Self-Assessment Report is submitted to the Division Director and the Office of Assessment and Assurance. Findings and performance ratings of all the Division Self-Assessments are rolled up in an LBNL ES&H self-assessment report. The results are summarized for LBNL management in an ISM-Based Division Performance at a Glance Table.

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PY 2003 Self-Assessment Performance Criteria

EXPECTATION	VALIDATION	
DEFINE WORK		
<p>E1. Resources are effectively allocated to address ES&H, programmatic, and operational considerations.</p> <p>E2. Line management regularly communicates ES&H policy, procedures, and lessons learned to all staff. Division staff has clear lines of communication to convey ES&H issues to Lab and Division management, including evidence of clear policy for all staff to communicate safety concerns. Examples of appropriate communication/policy include:</p> <ul style="list-style-type: none"> • Annual all-hands division meeting • Research procedures and protocols include safety notes, PPE requirements • Division-wide emails • Active Division Safety Committee • Group safety meetings • Division ES&H web site • Roles and responsibilities detailed in ISM plan 	<p>V1. Are resources allocated to address ES&H considerations?</p> <p>V2. Is there evidence of on-going and two-way communication of ES&H between line management and staff?</p>	<p>satisfactory partial - ye marginal - :</p> <p>satisfactory partial - ye marginal - :</p>
IDENTIFY HAZARDS		
<p>E3. Workspaces are inspected and evaluated on a regular basis.</p> <p>E4. Divisions have a process to identify, analyze, and categorize hazards associated with work. Examples of hazard inventory include:</p> <ul style="list-style-type: none"> • HEAR database • project safety review • workspace safety review 	<p>V3. % Division workspace inspected</p> <p>V4. For all Division projects, programs, and operations, have hazards been identified and inventoried? Does inventory include both new work and modification of existing work?</p>	<p>>85% - gr >60% - <8 <60% - red</p> <p>satisfactory partial - ye marginal - :</p>
CONTROL HAZARD		

EXPECTATION	VALIDATION	
<p>E5. Divisions ensure engineering and other safety controls are in place and maintained. Examples include, but are not limited to:</p> <ul style="list-style-type: none"> • guards • fume hoods • interlocks • personal protective equipment • gas monitors 	<p>V5. Are engineering controls monitored as part of division self-assessment program? Are controls certified/checked, calibrated, and/or serviced within the required schedule?</p>	<p>satisfactory partial - ye marginal - :</p>
<p>E6. Divisions ensure administrative controls are in place and maintained. Examples of administrative controls for self-authorized work include:</p> <ul style="list-style-type: none"> • work procedures • project safety reviews • assurance letters 	<p>V6. Are hazards controlled for all Division projects? Are administrative controls reviewed annually and when work is modified? This includes work under formal authorizations (i.e. AHDs, RWAs, SSA, XRSs) and self-authorized work (i.e. Division approval only).</p>	<p>satisfactory partial - ye marginal - :</p>
<p>E7. Divisions ensure that ergonomic issues are effectively addressed for work processes and staff workstations.</p>	<p>V7. Does the Division have an active ergonomic program for its employees, including ergonomic training (i.e. EHS060, EHS052, EHS062), evaluations, and controls for work processes and workstations? Are evaluation recommendations implemented?</p>	<p>satisfactory partial - ye marginal - :</p>
PERFORM WORK		

EXPECTATION	VALIDATION	
<p>E8. Work is performed within the ES&H conditions and requirements specified by Lab policies and procedures.</p>	<p>V8a. Work within authorization: % SAA compliance (including MWSAAs, RWCAs)</p> <p>% Authorization compliance (i.e. RWAs, RWPs, XRSs, AHDs)</p> <p>% compliance QA waste samples</p> <p># Waste Management issued NCARs</p> <p>V8b. Injuries and Accidents: Is TRC rate under 2.62 or evidence of divisional improvement?</p> <p>Is LWC rate under the DOE contract control level of 1.50 or evidence of divisional improvement?</p>	<p><i>regulatory</i> >90% - gre >75% - <9 <75% - red</p> <p><i>regulatory</i> >90% - gre >75% - <9 <75% - red</p> <p><i>regulatory</i> >95% or o >92% - <9 <92% - red</p> <p><i>regulatory</i> 0 - green type 1* - y type 2 @ - 1</p> <p><i>contract dr</i> TRC >25% case/yr - gr TRC <25% improveme TRC >25%</p> <p><i>contract dr</i> LWC >25% case/yr - gr LWC <25% improveme LWC >25%</p>
<p>E9. Staff is proficient in performing work safely.</p>	<p>V9a. % completion of JHQs or equivalent system.</p> <p>V9b. Based on JHQs or training profiles, % completion rate for required courses.</p>	<p>>85% - gre >60% - <8 <60% - red</p> <p>>90% - gre >80% - <9 <80% - red</p>
<p>E10. Divisions review at least one research or operations process. Reviews are documented and , if possible, waste reduction strategies implemented.</p>	<p>V10. 1) Divisions demonstrate progress in minimization opportunities identified in FY02 self-assessment.</p> <p>2) Divisions review at least one research or operations process. Reviews are documented and , if possible, waste reduction strategies implemented. Divisions include waste minimization in division project review protocols.</p> <p>3) Divisions that generate no regulated waste pursue minimization opportunities for other wastes (paper, batteries, toner, etc.). Page</p>	<p>satisfactory partial - ye marginal - :</p>

EXPECTATION	VALIDATION	
FEEDBACK AND IMPROVEMENT		
E11. Managers and staff are regularly involved in ES&H feedback and improvement activities.	V11. Do line management (including division directors, principal investigators, and senior/mid managers) and staff participate in feedback and improvement activities (i.e. walkthroughs, programmatic safety review, and other ES&H activities)?	satisfactory partial - ye marginal - :
E12. ES&H deficiencies identified from workspace inspections, self-assessment activities, and external appraisals are corrected in a timely manner. A downward trend of Level 1 and 2 LCATS repeat deficiencies is established.	V12. % completion rate of corrective actions implemented in a timely manner (including Levels 1, 2, and 3 LCAT-recorded deficiencies and other opportunities for improvement identified).	>90% - gre >80% - <9 <80% - red
E13. Division performs thorough review of all staff injuries and accidents, including analysis of conditions that led to injury and implementation of corrective actions.	V13. Has Division ensured that accident causes and corrective actions are effectively identified on SAARs? Are corrective actions implemented?	satisfactory partial - ye marginal - :

* - "Type 1" NCAR is assigned if the waste is certified to be free of radioactivity and when tested, is shown to be radioactive by DOE standards. Waste would be evaluated against ANSI N13.12, which is based on the relative toxicity of isotope. A Type 1 NCAR is assigned if the item in question has volumetric radioactive contamination of solids or liquids equal to or less than:

- 3pCi/g (Ex. 226Ra, 230Th, 210Po, 210Pb, 237Np, 239Pu)
- 30pCi/g (Ex. 22Na, 60Co, 137Cs)
- 300pCi/g (Ex. 131I, 241Pu)
- 3000pCi/g (Ex. 3H, 14C, 32P, 35S, 125I, 51Cr).

@ - "Type 2" NCAR is assigned if there is a regulatory violation subjecting the Lab to fines and penalties (waste in SAA >1 year), a safety hazard, or the presence of radioactivity where the waste is certified to be free of radioactivity and exceeds limits of ANSI N13.12.

SECTION 2. 2002 QUEST TEAM ROSTER

TEAM 1:

INSPECTIONS: Bldgs. 2, 4, 6, 7, 10, 80, 80A offices & 7 warehouse

- **Ben Feinberg**, Wendell Agot, Daniel Chemla, Jim Krupnick, Ed Lampo, Georgeanna Perdue, Neville Smith
- **Ruth Pepe**, Meredith Castro, Jeremy Coyne, Bernadette Dixon, Parish Epps, Sharon Fujimura, Annette Greiner, Liz Moxon, Barbara Phillips, Steve Rossi, Mireille Sattar, Lori Tamura, Greg Vierra, Judy Zelter
- **Donna Hamamoto**, Todd Anderson, Gary Giangrasso, Cheryl Hauck, Gary Krebs, Alex Lobodovsky, Tony Marquez, Art Robinson

TEAM 2:

INSPECTIONS: Bldgs. 10 & 80 (shops)

- **Alan Biocca**, William Brown Jr, Ed Domning, Ken Fowler, Craig Ikami, Suzanna Jacobson, Jim McDonald, Alan Robb, Loren Shalz, John Spring, Rick Steele, Chris Timossi, Jerry Tunis
- **Dan Colomb**, Robert Armstrong, William Baldock, Dennis Calais, Donald Davis, Michael Decool, Richard DeMarco, Dennis Gibson, Dennis Hull, Donna Jones, Steven Klingler, Charles Knopf, Donald MacGill, Harry Meyer, Vladimir Moroz, Greg Morrison, Wayne Oglesby, John Pepper, Ken Sihler, Harold Stewart, Monroe Thomas, Ed Wong, Frank Zucca
- **Jim Gregor**, Ronald Cole, Ronny Colston, Mike Foster, Tho Nhan, James Nomura, Sergio Rogoff, Ronald Slater
- **Bruce Samuelson**, Doug Bentsen, Jim Bishop, David Brothers, Eduardo Diaz, Orland Jones, Jan Pusina, Tom Scarvie, Scott Stricklin, Michael Wolfe

TEAM 3:

INSPECTIONS: Bldgs. 2, 6, 10, 80 (labs)

- **Art Ritchie**, Barry Bailey, Moises Balagot, Karl Bolin, Jonathan Elkins, Rita Jones, Al Lindner, Paul Molinari, Fred Ottens, Harry Scheid, Ken Woolfe, Bob Mueller,
- **Tony Young**, Glen Ackerman, Elke Arenholz, John Bozek, Richard Celestre, Jonathan Denlinger, Sirene Fakra, Jun Feng, Byron Freelon, Ernie Glover, Nasser Hamdan, Everett Harvey, Phil Heimann, Malcolm Howells, Zahid Hussain, Steve Irick, Aaron Lindenberg, Scott Locklin, Alastair MacDowell, Matthew Marcus, Michael Martin, Wayne McKinney, Howard Padmore, Jamshed Patel, Eli Rotenberg, Bruce Rude, Fred Schlachter, Andreas Scholl, Wayne Stolte, Robert Sublett, Nobumichi Tamura, Tony Warwick
- **Hiroshi Nishimura**, John Byrd, Terry Byrne, David Robin, Chris Steier, Ying Wu
- **Mike Bell**, Robert Gassaway, Ron Gervasoni, J Helmers, Larry Jordan

TEAM 4:

INSPECTIONS: Bldg. 46 & 27

- **Mike Kritscher**, Jason Akre, Nord Andresen, Dennis Baum, Lionel Bonifas, Daniela Cambie, Mark Coleman, Jim Comins, Carol Corradi, Curtis Cummings, Rob Duarte, Keith Franck, Alex Gavidia, Jin Young Jung, Nicholas Kelez, Andrea Lim, Steve Marks, Pat McKean, Vinh L. Ngo, Rob Patton, Paul Pipersky, Dave Plate, Ken Rex, Ross Schleuter, Niles Searls, Troy Stevens, Will Thur, Jon Zbasnik
- **Walter Barry**, Ken Baptiste, Bob Benjegerdes, Randy Candelario, Michael Chin, Michael Fahmie, Allen Geyer, Jim Julian, Slawomir Kwiatkowski, Greg Stover, Brian Taylor

SECTION 3. ES&H/QA CONCERNS

One of the primary purposes of **QUEST** is to ensure that any concern you have about your safety or health, the health or safety of your co-workers, protection of the environment, or quality assurance in your work area is brought to the attention of management.

The forms that follows (or equivalent forms) are used by **QUEST** team members to submit concerns to their Team Leader.

The first form, the ES&H Concerns Report, is designed for use during **QUEST** inspections or by team members to report concerns noticed in the work place at any time.

The second form, the **QUEST** Meeting Report is designed for recording team meetings.

Some teams have found it useful to post a list in an easy-to-find location, such as a bulletin board in the work area, and encourage team members to add concerns they notice in the course of their daily work. The third form, the **QUEST** Action Item List, may be used for this purpose. This technique is particularly useful for teams whose schedules make it difficult to get everyone together for regular meetings.

Prompt resolution of these issues will improve our safety, efficiency, and compliance with requirements. If a concern cannot be addressed without assistance from others, the Team Leader should immediately forward the concern to the ALS ES&H Coordinator or Quality Assurance Representative. These action items will be forwarded to the AFRD ES&H/QA Administrator who will track them on ALS' action item spreadsheet. Only ES&H items that have not been resolved within 60 days will be entered into LCATS, the Laboratory's Self-Assessment Database, for tracking.

We want to hear from you!



**ALS QUEST CIRCLE
Findings from Inspection**

Team # _____
Inspection Date _____
Areas Inspected _____
Inspector(s) _____

Finding:

Location: Bldg: _____ Room or Beamline: _____ other: _____

Description:

Status:

- Resolved (date) _____
- Will be resolved by this team, or
- Referred to ES&H Coordinator (Georgeanna Perdue), or
- Referred to QA Officer (Ed Lampo), or
- Referred to _____

Finding:

Location: Bldg: _____ Room or Beamline: _____ other: _____

Description:

Status:

- Resolved (date) _____
- Will be resolved by this team, or
- Referred to ES&H Coordinator (Georgeanna Perdue), or
- Referred to QA Officer (Ed Lampo), or
- Referred to _____

QUEST Meeting Report

Please submit copy of completed forms to Program/Project ES&H Coordinator

ALS

**Quality ES&H Self-Assessment
Teamwork**

Team Leader _____

Program/Project: _____

Date: _____

QUEST Meeting *Please submit copy of completed forms to Pat Thomas, MS 50-4037*



Advanced Light Source

Quality ES&H Self-Assessment
Teamwork

Discussion
Leader _____
Group: _____
Meeting
Date: _____

QA/ES&H Topic(s) of Discussion:

Items of ES&H/QA Concern:

<p>1. _____ _____</p> <p>Resolved Immediately <input type="checkbox"/> or</p> <p>Will be Resolved by this team <input type="checkbox"/> or</p> <p>Referred to ES&H Coordinator (Georgeanna Perdue) <input type="checkbox"/> or</p> <p>Referred to QA Officer (Ed Lampo) <input type="checkbox"/> or</p> <p><input type="checkbox"/> Referred to: _____ or</p> <p><input type="checkbox"/> Resolved (Date) _____ or (If more than two months from identifying concern)</p> <p><input type="checkbox"/> Referred to Pat Thomas for inclusion into LCATS (Date) _____</p>
<p>2. _____ _____</p> <p>Resolved Immediately <input type="checkbox"/> or</p> <p>Will be Resolved by this team <input type="checkbox"/> or</p> <p>Referred to ES&H Coordinator (Georgeanna Perdue) <input type="checkbox"/> or</p> <p>Referred to QA Officer (Ed Lampo) <input type="checkbox"/> or</p> <p><input type="checkbox"/> Referred to: _____ or</p> <p><input type="checkbox"/> Resolved (Date) _____ or (If more than two months from identifying concern)</p> <p><input type="checkbox"/> Referred to Pat Thomas for inclusion into LCATS (Date) _____</p>
<p>3. _____ _____</p> <p>Resolved Immediately <input type="checkbox"/> or</p> <p>Will be Resolved by this team <input type="checkbox"/> or</p> <p>Referred to ES&H Coordinator (Georgeanna Perdue) <input type="checkbox"/> or</p> <p>Referred to QA Officer (Ed Lampo) <input type="checkbox"/> or</p> <p><input type="checkbox"/> Referred to: _____ or</p>

<input type="checkbox"/>	Resolved (Date) _____ or (If more than two months from identifying concern) Referred to Pat Thomas for inclusion into LCATS (Date) _____
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Attendance (please print)

SECTION 4. ES&H CHECKLISTS

USING THE CHECKLISTS

The applicable items listed on the QUEST Fundamentals Checklist must be reviewed for all work areas at least once a year. This checklist covers items we have promised Lab Management we will check as part of our ALS' Integrated Safety Management Plan.

Additional checklists are provided as optional tools. **QUEST** teams may use these checklists to help them identify safety concerns. These checklists are particularly useful to team members who are doing **QUEST** inspections for the first time.

The ES&H/QA Concerns Report form included in Section 3 of this Guide can be used to record any concerns involving checklist items.

Team 1

Buildings 2, 4, 6, 7, 10, 80, 80A Offices & Warehouse in 7

Asbestos Exposure

Are cement materials that contain asbestos (e.g., transite panels) in good condition?

Is asbestos-containing thermal insulation on plumbing equipment, steam pipes, etc. in good condition (i.e., all exposed surfaces, including ends, are sealed)? **NOTE: Report punctures and deteriorating insulation to the Industrial Hygiene Group**

Are floor tiles in good condition, and not being abraded or scraped as a result of work practices (floor buffing, scraping chairs, machinery vibration, etc.)?

Business Services

Are retirees and students assigned shared office space?

Is all sensitive (attractive) and capital property accurately accounted for?

Electrical

Are 3-wire cord plugs undamaged (no tape), with no removed grounding pins?

Are all electrical raceways and enclosures securely fastened in place?

Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates?

Are clamps (strain reliefs) or other securing means provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc., and is the cord jacket securely held in place?

Are cords and cables free of grease, oil, or chemicals; unfrayed; and free of splices or taps?

Are daisy chains of extension cords and power strips avoided?

Are electrical cords and wires protected from damage?

Are electrical enclosures such as switches, receptacles, junction boxes, etc., provided with tight-fitting covers or plates of approved materials and design?

Are electrical outlets of approved three-wire (grounding) type?

Are electrical panels and breakers properly labeled? Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment served?

Are extension cords:

- 1) equipped with proper cord plugs,
- 2) positioned so they do not create trip hazards,
- 3) not used in place of permanent wiring, and
- 4) equipped with grounding conductors?

Are ground fault interrupters (GFCI's) for 120-volt 15- and 20-amp receptacles installed in wet or damp areas and in receptacles within 6 feet of sinks and fume hood sinks?

Are items of electrical equipment, cords, and connectors maintained in good condition, free from damaged insulation, loose connections, exposed terminals, or loose wires?

Are multiple plug adapters prohibited?

Are oil filled transformers provided with secondary containment in the event of an oil leak?

- Are power strips LBNL approved and labeled with the U.L. symbol?
- Are receptacles and outlets in good condition (not loose or broken)?
- Are space heaters provided with tip-over switch?
- Are there no more than 13 convenience outlets on a 20-amp circuit?
- Are warning signs posted where employees, other than qualified employees, might come in contact with live parts?
- If emergency lighting units are connected by cord and plug, are cords no more than three feet long?
- Is permanently located machinery hard wired, unless specifically intended for flexible cord connection per LBNL criteria?
- Is sufficient access and working space provided and maintained about all electrical equipment to permit ready and safe operations and maintenance? Is there a 30 inch wide and 3 foot deep clearance maintained around control switches, circuit breakers, and electrical panels?
- Is the practice of stringing cords or wiring on pipes, conduit, nails, or hooks or across ceilings avoided? Is the practice of running flexible cords and cables through holes in walls, ceilings, or floors avoided?
- Is there no more than 13 feet of plug strip on a 20-amp circuit?

Elevated Surfaces

- Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toe boards?
- Are signs posted, when appropriate, showing the elevated surface load capacity? Are loads on elevated surfaces within posted load capacity?
- Is a permanent means of access and egress provided to elevated storage and work surfaces?
- Is material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, collapsing, rolling or spreading?

Employer Posting

- Are building and trailer identification numbers posted on exterior? Are room numbers readily visible?
- Are hazard warning signs and tags used where there are immediate dangers or potential hazards? Are caution and information signs used where there are potential hazards or need for general instructions? Are obsolete signs promptly removed?
- Are signs concerning exiting from buildings, room capacities, floor loading, or exposures to x-ray, microwave, or other harmful radiation or substances posted where appropriate?
- Are emergency telephone numbers posted where they can be readily found in case of emergency?
- Do occupants know the location of the assembly area(s) and evacuation route(s)?

Energy Conservation

- Are there loose windows, non-closing doors, holes in outside walls, and other building deficiencies which result in excess use of energy?
- Is inefficient use of energy caused by heating large areas when spot heating would be sufficient, lighting unoccupied areas, etc., avoided?
- Where space heating is inadequate, have all work areas (fixed and occupied) been provided with spot heating?

Fire Protection

Are amounts of flammable and combustible liquids greater than 10 gallons stored in an approved flammable liquid cabinet, storage room, or storage area?

Are Class 1A flammable liquids stored in metal containers with a maximum capacity of 1 gallon or in safety containers with a maximum capacity of two gallons? Are other flammable and combustible liquids stored in containers (metal or safety cans) with a maximum capacity of five gallons?

Are combustible scrap, debris, and waste materials (oily rags, etc.) stored in covered metal receptacles and removed from the worksite properly?

Are exit doors and gates maintained to open without a key, tool, or special effort?

Are exit doorways, corridors, stairs, walkways, and aisles kept free of obstructions and combustible materials?

Are fire extinguishers visible and readily accessible? Are extinguishers inspected monthly and have maintenance inspections been performed within the last 12 months (as noted on the inspection tags)?

Are fire sprinkler heads and pipes kept free of decorations, wire, and other materials?

Are heat-producing appliances located at least 18 inches from combustible material?

Are materials stored in a secure and orderly manner?

Are mechanical, equipment, boiler rooms, attics, and unfinished spaces kept free of combustible materials?

Are three foot clearances from extinguishers, hose racks, and system valves maintained?

Are three foot clearances from hydrant or sprinkler connections maintained?

Are work aisles maintained at a minimum 24 inch width and other aisles at a minimum 36 inch width?

Do exit signs contain the word "EXIT" in lettering at least 6 inches high, with the stroke of the lettering at least 3/4 inch wide? Are the signs and exits adequately illuminated?

Is proper clearance of 18 inches maintained below sprinkler heads and two feet below ceilings?

Floor and Wall Openings

Are all floor holes into which persons can accidentally walk guarded either by a standard railing with a standard toe board on all exposed sides or by a floor hole cover that is hinged in place?

Are floor and stairway openings guarded by a cover, a guardrail, or equivalent on all sides (except at entrance to stairways or ladders)?

Are toe boards installed around the edges of permanent floor openings where persons may pass below the opening?

Is every open-sided floor or platform 4 feet or more above the adjacent floor or ground level guarded by a standard railing on all open sides except where there is an entrance to a ramp, stairway, or fixed ladder?

Identification of Piping Systems

Are pipelines carrying hazardous substances identified by tags? Are the tags constructed of durable materials? Is the message carried clearly and permanently distinguishable? Are tags installed at each valve or outlet?

Ladders

Are only approved ladders or step stools in use?

Are portable metal ladders legibly marked with signs reading "CAUTION - Do Not Use Around Electrical Equipment" or equivalent wording?

Lead Exposure

If painted lead objects (excluding material used for shielding) are present in the work place, has the Industrial Hygiene Unit evaluated the airborne lead levels?

Lifting/Loading

Are tote box loads less than 50 lbs.? Are heavily loaded tote boxes labeled to indicate excess weight?

Machine Guarding and Safety

Are fan blades protected with a guard having openings no larger than 1/2 inch, when operating within 7 feet of the floor or working level?

Maintenance Management

Is preventive maintenance performed efficiently and within prescribed time limits?

Material Handling

Are Material Safety Data Sheets available to employees who handle or may be exposed to hazardous substances?

Are materials stored above 6 feet in height secured or contained so that individual articles cannot fall?

Are storage racks internally braced and secured to prevent tipping?

Do employees always wear gloves and safety glasses or protective goggles while handling metal banding?

Occupational Noise

Has the Industrial Hygiene Unit been contacted to arrange for noise monitoring if background noise makes it impossible to conduct a normal conversation without shouting?

Seismic and General Work Environment

Are adequate labels present to prevent food or beverages from being stored in laboratory and shop refrigerators or cabinets used for chemical storage?

Are all worksites, restrooms, and washrooms clean and orderly and in a sanitary condition?

Are bookcases, lockers, file cabinets, furniture, and equipment over three feet high secured against falling during an earthquake? Do storage cabinets and file cabinets have securely closing doors or drawers?

Are ceiling panels, overhead light fixtures, and other overhead objects properly secured? Are wall bulletin boards, chalk boards, framed pictures, and window blinds properly secured?

In areas where means of egress could be blocked, are books and other heavy objects prevented from falling off high shelves (lips on bookcase shelves or bungee cords)?

Is storage of heavy items on shelves, tops of bookcases, or tops of file cabinets above 3 feet avoided?

Is a finger guard installed on table top paper cutter?

Stairs and Stairways

Are standard stair rails or handrails on all stairways having four or more risers?

Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?

Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?

Walkways

Are aisles and passageways kept clear and free of tripping hazards?

Are wet surfaces covered with non-slip materials?

Waste Discharges

Are drains labeled with signs indicating that hazardous materials should not be poured down the drain?

Workstation Ergonomics

Are the worker's feet flat on the floor or supported by a footrest?

Are workstations adjustable and arranged to minimize excessive twisting, bending, reaching and pulling?

Do workers take rest breaks at regular intervals as appropriate to the intensity of the tasks?

Does the location of the keyboard allow the worker's forearms to be parallel to the floor (i.e., at right angles to the spine), and the wrists straight, in line with the forearm?

Have position adjustments wrist rest and/or mouse pad rest been considered if the worker's wrists are resting on a hard or sharp surface?

Is adequate space available for workstation hardware (e.g., VDT monitor, keyboard, mouse/trackball, document holder, wrist rest)?

Is adequate space available under the work surface/table so that the legs, knees and thighs do not rub or hit the work surface, or items stored underneath?

Is the chair adjustable and does it provide proper lower back support?

Is the VDT monitor positioned to avoid glare (e.g. from overhead lights or window light)?

To minimize neck and shoulder strain, is the top of the VDT display screen at or slightly below the worker's eye level; and is the VDT monitor located directly in front of and 18-24 inches from the worker?

Team 2 Buildings 80 & 10 Shops

Abrasive Wheel Equipment - Grinders

Are machines designed for a fixed location securely anchored to prevent movement, or designed in such a manner that in normal operation they will not move?

Do abrasive wheel safety guards cover the spindle end, nut, and flange projections?

Is an adjustable work rest of rigid construction used to support the work of offhand grinding machines? Is the work rest kept adjusted closely to the wheel with a maximum clearance of 1/8 inch?

Is the adjustable tongue or end of the peripheral member at the top of the housing used and kept adjusted to within 1/4" of the wheel.

Air Permits

If an operation, process, or equipment emits either nonradiological substances (toxic or organic) or radionuclides into the air, or if any of the following has changed in the past year or is expected to change in coming year:

- 1) source location,
 - 2) total hours of operation,
 - 3) type of material processed,
 - 4) quantity of material processed annually,
 - 5) addition of an air emissions abatement device,
- has EH&S been notified to determine regulatory compliance requirements?

Asbestos Exposure

Are cement materials that contain asbestos (e.g., transite panels) in good condition?

Is asbestos-containing thermal insulation on plumbing equipment, steam pipes, etc. in good condition (i.e., all exposed surfaces, including ends, are sealed)? **NOTE: Report punctures and deteriorating insulation to the Industrial Hygiene Group**

Chemical Labeling and Storage

Are all chemical containers labeled as to their contents and hazard?

Are chemicals stored in approved containers with, if necessary, secondary containment? Are containers with flammable or toxic chemicals tightly closed and covered when not in use?

Chemical Spill Response

Are hazardous liquids such as solvents stored and dispensed where they cannot accidentally spill into drains(floor or sink)?

Are spill kits readily accessible?

Compressed Gas Cylinders - Storage and Handling

Are cylinders legibly marked to clearly identify the type of gas contained?

Are fuel-gas cylinders placed with valve end up whenever in use; and liquefied gases stored with the valve end up?

Do compressed gas cylinders have appropriate pressure relief devices?

Compressors and Compressed Air

Are employees prohibited from using compressed air at greater than 30 psi for cleaning purposes?

Are safety glasses required in areas where air guns or nozzles are used?

When using compressed air for cleaning, do employees wear personal protective equipment and ensure that chip guarding is in place?

Electrical

Is restart protection provided in the control device of motors driving machines or equipment which could cause probable injury from inadvertent starting after a power loss?

Are 3-wire cord plugs undamaged (no tape), with no removed grounding pins?

Are all electrical raceways and enclosures securely fastened in place?

Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs, or plates?

Are clamps (strain reliefs) or other securing means provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc., and is the cord jacket securely held in place?

Are cords and cables free of grease, oil, or chemicals unfrayed and free of splices or taps?

Are daisy chains of extension cords and power strips avoided?

Are electrical cords and wires protected from damage?

Are electrical enclosures such as switches, receptacles, junction boxes, etc., provided with tight-fitting covers or plates of approved materials and design?

Are electrical outlets of approved three-wire (grounding) type?

Are electrical panels and breakers properly labeled? Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment served?

Are extension cords:

- 1) equipped with proper cord plugs,
- 2) positioned so they do not create trip hazards,
- 3) not used in place of permanent wiring, and
- 4) equipped with grounding conductors?

Are ground fault interrupters (GFCI's) for 120-volt 15- and 20-amp receptacles installed in wet or damp areas and in receptacles within 6 feet of sinks and fume hood sinks?

Are items of electrical equipment, cords, and connectors maintained in good condition, free from damaged insulation, loose connections, exposed terminals, or loose wires?

Are multiple plug adapters prohibited?

Are oil filled transformers provided with secondary containment in the event of an oil leak?

Are power strips LBNL approved and labeled with the U.L. symbol?

Are receptacles and outlets in good condition (not loose or broken)?

Are space heaters provided with tip-over switch?

Are there no more than 13 convenience outlets on a 20-amp circuit?

Are warning signs posted where employees, other than qualified employees, might come in contact with live parts?

If emergency lighting units are connected by cord and plug, are cords no more than three feet long?

Is permanently located machinery hard wired, unless specifically intended for flexible cord connection per LBNL criteria?

Is sufficient access and working space provided and maintained about all electrical equipment to permit ready and safe operations and maintenance? Is there a 30 inch wide and 3 foot deep clearance maintained around control switches, circuit breakers, and electrical panels?

Is the practice of stringing cords or wiring on pipes, conduit, nails, or hooks or across ceilings avoided? Is the practice of running flexible cords and cables through holes in walls, ceilings, or floors avoided?

Is there no more than 13 feet of plug strip on a 20-amp circuit?

Elevated Surfaces

Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toe boards?

Are signs posted, when appropriate, showing the elevated surface load capacity? Are loads on elevated surfaces within posted load capacity?

Is a permanent means of access and egress provided to elevated storage and work surfaces?

Is material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, collapsing, rolling or spreading?

Emergency Equipment

Are eye wash fountains and safety showers provided in areas where corrosive chemicals are handled?

Are eye wash fountains and safety showers readily accessible clearly marked, properly maintained, and inspected and tagged?

Emergency Preparedness

Are shut-off valves marked and easily accessible? Are tools readily available to turn off natural gas shut-off valves?

Employer Posting

Are emergency telephone numbers posted where they can be readily found in case of emergency?

Are hazard warning signs and tags used where there are immediate dangers or potential hazards? Are caution and information signs used where there are potential hazards or need for general instructions? Are obsolete signs promptly removed?

Are building and trailer identification numbers posted on exterior? Are room numbers readily visible?

Are signs concerning exiting from buildings, room capacities, floor loading, exposures to x-ray, microwave, or other harmful radiation or substances posted where appropriate?

Do occupants know the location of the assembly area(s) and evacuation route(s)?

Energy Conservation

Are there loose windows, non-closing doors, holes in outside walls, and other building deficiencies which result in excess use of energy?

Is inefficient use of energy caused by heating large areas when spot heating would be sufficient, lighting unoccupied areas, etc., avoided?

Where space heating is inadequate, have all work areas (fixed and occupied) been provided with spot heating?

Fire Protection

Are amounts of flammable and combustible liquids greater than 10 gallons stored in an approved flammable liquid cabinet, storage room, or storage area?

Are Class 1A flammable liquids stored in metal containers with a maximum capacity of 1 gallon or in safety containers with a maximum capacity of two gallons? Are other flammable and combustible liquids stored in containers (metal or safety cans) with a maximum capacity of five gallons?

Are combustible scrap, debris and waste materials (oily rags, etc.) stored in covered metal receptacles and removed from the worksite properly?

Are exit doors and gates maintained to open without a key, tool, or special effort?

Are exit doorways, corridors, stairs, walkways, and aisles kept free of obstructions and combustible materials?

Are fire extinguishers visible and readily accessible? Are extinguishers inspected monthly and have maintenance inspections been performed within the last 12 months (as noted on the inspection tags)?

Are fire sprinkler heads and pipes kept free of decorations, wire, and other materials?

Are heat-producing appliances located at least 18 inches from combustible material?

Are materials stored in a secure and orderly manner?

Are mechanical, equipment, boiler rooms, attics, and unfinished spaces kept free of combustible materials?

Are three foot clearances from extinguishers, hose racks, and system valves maintained?

Are three foot clearances from hydrant or sprinkler connections maintained?

Are work aisles maintained at a minimum 24 inch width and other aisles at a minimum 36 inch width?

Do exit signs contain the word "EXIT" in lettering at least 6 inches high, with the stroke of the lettering at least 3/4 inch wide? Are the signs and exits adequately illuminated?

Is proper clearance of 18 inches maintained below sprinkler heads and two feet below ceilings?

Floor and Wall Openings

Are all floor holes into which persons can accidentally walk guarded either by a standard railing with a standard toe board on all exposed sides or by a floor hole cover that is hinged in place?

Are floor and stairway openings guarded by a cover, a guardrail, or equivalent on all sides (except at entrance to stairways or ladders)?

Are toe boards installed around the edges of permanent floor openings where persons may pass below the opening?

Is every open-sided floor or platform 4 feet or more above the adjacent floor or ground level guarded by a standard railing on all open sides except where there is an entrance to a ramp, stairway, or fixed ladder?

Hand Tools and Equipment

Are all tools and equipment (company, lab, or employee-owned) used by employees at their work place in good condition? Are portable electrical tools and equipment grounded or of the double insulated type or provided with barriers or shields? Are electrical appliances such as vacuum cleaners, polishers, vending machines, etc., grounded?

Hoist/Cranes and Secondary Equipment

Are lifting cables labeled?

Are the controls of hoist plainly marked to indicate the direction of travel or motion?

Are the Daily Inspection Tags for Hoist/Crane and Secondary Lifting Equipment completely filled out for each day of operation?

Is each pendant cable tagged with an LBNL "Warning to Avoid Injury" tag?

Is there an LBNL Proof Load Tag on the Hoist? Does the load limit on the tag match the marking on the hoist?
Is the rated load of each hoist legibly marked and visible to the operator?

Identification of Piping Systems

Is tubing or piping material appropriate for the type of material it contains, e.g., no copper for acetylene gas?

Are pipelines carrying hazardous substances identified by tags? Are the tags constructed of durable materials? Is the message carried clearly and permanently distinguishable? Are tags installed at each valve or outlet?

Industrial Trucks (Fork-Lifts)

Are daily inspections of tires, lights, battery, fuel, steering, hydraulics, forks, brakes conducted?

Are forklift trucks tagged for maintenance when there is a malfunction?

Are keys removed from the ignition when the lift truck is unattended?

Are load capacities and centers of gravity (24" from mast) observed?

Are the brakes on each industrial truck capable of bringing the vehicle to a complete and safe stop at any time?

Does each industrial truck have a warning horn or other device which can be clearly heard above the normal noise in the areas where operated?

Is the speed limit for industrial trucks appropriate for load and road conditions?

When ascending or descending a grade 10% or more, are loads carried/transported upgrade?

When forklift trucks are left unattended, are the forks lowered, controls neutralized, hand brake set, and wheels chocked if on a ramp or incline?

Will the industrial truck's parking brake effectively prevent the vehicle from moving when unattended?

Ladders

Are all ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached and movable parts operating freely without binding or undue play?

Are ladder rungs and steps free of grease and oil and are non-slip safety feet provided on each ladder?

Are only approved ladders or step stools in use?

Is it required that the base of portable rung or cleat type ladders be placed so that slipping will not occur? If conditions do not permit proper placement, is the ladder lashed or otherwise held in place?

Are portable metal ladders legibly marked with signs reading "CAUTION - Do Not Use Around Electrical Equipment" or equivalent wording?

Lead Exposure

If lead-containing materials are melted (via soldering, casting, etc.) during work procedures, has the Industrial Hygiene Group evaluated the airborne lead levels?

If painted lead objects (excluding material used for shielding) are present in the work place, has the Industrial Hygiene Unit evaluated the airborne lead levels?

Lifting/Loading

Are tote box loads less than 50 lbs.? Are heavily loaded tote boxes labeled to indicate excess weight?

Lockout/Tagout Procedures

Are lockout tags affixed properly to all defective equipment not otherwise secured against use?

Machine Guarding and Safety

Are all emergency stop buttons colored red?

Are all pulleys, belts, gears, shafts, and moving parts that are within 7 feet of the floor or working level properly guarded?

Are machine guards secured and arranged so that they do not offer an accident hazard in themselves?

Are power and operating control switches within easy reach of the operator while at the regular work position (no need to reach over cutter to make adjustments)?

Are splash guards mounted on machines that use coolant to prevent the coolant from reaching employees?

Are switches, including foot-operated switches, guarded or arranged to prevent accidental actuation by personnel or falling objects?

Do arbors and mandrels have firm and secure bearings and are they free from play?

Does machine guarding (e.g. barrier guards, two-hand tripping devices, electronic safety devices, etc.) protect employees in the machine area from hazards created by the point of operation, ingoing nip points, rotating parts, flying chips, and sparks?

Is sufficient clearance provided around and between machines to allow for safe operations, set up and servicing, material handling and waste removal?

On each machine operated by electric motors, is there a positive means to render the controls or devices inoperative (e.g. lockout power) for maintenance, repair, or security?

Are fan blades protected with a guard having openings no larger than 1/2 inch, when operating within 7 feet of the floor or working level?

Maintenance Management

Is preventive maintenance performed efficiently and within prescribed time limits?

Material Handling

When hoisting material or equipment, are provisions made to assure that no one will be passing under the suspended loads?

Are Material Safety Data Sheets available to employees who handle or may be exposed to hazardous substances?

Are materials stored above 6 feet in height secured or contained so that individual articles cannot fall?

Are storage racks internally braced and secured to prevent tipping?

Do employees always wear gloves and safety glasses or protective goggles while handling metal banding?

Occupational Noise

Has the Industrial Hygiene Unit been contacted to arrange for noise monitoring if background noise makes it impossible to conduct a normal conversation without shouting?

Personal Protective Equipment/Clothing

Are approved safety glasses, with side shields, required to be worn at all times in areas where there is a risk of eye injury?

Are disposable dust masks being used only for nuisance dust materials? Is use of disposable dust masks evaluated by the Industrial Hygiene Group (to determine if masks provide sufficient protection)?

Are protective gloves, aprons, shields or other means provided against cuts, corrosive liquids, and chemicals?

Is appropriate foot protection required where there is risk of foot injuries from hot, corrosive, or poisonous substances; falling objects; crushing; or penetrating actions?

Is personal protective equipment easily accessible, maintained in a sanitary condition, ready for use, and stored in an orderly manner?

Are hard hats provided and worn where danger of falling objects exists? Are hard hats inspected periodically for damage to the shell and suspension system?

Portable (Power Operated) Tools and Equipment

Are circular saw guards checked to assure they are not wedged up, thus leaving the lower portion of the blade unguarded?

Are grinders, saws, and other power tools provided with appropriate safety guards?

Seismic and General Work Environment

Is equipment capable of causing hazard if knocked over properly secured? Are wheeled equipment or carts provided with wheel-locks or other method to secure against rolling away?

Are adequate labels present to prevent food or beverages from being stored in laboratory and shop refrigerators or cabinets used for chemical storage?

Are all worksites, restrooms, and washrooms clean and orderly and in a sanitary condition?

Are bookcases, lockers, file cabinets, furniture, and equipment over three feet high secured against falling during an earthquake? Do storage cabinets and file cabinets have securely closing doors or drawers?

Are ceiling panels, overhead light fixtures, and other overhead objects properly secured? Are wall bulletin boards, chalk boards, framed pictures, and window blinds properly secured?

In areas where means of egress could be blocked, are books and other heavy objects prevented from falling off high shelves (lips on bookcase shelves or bungee cords)?

Is storage of heavy items on shelves, tops of bookcases, or tops of file cabinets above 3 feet avoided?

Solvent-Based Cleaning Operations

Is solvent (including waste solvent) stored or disposed of in a manner that will avoid evaporation (i.e., sealed containers) into the air? Is the solvent-based cleaning system cover in place, except when processing work or performing maintenance?

Stairs and Stairways

Are standard stair rails or handrails on all stairways having four or more risers?

Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?

Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?

Suspect/Counterfeit Parts

Are certified high-strength fasteners installed in critical applications marked or identifiable? Are copies of the certification papers available on site.

Are suspect parts being removed, packaged, labeled, delivered to Warehouse 903, and documented following the instructions in the Office of Assessment and Assurance Suspect/Counterfeit Parts Report form?

Have all suspect parts (including high strength fasteners and circuit breakers) been removed from parts stocks?

Is the use of suspect high-strength fasteners in critical applications avoided? If not removed immediately, have they been marked (use red if colored marking) or are they identifiable to indicate that they are to be removed as soon as possible?

Ventilation

Has the performance of each local exhaust ventilation point (e.g., hood) been checked within the last 2 years as indicated by an Industrial Hygiene inspection label on the hood?

Walkways

Are aisles and passageways kept clear and free of tripping hazards?

Are wet surfaces covered with non-slip materials?

Waste Discharges

Are drains labeled with signs indicating that hazardous materials should not be poured down the drain?

Welding, Cutting, and Brazing

Are cables inspected for wear and damage, and exposed bare conductors replaced when needed?

Are employees exposed to the hazards created by welding, cutting, or brazing operations protected with personal protective equipment and clothing? Is it required that eye protection, hand shields and goggles meet appropriate standards?

Are only approved apparatus (torches, regulators, pressure-reducing valves, acetylene generators, manifolds) used? Are oxygen-acetylene systems equipped with the proper check valves and flashback protectors?

Is red used to identify the acetylene (and other fuel-gas) hose, green for oxygen hose, and black for inert gas and air hose?

Is suitable (i.e., dry chemical) fire extinguishing equipment available for immediate use?

When arc welding is to be suspended for any substantial period of time, such as during lunch or over night, are all electrodes removed from the holders and the holders carefully located so that accidental contact cannot occur, and is the machine disconnected from the power source?

When the object to be welded cannot be moved and fire hazards cannot be removed, are shields used to confine heat, sparks, and slag?

Team 3 Building 6 Floor & Buildings 2, 6 mezzanine, 10, & 80 Labs

Air Permits

If an operation, process, or equipment emits either nonradiological substances (toxic or organic) or radionuclides into the air, or if any of the following has changed in the past year or is expected to change in coming year:

- 1) source location,
 - 2) total hours of operation,
 - 3) type of material processed,
 - 4) quantity of material processed annually,
 - 5) addition of an air emissions abatement device,
- has EH&S been notified to determine regulatory compliance requirements?

Asbestos Exposure

Are cement materials that contain asbestos (e.g., transite panels) in good condition?

Is asbestos-containing thermal insulation on plumbing equipment, steam pipes, etc. in good condition (i.e., all exposed surfaces, including ends, are sealed)? **NOTE: Report punctures and deteriorating insulation to the Industrial Hygiene Group**

Chemical Labeling and Storage

Are all chemical containers labeled as to their contents and hazard?

Are chemicals stored in approved containers with, if necessary, secondary containment? Are containers with flammable or toxic chemicals tightly closed and covered when not in use?

Are incompatible chemicals stored separately?

Chemical Safety

Are overhead chemical storage units equipped with seismic guards (such as toe boards, bungee cords, or shelf lips)?

Chemical Spill Response

Are hazardous liquids such as solvents stored and dispensed where they cannot accidentally spill into drains(floor or sink)?

Are spill kits readily accessible?

Compressed Gas Cylinders - Storage and Handling

Are compressed gas cylinders stored in areas which are:

- 1) protected from heat sources such as flame impingement, intense radiant heat, electric arcs, or high temperature lines;
- 2) away from stairs, elevators, and gangways; and
- 3) protected from cryogenic spills (by platforms or barriers)?

Are cylinders legibly marked to clearly identify the type of gas contained?

Are cylinders stored away from stairs, elevators, and gangways in a vertical, valve-end up position to prevent them creating a hazard by tipping, falling, or rolling? Are they secured with at least 2 chains or other devices fastened to a wall rack or other substantial structure?

Are regulators removed and valve-protection caps put in place before cylinders are moved or when cylinders are not in use (or connected for use)? Are cylinder valves closed off before moving cylinders, when the cylinder is empty, and at the completion of each job? Before a regulator is removed, is the valve closed and gas released from the regulator?

Do compressed gas cylinders have appropriate pressure relief devices?

Electrical

Are 3-wire cord plugs undamaged (no tape), with no removed grounding pins?

Are all electrical raceways and enclosures securely fastened in place?

Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates?

Are clamps (strain reliefs) or other securing means provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc., and is the cord jacket securely held in place?

Are cords and cables free of grease, oil or chemicals unfrayed and free of splices or taps?

Are daisy chains of extension cords and power strips avoided?

Are electrical cords and wires protected from damage?

Are electrical enclosures such as switches, receptacles, junction boxes, etc., provided with tight-fitting covers or plates of approved materials and design?

Are electrical outlets of approved three-wire (grounding) type?

Are electrical panels and breakers properly labeled? Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment served?

Are extension cords:

- 1) equipped with proper cord plugs,
- 2) positioned so they do not create trip hazards,
- 3) not used in place of permanent wiring, and
- 4) equipped with grounding conductors?

Are ground fault interrupters (GFCI's) for 120-volt 15- and 20-amp receptacles installed in wet or damp areas and in receptacles within 6 feet of sinks and fume hood sinks?

Are items of electrical equipment, cords, and connectors maintained in good condition, free from damaged insulation, loose connections, exposed terminals, or loose wires?

Are multiple plug adapters prohibited?

Are oil filled transformers provided with secondary containment in the event of an oil leak?

Are power strips LBNL approved and labeled with the U.L. symbol?

Are receptacles and outlets in good condition (not loose or broken)?

Are space heaters provided with tip-over switch?

Are there no more than 13 convenience outlets on a 20-amp circuit?

Are warning signs posted where employees, other than qualified employees, might come in contact with live parts?

If emergency lighting units are connected by cord and plug, are cords no more than three feet long?

Is permanently located machinery hard wired, unless specifically intended for flexible cord connection per LBNL criteria?

Is sufficient access and working space provided and maintained about all electrical equipment to permit ready and safe operations and maintenance? Is there a 30 inch wide and 3 foot deep clearance maintained around control switches, circuit breakers, and electrical panels?

Is the practice of stringing cords or wiring on pipes, conduit, nails or hooks or across ceilings avoided? Is the practice of running flexible cords and cables through holes in walls, ceilings, or floors avoided?

Is there no more than 13 feet of plug strip on a 20-amp circuit?

Elevated Surfaces

Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toe boards?

Are signs posted, when appropriate, showing the elevated surface load capacity? Are loads on elevated surfaces within posted load capacity?

Is a permanent means of access and egress provided to elevated storage and work surfaces?

Is material on elevated surfaces piled, stacked, or racked in a manner to prevent it from tipping, falling, collapsing, rolling, or spreading?

Emergency Equipment

Are eye wash fountains and safety showers provided in areas where corrosive chemicals are handled?

Are eye wash fountains and safety showers readily accessible clearly marked, properly maintained, and inspected and tagged?

Emergency Preparedness

Are shut-off valves marked and easily accessible? Are tools readily available to turn off natural gas shut-off valves?

Employer Posting

Are emergency telephone numbers posted where they can be readily found in case of emergency?

Are hazard warning signs and tags used where there are immediate dangers or potential hazards? Are caution and information signs used where there are potential hazards or need for general instructions? Are obsolete signs promptly removed?

Are building and trailer identification numbers posted on exterior? Are room numbers readily visible?

Are signs concerning exiting from buildings, room capacities, floor loading, or exposures to x-ray, microwave, or other harmful radiation or substances posted where appropriate?

Do occupants know the location of the assembly area(s) and evacuation route(s)?

Energy Conservation

Are there loose windows, non-closing doors, holes in outside walls, and other building deficiencies which result in excess use of energy?

Is inefficient use of energy caused by heating large areas when spot heating would be sufficient, lighting unoccupied areas, etc., avoided?

Where space heating is inadequate, have all work areas (fixed and occupied) been provided with spot heating?

Fire Protection

Are amounts of flammable and combustible liquids greater than 10 gallons stored in an approved flammable liquid cabinet, storage room, or storage area?

Are Class 1A flammable liquids stored in metal containers with a maximum capacity of 1 gallon or in safety containers with a maximum capacity of two gallons? Are other flammable and combustible liquids stored in containers (metal or safety cans) with a maximum capacity of five gallons?

Are combustible scrap, debris and waste materials (oily rags, etc.) stored in covered metal receptacles and removed from the worksite properly?

Are exit doors and gates maintained to open without a key, tool, or special effort?

Are exit doorways, corridors, stairs, walkways, and aisles kept free of obstructions and combustible materials?

Are fire extinguishers visible and readily accessible? Are extinguishers inspected monthly and have maintenance inspections been performed within the last 12 months (as noted on the inspection tags)?

Are fire sprinkler heads and pipes kept free of decorations, wire, and other materials?

Are heat-producing appliances located at least 18 inches from combustible material?

Are materials stored in a secure and orderly manner?

Are mechanical, equipment, boiler rooms, attics, and unfinished spaces kept free of combustible materials?

Are three foot clearances from extinguishers, hose racks, and system valves maintained?

Are three foot clearances from hydrant or sprinkler connections maintained?

Are work aisles maintained at a minimum 24 inch width and other aisles at a minimum 36 inch width?

Do exit signs contain the word "EXIT" in lettering at least 6 inches high, with the stroke of the lettering at least 3/4 inch wide? Are the signs and exits adequately illuminated?

Is proper clearance of 18 inches maintained below sprinkler heads and two feet below ceilings?

Floor and Wall Openings

Are all floor holes into which persons can accidentally walk guarded either by a standard railing with a standard toe board on all exposed sides or by a floor hole cover that is hinged in place?

Are floor and stairway openings guarded by a cover, a guardrail, or equivalent on all sides (except at entrance to stairways or ladders)?

Are toe boards installed around the edges of permanent floor openings where persons may pass below the opening?

Is every open-sided floor or platform 4 feet or more above the adjacent floor or ground level guarded by a standard railing on all open sides except where there is an entrance to a ramp, stairway, or fixed ladder?

Hoist/Cranes and Secondary Equipment

Are lifting cables labeled?

Are the controls of hoist plainly marked to indicate the direction of travel or motion?

Are the Daily Inspection Tags for Hoist/Crane and Secondary Lifting Equipment completely filled out for each day of operation?

Is each pendant cable tagged with an LBNL "Warning to Avoid Injury" tag?

Is there an LBNL Proof Load Tag on the Hoist? Does the load limit on the tag match the marking on the hoist?
Is the rated load of each hoist legibly marked and visible to the operator?

Identification of Piping Systems

Are pipelines carrying hazardous substances identified by tags? Are the tags constructed of durable materials? Is the message carried clearly and permanently distinguishable. Are tags installed at each valve or outlet?

Industrial Trucks (Fork-Lifts)

Are daily inspections of tires, lights, battery, fuel, steering, hydraulics, forks, brakes conducted?

Are forklift trucks tagged for maintenance when there is a malfunction?

Are keys removed from the ignition when the lift truck is unattended?

Are load capacities and centers of gravity (24" from mast) observed?

Are the brakes on each industrial truck capable of bringing the vehicle to a complete and safe stop at any time?

Does each industrial truck have a warning horn or other device which can be clearly heard above the normal noise in the areas where operated?

Is the speed limit for industrial trucks appropriate for load and road conditions?

When ascending or descending a grade 10% or more, are loads carried/transported up grade?

When forklift trucks are left unattended, are the forks lowered, controls neutralized, hand brake set, and wheels chocked if on a ramp or incline?

Will the industrial truck's parking brake effectively prevent the vehicle from moving when unattended?

Ladders

Are all ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached, and movable parts operating freely without binding or undue play?

Are ladder rungs and steps free of grease and oil and are non-slip safety feet provided on each ladder?

Are only approved ladders or step stools in use?

Is it required that the base of portable rung or cleat type ladders be placed so that slipping will not occur? If conditions do not permit proper placement, is the ladder lashed or otherwise held in place?

Are portable metal ladders legibly marked with signs reading "CAUTION - Do Not Use Around Electrical Equipment" or equivalent wording?

Lead Exposure

If painted lead objects (excluding material used for shielding) are present in the work place, has the Industrial Hygiene Unit evaluated the airborne lead levels?

Lifting/Loading

Are tote box loads less than 50 lbs.? Are heavily loaded tote boxes labeled to indicate excess weight?

Lockout/Tagout Procedures

Are lockout tags affixed properly to all defective equipment not otherwise secured against use?

Machine Guarding and Safety

Are fan blades protected with a guard having openings no larger than 1/2 inch, when operating within 7 feet of the floor or working level?

Maintenance Management

Is preventive maintenance performed efficiently and within prescribed time limits?

Material Handling

When hoisting material or equipment, are provisions made to assure that no one will be passing under the suspended loads?

Are Material Safety Data Sheets available to employees who handle or may be exposed to hazardous substances?

Are materials stored above 6 feet in height secured or contained so that individual articles cannot fall?

Are storage racks internally braced and secured to prevent tipping?

Do employees always wear gloves and safety glasses or protective goggles while handling metal banding?

Occupational Noise

Has the Industrial Hygiene Unit been contacted to arrange for noise monitoring if background noise makes it impossible to conduct a normal conversation without shouting?

Personal Protective Equipment/Clothing

Are approved safety glasses, with side shields, required to be worn at all times in areas where there is a risk of eye injury?

Are protective gloves, aprons, shields or other means provided against cuts, corrosive liquids and chemicals?

Is personal protective equipment easily accessible, maintained in a sanitary condition, ready for use, and stored in an orderly manner?

Are hard hats provided and worn where danger of falling objects exists? Are hard hats inspected periodically for damage to the shell and suspension system?

Radiation Protection

Are all furniture and/or equipment items (including gas cylinders) going from designated Radiological Material Areas to reclamation (salvage) surveyed for radiation and tagged "RELEASE" by EH&S?

Seismic and General Work Environment

Are adequate labels present to prevent food or beverages from being stored in laboratory and shop refrigerators or cabinets used for chemical storage?

Are all worksites, restrooms, and washrooms clean and orderly and in a sanitary condition?

Are bookcases, lockers, file cabinets, furniture, and equipment over three feet high secured against falling during an earthquake? Do storage cabinets and file cabinets have securely closing doors or drawers?

Are ceiling panels, overhead light fixtures, and other overhead objects properly secured? Are wall bulletin boards, chalk boards, framed pictures, and window blinds properly secured?

In areas where means of egress could be blocked, are books and other heavy objects prevented from falling off high shelves (lips on bookcase shelves or bungee cords)?

Is storage of heavy items on shelves, tops of bookcases, or tops of file cabinets above 3 feet avoided?

Stairs and Stairways

Are standard stair rails or handrails on all stairways having four or more risers?

Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?

Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?

Suspect/Counterfeit Parts

Are certified high-strength fasteners installed in critical applications marked or identifiable? Are copies of the certification papers available on site.

Are suspect parts being removed, packaged, labeled, delivered to Warehouse 903, and documented following the instructions in the Office of Assessment and Assurance Suspect/Counterfeit Parts Report form?

Have all suspect parts (including high strength fasteners and circuit breakers) been removed from parts stocks?

Is the use of suspect high-strength fasteners in critical applications avoided? If not removed immediately, have they been marked (use red if colored marking) or are they identifiable to indicate that they are to be removed as soon as possible?

Ventilation

Has the performance of each local exhaust ventilation point (e.g., hood) been checked within the last 2 years as indicated by an Industrial Hygiene inspection label on the hood?

Walkways

Are aisles and passageways kept clear and free of tripping hazards?

Are wet surfaces covered with non-slip materials?

Waste Discharges

Are drains labeled with signs indicating that hazardous materials should not be poured down the drain?

Team 4

Building 46 Offices, Labs, and Shops Building 27 Office and Lab

Abrasive Wheel Equipment - Grinders

Are machines designed for a fixed location securely anchored to prevent movement, or designed in such a manner that in normal operation they will not move?

Do abrasive wheel safety guards cover the spindle end, nut, and flange projections?

Is an adjustable work rest of rigid construction used to support the work of offhand grinding machines? Is the work rest kept adjusted closely to the wheel with a maximum clearance of 1/8 inch?

Is the adjustable tongue or end of the peripheral member at the top of the housing used and kept adjusted to within 1/4" of the wheel?

Air Permits

If an operation, process, or equipment emits either nonradiological substances (toxic or organic) or radionuclides into the air, or if any of the following has changed in the past year or is expected to change in coming year:

- 1) source location,
 - 2) total hours of operation,
 - 3) type of material processed,
 - 4) quantity of material processed annually,
 - 5) addition of an air emissions abatement device,
- has EH&S been notified to determine regulatory compliance requirements?

Asbestos Exposure

Are floor tiles in good condition, and not being abraded or scraped as a result of work practices (floor buffing, scraping chairs, machinery vibration, etc.)?

Are cement materials that contain asbestos (e.g., transite panels) in good condition?

Is asbestos-containing thermal insulation on plumbing equipment, steam pipes, etc. in good condition (i.e., all exposed surfaces, including ends, are sealed)? **NOTE: Report punctures and deteriorating insulation to the Industrial Hygiene Group**

Business Services

Are retirees and students assigned shared office space?

Is all sensitive (attractive) and capital property accurately accounted for?

Chemical Labeling and Storage

Are all chemical containers labeled as to their contents and hazard?

Are chemicals stored in approved containers with, if necessary, secondary containment? Are containers with flammable or toxic chemicals tightly closed and covered when not in use?

Are incompatible chemicals stored separately?

Chemical Safety

Are overhead chemical storage units equipped with seismic guards (such as toe boards, bungee cords, or shelf lips)?

Chemical Spill Response

Are hazardous liquids such as solvents stored and dispensed where they cannot accidentally spill into drains(floor or sink)?

Are spill kits readily accessible?

Compressed Gas Cylinders - Storage and Handling

Are cylinders legibly marked to clearly identify the type of gas contained?

Are fuel-gas cylinders placed with valve end up whenever in use, and liquefied gases stored with the valve end up?

Do compressed gas cylinders have appropriate pressure relief devices?

Are compressed gas cylinders stored in areas which are:

- 1) protected from heat sources such as flame impingement, intense radiant heat, electric arcs, or high temperature lines,
- 2) away from stairs, elevators, and gangways, and
- 3) protected from cryogenic spills (by platforms or barriers)?

Are cylinders stored away from stairs, elevators, and gangways in a vertical, valve-end up position to prevent them creating a hazard by tipping, falling, or rolling? Are they secured with at least 2 chains or other devices fastened to a wall rack or other substantial structure?

Are regulators removed and valve-protection caps put in place before cylinders are moved or when cylinders are not in use (or connected for use)? Are cylinder valves closed off before moving cylinders, when the cylinder is empty, and at the completion of each job? Before a regulator is removed, is the valve closed and gas released from the regulator?

Do compressed gas cylinders have appropriate pressure relief devices?

Compressors and Compressed Air

Are employees prohibited from using compressed air at greater than 30 psi for cleaning purposes?

Are safety glasses required in areas where air guns or nozzles are used?

When using compressed air for cleaning, do employees wear personal protective equipment and ensure that chip guarding is in place?

Electrical

Is restart protection provided in the control device of motors driving machines or equipment which could cause probable injury from inadvertent starting after a power loss?

Are 3-wire cord plugs undamaged (no tape), with no removed grounding pins?

Are all electrical raceways and enclosures securely fastened in place?

Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates?

Are clamps (strain reliefs) or other securing means provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc., and is the cord jacket securely held in place?

Are cords and cables free of grease, oil or chemicals unfrayed and free of splices or taps.

Are daisy chains of extension cords and power strips avoided?

Are electrical cords and wires protected from damage?

Are electrical enclosures such as switches, receptacles, junction boxes, etc., provided with tight-fitting covers or plates of approved materials and design?

Are electrical outlets of approved three-wire (grounding) type?

Are electrical panels and breakers properly labeled? Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment served?

Are extension cords:

- 1) equipped with proper cord plugs,
- 2) positioned so they do not create trip hazards,
- 3) not used in place of permanent wiring, and
- 4) equipped with grounding conductors?

Are ground fault interrupters (GFCI's) for 120-volt 15- and 20-amp receptacles installed in wet or damp areas and in receptacles within 6 feet of sinks and fume hood sinks?

Are items of electrical equipment, cords, and connectors maintained in good condition, free from damaged insulation, loose connections, exposed terminals, or loose wires?

Are multiple plug adapters prohibited?

Are oil filled transformers provided with secondary containment in the event of an oil leak?

Are power strips LBNL approved and labeled with the U.L. symbol?

Are receptacles and outlets in good condition (not loose or broken)?

Are space heaters provided with tip-over switch?

Are there no more than 13 convenience outlets on a 20-amp circuit?

Are warning signs posted where employees, other than qualified employees, might come in contact with live parts?

If emergency lighting units are connected by cord and plug, are cords no more than three feet long?

Is permanently located machinery hard wired, unless specifically intended for flexible cord connection per LBNL criteria?

Is sufficient access and working space provided and maintained about all electrical equipment to permit ready and safe operations and maintenance? Is there a 30 inch wide and 3 foot deep clearance maintained around control switches, circuit breakers, and electrical panels?

Is the practice of stringing cords or wiring on pipes, conduit, nails, or hooks or across ceilings avoided? Is the practice of running flexible cords and cables through holes in walls, ceilings, or floors avoided?

Is there no more than 13 feet of plug strip on a 20-amp circuit?

Elevated Surfaces

Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toe boards?

Are signs posted, when appropriate, showing the elevated surface load capacity? Are loads on elevated surfaces within posted load capacity?

Is a permanent means of access and egress provided to elevated storage and work surfaces?

Is material on elevated surfaces piled, stacked, or racked in a manner to prevent it from tipping, falling, collapsing, rolling, or spreading?

Emergency Equipment

Are eye wash fountains and safety showers provided in areas where corrosive chemicals are handled?

Are eye wash fountains and safety showers readily accessible, clearly marked, properly maintained, and inspected and tagged?

Emergency Preparedness

Are shut-off valves marked and easily accessible? Are tools readily available to turn off natural gas shut-off valves?

Employer Posting

Are emergency telephone numbers posted where they can be readily found in case of emergency?

Are hazard warning signs and tags used where there are immediate dangers or potential hazards? Are caution and information signs used where there are potential hazards or need for general instructions? Are obsolete signs promptly removed?

Are building and trailer identification numbers posted on exterior? Are room numbers readily visible?

Are signs concerning exiting from buildings, room capacities, floor loading, or exposures to x-ray, microwave, or other harmful radiation or substances posted where appropriate?

Do occupants know the location of the assembly area(s) and evacuation route(s)?

Energy Conservation

Are there loose windows, non-closing doors, holes in outside walls, and other building deficiencies which result in excess use of energy?

Is inefficient use of energy caused by heating large areas when spot heating would be sufficient, lighting unoccupied areas, etc., avoided?

Where space heating is inadequate, have all work areas (fixed and occupied) been provided with spot heating?

Fire Protection

Are amounts of flammable and combustible liquids greater than 10 gallons stored in an approved flammable liquid cabinet, storage room, or storage area?

Are Class 1A flammable liquids stored in metal containers with a maximum capacity of 1 gallon or in safety containers with a maximum capacity of two gallons? Are other flammable and combustible liquids stored in containers (metal or safety cans) with a maximum capacity of five gallons?

Are combustible scrap, debris and waste materials (oily rags, etc.) stored in covered metal receptacles and removed from the worksite properly?

Are exit doors and gates maintained to open without a key, tool, or special effort?

Are exit doorways, corridors, stairs, walkways, and aisles kept free of obstructions and combustible materials?

Are fire extinguishers visible and readily accessible? Are extinguishers inspected monthly and have maintenance inspections been performed within the last 12 months (as noted on the inspection tags)?

Are fire sprinkler heads and pipes kept free of decorations, wire, and other materials?

Are heat-producing appliances located at least 18 inches from combustible material?

Are materials stored in a secure and orderly manner?

Are mechanical, equipment, boiler rooms, attics, and unfinished spaces kept free of combustible materials?

Are three foot clearances from extinguishers, hose racks, and system valves maintained?

Are three foot clearances from hydrant or sprinkler connections maintained?

Are work aisles maintained at a minimum 24 inch width and other aisles at a minimum 36 inch width?

Do exit signs contain the word "EXIT" in lettering at least 6 inches high, with the stroke of the lettering at least 3/4 inch wide? Are the signs and exits adequately illuminated?

Is proper clearance of 18 inches maintained below sprinkler heads and two feet below ceilings?

Floor and Wall Openings

Are all floor holes into which persons can accidentally walk guarded either by a standard railing with a standard toe board on all exposed sides or by a floor hole cover that is hinged in place?

Are floor and stairway openings guarded by a cover, a guardrail, or equivalent on all sides (except at entrance to stairways or ladders)?

Are toe boards installed around the edges of permanent floor openings where persons may pass below the opening?

Is every open-sided floor or platform 4 feet or more above the adjacent floor or ground level guarded by a standard railing on all open sides except where there is an entrance to a ramp, stairway, or fixed ladder?

Hand Tools and Equipment

Are all tools and equipment (company, lab, or employee-owned) used by employees at their work place in good condition? Are portable electrical tools and equipment grounded or of the double insulated type or provided with barriers or shields? Are electrical appliances such as vacuum cleaners, polishers, vending machines, etc., grounded?

Identification of Piping Systems

Is tubing or piping material appropriate for the type of material it contains, e.g., no copper for acetylene gas?

Are pipelines carrying hazardous substances identified by tags? Are the tags constructed of durable materials? Is the message carried clearly and permanently distinguishable? Are tags installed at each valve or outlet?

Ladders

Are all ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached, and movable parts operating freely, without binding or undue play?

Are ladder rungs and steps free of grease and oil and are non-slip safety feet provided on each ladder?

Are only approved ladders or step stools in use?

Is it required that the base of portable rung or cleat type ladders be placed so that slipping will not occur? If conditions do not permit proper placement, is the ladder lashed or otherwise held in place?

Are portable metal ladders legibly marked with signs reading "CAUTION - Do Not Use Around Electrical Equipment" or equivalent wording?

Lead Exposure

If lead-containing materials are melted (via soldering, casting, etc.) during work procedures, has the Industrial Hygiene Group evaluated the airborne lead levels?

If painted lead objects (excluding material used for shielding) are present in the work place, has the Industrial Hygiene Unit evaluated the airborne lead levels?

Lifting/Loading

Are tote box loads less than 50 lbs.? Are heavily loaded tote boxes labeled to indicate excess weight?

Lockout/Tagout Procedures

Are lockout tags affixed properly to all defective equipment not otherwise secured against use?

Machine Guarding and Safety

Are all emergency stop buttons colored red?

Are all pulleys, belts, gears, shafts, and moving parts that are within 7 feet of the floor or working level properly guarded?

Are machine guards secured and arranged so that they do not offer an accident hazard in themselves?

Are power and operating control switches within easy reach of the operator while at the regular work position (no need to reach over cutter to make adjustments)?

Are splash guards mounted on machines that use coolant to prevent the coolant from reaching employees?

Are switches, including foot-operated switches, guarded or arranged to prevent accidental actuation by personnel or falling objects?

Do arbors and mandrels have firm and secure bearings and are they free from play?

Does machine guarding (e.g. barrier guards, two-hand tripping devices, electronic safety devices, etc.) protect employees in the machine area from hazards created by the point of operation, ingoing nip points, rotating parts, flying chips, and sparks?

Is sufficient clearance provided around and between machines to allow for safe operations, set up and servicing, material handling and waste removal?

On each machine operated by electric motors, is there a positive means to render the controls or devices inoperative (e.g. lockout power) for maintenance, repair, or security?

Are fan blades protected with a guard having openings no larger than 1/2 inch, when operating within 7 feet of the floor or working level?

Maintenance Management

Is preventive maintenance performed efficiently and within prescribed time limits?

Material Handling

Are Material Safety Data Sheets available to employees who handle or may be exposed to hazardous substances?

Are materials stored above 6 feet in height secured or contained so that individual articles cannot fall?

Are storage racks internally braced and secured to prevent tipping?

Do employees always wear gloves and safety glasses or protective goggles while handling metal banding?

Occupational Noise

Has the Industrial Hygiene Unit been contacted to arrange for noise monitoring if background noise makes it impossible to conduct a normal conversation without shouting?

Personal Protective Equipment/Clothing

Are approved safety glasses, with side shields, required to be worn at all times in areas where there is a risk of eye injury?

Are disposable dust masks being used only for nuisance dust materials? Is use of disposable dust masks evaluated by the Industrial Hygiene Group (to determine if masks provide sufficient protection)?

Are protective gloves, aprons, shields or other means provided against cuts, corrosive liquids and chemicals?

Is appropriate foot protection required where there is risk of foot injuries from hot, corrosive, poisonous substances, falling objects, crushing or penetrating actions?

Is personal protective equipment easily accessible, maintained in a sanitary condition, ready for use, and stored in an orderly manner?

Portable (Power Operated) Tools and Equipment

Are circular saw guards checked to assure they are not wedged up, thus leaving the lower portion of the blade unguarded?

Are grinders, saws, and other power tools provided with appropriate safety guards?

Radiation Protection

Are all furniture and/or equipment items (including gas cylinders) going from designated Radiological Material Areas to reclamation (salvage) surveyed for radiation and tagged "RELEASE" by EH&S?

Seismic and General Work Environment

Is a finger guard installed on table top paper cutter?

Is equipment capable of causing hazard if knocked over properly secured? Are wheeled equipment or carts provided with wheel-locks or other method to secure against rolling away?

Are adequate labels present to prevent food or beverages from being stored in laboratory and shop refrigerators or cabinets used for chemical storage?

Are all worksites, restrooms, and washrooms clean and orderly and in a sanitary condition?

Are bookcases, lockers, file cabinets, furniture, and equipment over three feet high secured against falling during an earthquake? Do storage cabinets and file cabinets have securely closing doors or drawers?

Are ceiling panels, overhead light fixtures, and other overhead objects properly secured? Are wall bulletin boards, chalk boards, framed pictures, and window blinds properly secured?

In areas where means of egress could be blocked, are books and other heavy objects prevented from falling off high shelves (lips on bookcase shelves or bungee cords)?

Is storage of heavy items on shelves, tops of bookcases or tops of file cabinets above 3 feet avoided?

Solvent-Based Cleaning Operations

Is solvent (including waste solvent) stored or disposed of in a manner that will avoid evaporation (i.e., sealed containers) into the air? Is the solvent-based cleaning system cover in place, except when processing work or performing maintenance?

Stairs and Stairways

Are standard stair rails or handrails on all stairways having four or more risers?

Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?

Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?

Suspect/Counterfeit Parts

Are certified high-strength fasteners installed in critical applications marked or identifiable? Are copies of the certification papers available on site.

Are suspect parts being removed, packaged, labeled, delivered to Warehouse 903, and documented following the instructions in the Office of Assessment and Assurance Suspect/Counterfeit Parts Report form?

Have all suspect parts (including high strength fasteners and circuit breakers) been removed from parts stocks?

Is the use of suspect high-strength fasteners in critical applications avoided? If not removed immediately, have they been marked (use red if colored marking) or are they identifiable to indicate that they are to be removed as soon as possible?

Ventilation

Has the performance of each local exhaust ventilation point (e.g., hood) been checked within the last 2 years as indicated by an Industrial Hygiene inspection label on the hood?

Walkways

Are aisles and passageways kept clear and free of tripping hazards?

Are wet surfaces covered with non-slip materials?

Waste Discharges

Are drains labeled with signs indicating that hazardous materials should not be poured down the drain?

Welding, Cutting, and Brazing

Are cables inspected for wear and damage, and exposed bare conductors replaced when needed?

Are employees exposed to the hazards created by welding, cutting, or brazing operations protected with personal protective equipment and clothing? Is it required that eye protection, hand shields and goggles meet appropriate standards?

Are only approved apparatus (torches, regulators, pressure-reducing valves, acetylene generators, manifolds) used? Are oxygen-acetylene systems equipped with the proper check valves and flashback protectors?

Is red used to identify the acetylene (and other fuel-gas) hose, green for oxygen hose, and black for inert gas and air hose?

Is suitable (i.e., dry chemical) fire extinguishing equipment available for immediate use?

When arc welding is to be suspended for any substantial period of time, such as during lunch or over night, are all electrodes removed from the holders and the holders carefully located so that accidental contact cannot occur, and is the machine disconnected from the power source?

When the object to be welded cannot be moved and fire hazards cannot be removed, are shields used to confine heat, sparks, and slag?

Workstation Ergonomics

Are the worker's feet flat on the floor or supported by a footrest?

Are workstations adjustable and arranged to minimize excessive twisting, bending, reaching and pulling?

Do workers take rest breaks at regular intervals as appropriate to the intensity of the tasks?

Does the location of the keyboard allow the worker's forearms to be parallel to the floor (i.e., at right angles to the spine), and the wrists straight, in line with the forearm?

Have position adjustments wrist rest and/or mouse pad rest been considered if the worker's wrists are resting on a hard or sharp surface?

Is adequate space available for workstation hardware (e.g., VDT monitor, keyboard, mouse/trackball, document holder, wrist rest)?

Is adequate space available under the work surface/table so that the legs, knees and thighs do not rub or hit the work surface, or items stored underneath?

Is the chair adjustable and does it provide proper lower back support?

Is the VDT monitor positioned to avoid glare (e.g. from overhead lights or window light)?

To minimize neck and shoulder strain, is the top of the VDT display screen at or slightly below the worker's eye level; and is the VDT monitor located directly in front of and 18-24 inches from the worker?

APPENDIX 2
Estimated EHS Support of ALS
from the EH&S Division

FUNCTION	FTE EHS
Liaison - AHD Reviews Inspections (IFA, Self assess. Consultations, meetings, SAARs etc.)	.09
ALS safety support(electrical safety, Lockout-Tagout, ALS EHS Coordinator Back up, Laser safety)	.26
IH Hazard evaluations (including chemical issues, respirators, lead, noise, confined space, air quality, project support)	.06
ORPS	.05
Waste (Includes Training and Consultations)	.01
Matrix - Rad tech support	1.00
Totals:	
Division Liaison Function	.09
Safety Support Function:	.26
Other EH&S Support:	.12
EH&S Matrix support:	2.00
Total	1.47

Appendix 3 FY 2002 Self-Assessment Performance Criteria

PERFORMANCE CRITERIA	EXPECTATIONS	ALS actions to implement expectation)	VALIDATION (for OAA validation)
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Define Work

The Division integrates ES & H into work and activities.

Line management is responsible for the protection of the public, the workers, and the environment.

Clear and unambiguous lines of authority and responsibility for ensuring ES&H are established and maintained at all organizational levels.

Resources are effectively allocated to balance programmatic, operational, and ES&H considerations.

1A. Division Director and line managers communicate ES & H expectations, goals & policies to all staff. Examples of appropriate communication include: [I, II, IV]*
 Annual all-hands division meeting
 Research procedures and protocols include safety notes
 Availability of safety committee minutes
 Division staff has clear lines of communication to convey ES&H issues to Lab and Division management, including evidence of clear policy for all staff to communicate safety concerns.

1.A.1 Division Director sends annual safety memo to all Division employees.

1.A.2 ALS ES&H/QA Committee meeting is held every month. Division management and each group are represented at each meeting. Employee safety concerns as well as lesson learned is discussed at the meeting.

A.1.3 The Division director holds at least one annual “all hands” meeting with the ALS staff.

A.1.4 All ALS employees are assigned to a “safety circle” that meets monthly to disseminate the information as well as the lesson learned passed along in the ALS ESH Committee meeting.

A.1.5 For each experiment performed at the ALS, there is an Experiment Safety Sheet (ESS) describing the safety envelope for the experiment. The ESS is signed by the experimenter in charge and the pertinent ALS/EHS staff and serves as a contract

A.1.6 The safety performance and the training profiles of all ALS staff are reviewed s part of the PDR process

1.A.1 Annual safety memo. Is maintained in the ALS ES&H office

A1.2 ALS ES&H/QA Committee meeting agendas and minutes maintained in the ALS ES&H office and on the ALS safety web page.

A.1.3 Copy of attendance to the Annual all-hands meeting as well as the agenda in maintained in the ALS ES&H office. This meeting will be held in August .

A.1.4 Copies of these minutes are located in the ALS EHS safety files and/or electronically available from the ALS Quality Assurance Officer.

A.1.5 The ESS is posted at the beamline where the experiment is being conducted.

A.1.6 ALS performance reviews

<p>1.B The ES&H committee and Division safety management group are active in address ES&H for Division</p>	<p>1.B See A.1.3-5</p>	<p>1.B See A.1.3-5</p>
<p>1C. Demonstrate that participating guests are made aware of and held accountable for ES&H.</p>	<p>1.C.1 ALS provides all users with site-specific safety training as well as the GERT brochures.</p>	<p>1.C.1Records maintained on the LBNL Training Database</p>
<p>1D. Division holds employees accountable for ES&H.</p>	<p>1.D ALS supervisors review ES&H performance of employees and comment on performance of matrixed employees as part of the PDR process</p>	<p>1.D See 1.A.6</p>
<p>1.E The Division has an approved and validated ISM plan.</p>	<p>1.E.1The Division has an approved ISM Plan in place. 1.E.2 The Division ISM Plan is reviewed at least annually and updated as necessary,</p>	<p>1.E.1/2 Copies of signed and dated ISM plan maintained in the ALS ES&H office and on the ALS web page.</p>
<p>1.F Adequate funds and resources are allocated for controls of EH&S hazards.</p>	<p>1.F ES&H is built in to each project, and all LCAT's submitted to facilities includes an ALS account number.</p>	<p>1.F Facility budgets are available electronically on the LBNL budget page.</p>

Identify Hazards

Line management evaluates work (new and modifications) to identify hazards before work is performed and to establish authorization for performing work safely.

Line management systematically evaluates hazards to mitigate risk posed by work in their area.

2A. Line managers use Chapter 6 of PUB 3000 or equivalent for evaluating hazards and necessary authorizations for doing work safely. All appropriate authorizations have been issued.

2.A.1 Designated project participants complete AHD's that address experimental activities and modifications to experiments, which add new hazards or increase the level of hazards when required by Chapter 6 of pub. 3000.

2.A.1 Current AHD's forms are in file in the ALS safety office, and posted at the work area for all products requiring AHD's.

2.A.2.1 Work not requiring formal EH&S authorizations is authorized by identification of hazards in the HEAR database which is reviewed and updated annually.

2.A.2.1 Hazard inventory information is maintained on the HEAR database.

2.A.2.2 Identification of appropriate training in Training Profiles. Hazards inventory for all ALS workspaces is reviewed and updated annually.

2.A.2.2 Training profiles are maintained in the EH&S Training database.

2.A.3 For all projects requiring AHD's, Division review and approval will be obtained before project start-up. The Division will review AHD's for active projects annually or when changes in hazards or controls are anticipated.

2.A.3 See 2.A.1

2.A.4 New and modified beamlines at the ALS are reviewed and authorized by the Beamline Review Committee in accordance with Procedure BL 08-16.

2.A.4 Beamline safety reviews are in the ALS Experimental Systems Group files.

2.A.5 To conduct research at the ALS, lead researchers must submit an ALS Experiment Form describing the experiment and all potential hazardous materials and equipment to be used at the ALS. The research team is offered the ALS Hazard Guide Assessment **Table and** support from ES&H professionals to successfully

2.A.5 Experiment safety reviews (ESS) are posted at each experiment.

	<p>2B. Division maintains an inventory of its hazardous chemicals.]</p>	<p>2B. ALS continuously updates its chemical inventory</p>	<p>2.B. A current chemical inventory is located on the ES&H database.</p>
<p>Control Hazards</p> <p>Administrative and engineering controls tailored to the hazards have been implemented.</p>	<p>3A. Certification of engineering controls and safety instrumentation are up to date. [V]</p>	<p>3.A.1 Line Management ensures lab and shop safety ventilation systems and required monitors under their control are checked, serviced, calibrated and/or certified as required by PUB-3000, work procedures and manufacturers' recommendations.</p> <p>3.A.2 Where applicable, QUEST teams check engineering controls, safety instrumentation, and suspect/counterfeit parts in their areas at least annually.</p>	<p>3.A.2.1 The tracking of the findings from these walkthroughs are maintained in the AFRD EHS administrator files.</p>
	<p>3B. Emergency contact information is appropriate for the work and associated hazards.</p>	<p>3.B.1 QUEST teams review emergency contact signage and posting in their areas at least annually.</p> <p>3.B.2 . Signage and postings are reviewed by the quarterly walkthroughs by the EHS coordinator and AFRD EHS administrator; and annually by the ALS QUEST team walkthrough.</p>	<p>3.B.1.1 The tracking of the findings from these walkthroughs are maintained in the AFRD EHS administrator files.</p> <p>3.B.1.2 These findings as well as the schedule of completed walkthroughs are included as Appendix IV.</p> <p>3.B.2 See 3.B.1</p>

3C. Line managers ensure that ergonomic issues are effectively addressed for their workstations and/or work processes

3.C.1 Ergonomic issues are reviewed by the quarterly walkthroughs by the EHS coordinator and AFRD EHS administrator, as well as part of the QUEST inspections.

3.C.1.1 The tracking of the findings from these walkthroughs are maintained in the AFRD EHS administrator files

3.C.1.2 A special account has been designated specifically for staff ergonomic equipment

3.C.1.3 Copies of ALS ergonomic evaluations are maintained by the EH&S ergonomic evaluator.

4.A.1 Supervisors identify hazards and take actions necessary to reduce the rate of accidents and occurrences. This may include an ad hoc accident investigation committee initiated by the head of operations when the nature of the accident warrants further analysis than performed by the SAAR. All personnel report accidents and occurrences as required by PUB-3000.

4.A.1 Accident reports (SAAR's) maintained by EH&S and in Division Office. Accident statistics reported by EH&S. Occurrence Reports maintained by EH&S and in Division Office.

4.A.2 Hazardous waste generators assigned custodianship of Satellite Accumulation Areas (SAA's) maintain them in accordance with Guidelines for Generators, PUB-3092. Generators maintain control of SAA's, categorize and label wastes properly, and request pick-up by EH&S before accumulation time limits are exceeded.

4.A.2 % compliance for SAA's determined by EH&S inspection; %QA waste samples and number of NCAR's reported by EH&S waste management.

4.B. Supervisors review Training Profiles and training records with employees during PDR period and when duties change significantly.

4.B. Training profiles and completion rates are maintained in the LBNL database.

4.C. Supervisors review Training Profiles and training records with employees during PDR period and when assigned to Building Emergency Team.

4.C The emergency team training is maintained in the LBNL group training database.

4D. Stewardship: waste minimization performance goals are met or exceeded (goals determined by EH&S Waste Management Group, in consultation with the Division).

4.D.1 Division ES&H Coordinator meets with EH&S generator assistance specialist and distributes waste minimization performance information received from EH&S at Division safety meetings. Generators identify and implement appropriate waste minimization efforts.

4.D.1 Waste minimization performance information (% reduction of hazardous waste and non-hazardous solid waste) maintained by EH&S.

Feedback and Improvement

Line management actively participates in corrective action planning and ensures that plans are effectively executed.

Divisions implement improvements based on feedback from self-assessment, lessons learned, benchmarking, Appendix F and other vehicles that promote continuous improvement.

5A. Based on the work, associated hazards and safety performance, line managers & staff Including the head of operations, principal investigators, and senior/mid managers, participate in walkthroughs and other ES&H activities.

5.A.1 AFRD Division ES&H Administrator and the Division Safety Coordinator walk through all ALS workspaces at least annually.

5.A.2 All ALS personnel (except short-term) participate in QUEST activities.

5.A.1 Quarterly walkthroughs are by the EHS coordinator and AFRD EHS administrator, as well as part of the QUEST inspections. The tracking of the findings from these walkthroughs are maintained in the AFRD EHS administrator files.

5.A.2 As part of the annual self-assessment, the ALS staff reviews all ALS areas during their QUEST inspections. Any findings from these reviews are referred to the ALS EHS coordinator and are tracked on the AFRD EHS administrator files.

<p>5B. Supervisor’s Accident Analysis Reports (SAAR’s) are processed in a timely manner and actively involves root cause analysis and corrective actions by the injured employee, the supervisor, the safety coordinator, the division liaison, and as appropriate the Division Director and/or other senior managers.]</p>	<p>5.B Injured employees, their supervisors, the safety coordinator, the EH&S liaison, and as appropriate the Division Director and/or Program Head participate in accident analyses. Supervisors ensure SAAR’s are processed in a timely manner.</p>	<p>5.B See EHS SAAR’s database</p>
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<p>5C. Division tracks the corrective actions of findings identified in its self-assessment.</p>	<p>5.C AFRD ES&H Administrator maintains spreadsheet of ES&H action items. Unresolved items over 60 days are entered into the LCAT database.</p>	<p>5.C. ALS Action Item spreadsheet maintained by the AFRD Division EH&S Administrator who also maintains the LCAT database.</p>
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<p>5D. Division ES&H committee and/or the Division safety management group uses ES&H data and information from lessons learned, SAAR’s, incident reports, EH&S monitoring reports, Appendix F performance measures, etc. to institute appropriate mitigation measures or opportunities for improvement</p>	<p>5D The ALS EHS Committee meets once a month to discuss lessons learned, accidents, and any other safety issues or information deemed important by management or ALS staff. The information from this meeting is then passed to individual safety group meetings (QUEST Teams/safety circle meetings).</p>	<p>5.D.1 ALS EHS Committee meeting minutes are maintained in the ALS safety office and posted on the ALS Safety Web page.</p> <p>5.D.2 The ALS Quality Assurance officer and the AFRD safety administrator maintain Division QUEST Teams/ safety circle meeting minutes in the EHS safety office and electronically.</p>
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*ISMS principles related to expectations:

- | | |
|---|--|
| <p>I. Line Management Accountability</p> <p>II. Clear Roles & Responsibilities Authorization</p> <p>III. Competence Commensurate with Responsibilities Being Performed</p> <p>IV. Balanced Priorities</p> | <p>V. Identification of Safety Standards Requirements and Operations</p> <p>VI.</p> <p>VII. Hazard Controls Tailored to Work</p> |
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Appendix IV

BldgRoom/Area	TeamFinder	Finding
65	IFAPT	improper use of recycling containers by PB personnel
61000	Byrne	boxes containing radiation monitors not properly secured to wall
61000	Byrne	leaks along back driveway by cooling towers
61000	IFAJA	several cylinders with no pressure relief vent on nozzles
61000	IFAPT, JS	portable eyewash tags not marked as tested
61000	Byrne	personnel door to airlock between col. 9 & 10 opens into walkway
61000	Byrne	too many stairs over storage ring roof closed during maintenance
61000	Byrne	1st stop sign on downhill road in front of cooling tower, can't see
61000	Byrne	new platform above BL 11.0 has sharp, jagged edge on entrance si
62215	3Tony Young	electrical equipment needs side panels before operation
62215	IFAGP,TC,PT	blocked safety shower & eyewash
62215	IFAGP,TC,PT	need sharps container
62215	IFAGP,TC,PT	glass cabinets need film
62215	IFAGP,TC,PT	pump oil needs secondary containment
62226	IFAGP,TC,PT	secure bookshelf and cabinets; lips on shelves
62232	IFAGP,TC,PT	secure furniture; lips on shelves
62233	IFAGP,TC,PT	dispose of boxes & packing materials
62233	IFAGP,TC,PT	fix latch on flam cabinet
62245	IFAGP,TC,PT	multiple electrical issues
61000-1.4.2	IFATC,GP	loose sharps
61000-1.4.2	IFAJA	secure biosafety cabinet (HY Holman), cabinet in hutch, bookcase
61000-10	Tony Young	front end has open computer turned on with 110V AC exposed
61000-10	Tony Young	exit slit: missing bellows safety covers
61000-10	Tony Young	loose computer monitors; active variacs on power cords
61000-10	Tony Young	296A-27A panel has no exclusion zone, but lots of stuff there
61000-10.2.1	Tony Young	rack: Multimeters stored high
61000-10.3.1	Tony Young	many loose dewars; storage boxes on floor, difficult to walk
61000-11.0	Tony Young	LISTA panel wrapped & marked "Rich Celestre" leaning precariou
61000-11.0.1	Tony Young	panel "275A-10A" no exclusion zone, "298A" blocked
61000-11.2.5	Tony Young	books & manuals loose on top
61000-11.3.2	Tony Young	plastic curtains on clean room not bolted down
61000-12	Tony Young	rack BL1228: junk stored on floor in front
61000-12	Tony Young	rack BL1228: junk stored on floor in front
61000-12	Tony Young	bottles in series on table: ethanol, methanol, Coca-Cola, etc.
61000-12	Tony Young	several short (16") gas cylinders on floor, unsecured, Argon, N2
61000-12	Tony Young	messy cable piles on floor
61000-7.0.1	IFATC	need tag on administrative lock
61000-8	Tony Young	cryo bowls & dewars next to gas cylinders - LN2 dewars on wheel
61000-8	Tony Young	loose RGA head on half up high
61000-8	Tony Young	noisy & vibrating chillers strapped high up with flimsy chain
61000-8	Tony Young	superbend: mini hutches: access problems

61000-8.0	Tony Young	300 V batteries with open terminals still there with "Tom Caronn
61000-8.2	Tony Young	racks open with sharp edged up high. cabling messy
61000-8.2	Tony Young	many unsecured monitors. some loose on high shelf
61000-8.3	Tony Young	many unsecured monitors. some loose on high shelf
61000-8.3.1	Tony Young	aluminum panels w heavy vacuum flanges leaning precariously
61000-9.0	Tony Young	high shelf with computer monitors and LeCroy oscilloscope unseci
61000-9.0	Tony Young	electrical panel "293A" has stuff in exclusion zone
61000-9.0.2	Tony Young	laser curtain torn
61000-9.0.2.1	Tony Young	outlet strips daisy chained in racks and under Ximer's desk
61000-9.0.2.2	Tony Young	outlet strips daisy chained in racks and under Ximer's desk
61000-9.2	Tony Young	many loose dewars
61000-9.3	Tony Young	cabinets covered with loose items
61000-9.3	Tony Young	rack #929 monitor loose on high shelf
61000-9.3	Tony Young	mirrors labeled "901/902" had loose finger guards
61000-9.3	Tony Young	daisy-chained strips
61000-9.3.2	Tony Young	near panel 294A: cables stretched across access ways
61000-9.32	Tony Young	panel 295A exclusion zone filled with computer stuff; signal cable
61000-col 18	Byrne	swing of right door is potentially hazardous to persons in Bldg. 6
61000-col 7	IFAPT,GP	loose cabinet next to aisle (grey, "Lorklin")
6mezzanine	IFAGP,TC,PT	glass-door cabinets need film
6SR roof	Byrne	electrical conduit at superbend locations is trip hazard, cover w c
BldgRoom/Area	TeamFinder	Finding
2427	1Fenner/Reza	ergo evaluation needed
62104	1Coyne/Fujimura	books, plants on top of cabinets; binders underneath desk limiting
62228	1Coyne/Fujimura	clear plastic lips on shelves
62238	1Coyne/Fujimura	recycle bins needed
62238	1Coyne/Fujimura	totes on floors
62129A	3Tony Young	sealed radioactive sources stored in labelled drawer
2408	3Tony Young	no lips on shelves
2431	1Fenner/Reza	needs computer desk to accomodate ergonomic policy
62120	0GP,PT,TC	secure water cooler
62144	0GP,PT,TC	shelf covering light switch
62212	0GP,PT,TC	room signs are incorrect
62236	0GP,PT,TC	secure 3 cabinets
62236	1Coyne/Fujimura	clear plastic lips on shelves
2404	1Fenner/Reza	obstructed walkway
2404	1Fenner/Reza	loose items on cabinets
2408	1Fenner/Reza	obstructed walkways
2408	3Tony Young	heavy metal objects stored in wall-mounted cabinets with glass d
2408	0GP,PT,TC	panel access inadequate
2408	0GP,PT,TC	vacuum gauge wiring
2416	1Fenner/Reza	secure file cabinet
2437	0GP, PT, TC	needs new bookshelf
2416	0GP,PT,TC	leak in hallway

2408	OGP,PT,TC	cover 72 V terminals on magnet
2437	OGP,PT, TC	need lips for bookshelf
2439	OGP,TC,PT	too much storage next to door
6mezzanine	Byrne	LN2 venting at visitors gallery disturbs researchers, reroute or s
62233	IFAGP,TC,PT	separate flammables and corrosives; label containers
61000	Byrne	measure & post stray magnetic field around pole tips of superbend
61000	Byrne	leaks along back driveway by cooling towers
62261	IFAGP,TC,PT	restrain beam pipe
62261	IFAGP,TC,PT	secure vice
61000	Byrne	boxes containing radiation monitors not properly secured to wall
61000-1.4.2	IFAJS	secure biosafety cabinet (HY Holman), cabinet in hutch, bookcase
7102	IFAGP,TC,JS,PT,WW	electrical cord through window
2443	IFAGP,TC,JS,DS,PT	secure file cabinets
61000	IFAJS	several cylinders with no pressure relief vent on nozzles
61000	IFAPT, JS	portable eyewash tags not marked as tested
61000	Byrne	personnel door to airlock between col. 9 & 10 opens into walkway
61000	Byrne	too many stairs over storage ring roof closed during maintenance
61000	Byrne	new platform above BL 11.0 has sharp, jagged edge on entrance si
62215	3Tony Young	electrical equipment needs side panels before operation
62215	IFAGP,TC,PT	blocked safety shower & eyewash
62215	IFAGP,TC,PT	pump oil needs secondary containment
62226	IFAGP,TC,PT	secure bookshelf and cabinets; lips on shelves
62228	1Phillips,Fujimura	Bozek - boxes in corner, toss?
62232	IFAGP,TC,PT	secure furniture; lips on shelves
62233	IFAGP,TC,PT	dispose of boxes & packing materials
62233	IFAGP,TC,PT	fix latch on flam cabinet
62245	IFAGP,TC,PT	multiple electrical issues
61000- 1	1Coyne, Rossi	unsecured carts and racks
61000- 6	1Coyne, Rossi	unsecured carts and racks
61000-1.4.2	IFATC,GP	loose sharps
61000-10	Tony Young	front end has open computer turned on with 110V AC exposed
61000-10	Tony Young	loose computer monitors; active variacs on power cords
61000-10	Tony Young	296A-27A panel has no exclusion zone, but lots of stuff there
61000-10.2.1	Tony Young	rack: Multimeters stored high
61000-11.0.1	Tony Young	"298A" blocked
61000-11.3.2	Tony Young	plastic curtains on clean room not bolted down
61000-12	Tony Young	rack BL1228: junk stored on floor in front
61000-12	Tony Young	bottles in series on table: ethanol, methanol, Coca-Cola, etc.
61000-12	Tony Young	several short (16") gas cylinders on floor, unsecured, Argon, N2
61000-12	Tony Young	messy cable piles on floor
61000-8	Tony Young	cryo bowls & dewars next to gas cylinders - LN2 dewars on wheel
61000-8	Tony Young	loose RGA head on shelf up high
61000-8	Tony Young	noisy & vibrating chillers strapped high up with flimsy chain
61000-8	Tony Young	superbend: mini hutches: access problems
61000-8.0	Tony Young	300 V batteries with open terminals still there with "Tom Caronn

61000-8.2	Tony Young	racks open with sharp edged up high. cabling messy
61000-8.3.1	Tony Young	aluminum panels w heavy vacuum flanges leaning precariously
61000-9.0	Tony Young	high shelf with computer monitors and LeCroy oscilloscope unseci
61000-9.0	Tony Young	electrical panel "293A" has stuff in exclusion zone
61000-9.2	Tony Young	many loose dewars
61000-9.3	Tony Young	cabinets covered with loose items
61000-9.3	Tony Young	daisy-chained strips
61000-9.3.2	Tony Young	near panel 294A: cables stretched across access ways
61000-9.32	Tony Young	panel 295A exclusion zone filled with computer stuff; signal cable
61000-col 18	Byrne	swing of right door is potentially hazardous to persons in Bldg. 6
62212G	1Phillips,Fujimura	Reza -remove old PC boxes, PC cordage tangle
62212H	1Phillips,Fujimura	binding material on file cabinet needs to be moved
61000-7.0.1	IFATC	need tag on administrative lock
62215	IFAGP,TC,PT	need sharps container
10102	OGP,PT,TC	replace broken floor tiles
10104	OGP,PT,TC	need continuous ground for red flammables cabinets
10106	ONordby	work station in front of panel
10108	OGP,PT,WW	hole in transite next to door
10108	OGP,PT,WW	need belt guard on Wells Mfg. Co. CM76
10108	OGP,PT,WW	eyewash by shop sink not inspected since 10/98
10111	OGP,PT,WW	order new base plates for Do-all Band Saws
10113	OGP,PT,TC	remove carts blocking access/egress
10115	OGP,PT,TC	secure ladder
10197	OPT	floor tile at end of hall next to 10-108 missing
10202	3Ritchie, Bell	240 VAC, 20A, single phase receptacle near wet sink on south sid
10208	OGP,PT	lip for bookshelf on Ergotron workstation
10115A	OGP,PT	heavy items on top of storage cabinets
2457	OGP,PT,TC,SI	roof leaking in front of door to 407B
80140A	OGP,PT	indoor air quality problems; lung irritation
2460	3Tony Young	mirrored box sitting on work table not secured against seismic ha
2457	OGP,TC,PT, SI	lift parked in hall in front of door
2460	1Fenner/Reza	shelves need seismic restraints
2460	1Fenner/Reza	trip hazard on hallway below black mat
2400F	1Fenner/Reza	trip hazard -- overhead projector cord exposed
2457	GP, PT	labeling of used yttrium oxide
10104	3Tony Young	cabinet doesn't close properly
10104	OPT,JS,GP,TC	need secondary containment pans for all flam cabinets
10104	ONordby	breaker box located next to flammable storage
10111	2Nomura, Scarvie	Le Blond lathes have no obvious emergency shutoff switches
10111	2Nomura, Scarvie	compressed air hose on bridgeport mill tends to create a trip haza
10206	OGP,PT,TC	repair & repaint wall surfaces
80151	1Phillips/Lampo	storage on top of cabinets
80153	1Phillips/Lampo	file cabinet not bolted
80155	1Phillips/Lampo	cabinet nearest door - not bolted; storage on top
80157	1Phillips/Lampo	storage on top of cabinet

80231	1Phillips/Lampo	copy area - shelves holding copy paper need lips
80237	1Phillips/Lampo	4 drawer filing cabinet not secured
80135A	1Phillips/Lampo	shelf and cabinet lips
10202	OGP,PT,TC	clean wall and remount or remove bulletin board
6new labs	OGP,PT, TC	blue "SAA storage signs" in every lab
4202	OGP,PT,TC	loose file cabinet in conference room
4209	1Robinson/Tamura	window blind valance strip loose
4212	1Robinson/Tamura	file cabinet in hallway can be removed
72nd floor hall	OGP,PT,TC	replace broken tile outside rm 214
46177	GP,WW,PT	secure cabinet
46189	OPT,AP	needs cord protector for computer cable on floor
46189	OGP,PT,WW	need chains for bookshelf
46222	OGP,WW,PT	remove pencil sharpener next to doorway
46146B	OGP,WW,PT	secure file cabinet
46146C	OGP,WW,PT	door drags on floor
46158B	Julian/Benj.	2 book shelves 6' not secured
46158B	Julian/Benj.	data terminal dist. box pulled from wall - remount
46158B	Julian/Benj.	filing cabinet not secured
46160A	Julian/Benj.	outside door (inside room) has dry rot - water damage
46275F	OGP,WW,PT	Lionel Boniface needs bookshelf on wall above desk
46275Q	OGP,PT,WW	install lips on top of storage cabinet
27101A	GP,PT,TC,JJ	window in shop doesn't close
27101A	GP,PT,TC,JJ	order adjustable shop stool
10108	OGP,PT,WW	panel clearance
10111	OGP,PT,WW	update door sign
10108A	OGP,PT,WW	panel clearance
10108A	OGP,PT,TC	secure ladders
4218	1Robinson/Tamura	missing baseboards
4women's room	1Robinson/Tamura	no hot water from sink
4	1Robinson/Tamura	most lateral filing cabinets do not have securely closing doors
7100	1Gary G/Todd A	general housekeeping; items stored on top of lockers; heavy items
7102	1Coyne/Fujimura	needs cleaning - totes and books on floor
7111	1Gary G/Todd A	lockers need to be secured
7111	1Gary G/Todd A	items stored on top of lockers
7211	1Coyne/Fujimura	conference room needs to be cleaned - floor hazards
72nd floor hall	1Coyne/Fujimura	door swing markers need to be done over in the entire 2nd floor
7210G	IFAGP,TC,JS,PT,WW	electrical equipment with top of case removed
2457	OGP,TC,PT,SI	light comes on too slowly, especially on Saturdays
10110	OGP,PT,TC	label containers
10117	OGP,PT	secure ladder
10117	OGP,PT,TC	clear area in front of rear exit door
10106	OGP,PT,TC	secure argon cylinder
80116	OGP,PT,TC	secure cabinets when occupant (Steve Lidia) is ready
80130	IFAGP,PT,TC	need "food only" label on refrigerator
10110	OGP,PT,TC	improve housekeeping - too much stuff on floor



10115A	OGP,PT	update door sign
10115A	IFAGP,TC,JS,PT	restrain LN2 cylinder
80135	OGP,PT,WW	strain relief on back of test set-up
80140F	OGP,PT,TC	put backs on equipment racks
46144	Baptiste/Kw.	materials stored on top of shelving units on north wall
46144	Baptiste/Kw.	3 cables draped across duct work entering room 144B
46144	OGP,WW,TC,PT	walk with Walter Barry and discuss equipment stacking/securing
46270	OWW,TC,PT	move shelf over sink in hall outside 275T
46271	OP Thomas	secure bookshelves in conference room
46144B	Bailey/Chin	east bookshelves need bungee cords
46158E	OGP,WW,PT	clear aisle, improve housekeeping
46175A	OGP,WW,PT	secure file cabinet
46175E	OGP,WW,TC, PT	secure bookcase
46275G	OGP,WW,TC,PT	secure file cabinet
46275U	OGP,WW, TC, PT	remove bookshelf from hallway
46226	OGP,WW,PT	move boxes away from door
80157	OGP,PT,TC	housekeeping: reduce piles of stuff on cabinets
80160	1Phillips/Lampo	storage on top of cabinet
80doors, S end	Byrne	double doors on south end have post between them - collision hazard
8035	IFAGP,PT,TC, JS	maintain panel clearance
8035	IFAGP,PT,TC, JS	clean up metal chips
8038	IFAGP,PT,TC, JS	move boxes away from door
10111	IFAGP,TC,JS,PT	brown liquid (oil?) labeled 111-trichloroethane
10115A	IFAGP,TC,JS,PT	replace LN2 nozzle with safety nozzle or install pressure relief valve
10115A	IFAGP,TC,JS,PT	panel clearance
80111	IFAGP,PT,TC	unlabeled clear liquid (water?) in graduated cylinder
7214	IFAGP,TC,JS,PT,WW	panel clearance
46144	IFAGP,TC,PT,WW	remove battery from bench
8038	OGP,PT,WW	order base plates for Do-all band saws
80222	OGP,PT,TC	remove empty file cabinet from hallway
7210M	IFAGP,TC,JS,PT,WW	glue veneer strip to front of desk (left on top of cabinet)
7200	IFAGP,TC,JS,PT,WW	secure cabinet in hall
7201	IFAGP,TC,JS,PT,WW	need lip on top of file cabinet; secure wood bookshelf
7206	IFAGP,TC,JS,PT,WW	order ergonomic furniture
7210	IFAGP,TC,JS,PT,WW	secure water cooler
7210J	IFAGP,TC,JS,PT,WW	improve housekeeping
7103	1Coyne/Fujimura	earthquake hazards- loose boxes, unsecured cabinets, etc.
7214R	IFAGP,TC,JS,PT,WW	need lip on bookcase; velcro printer
7214U	IFAGP,TC,JS,PT,WW	excess computers on floor - contact Tom Caronna
46144	OGP,WW,PT	need chains or bungees for shelves in corridor
46144	IFAGP,TC,PT,WW	lips on top of bookshelves (Mike Chu)
46144	IFAGP,TC,PT,WW	bungee cords on shelves
46144	4CWeber, Kwiatk.	1 40 Amp circuit powering 6 plug strips of 60 outlets total
46156	Bailey/Chin	Jonathan Elkins' cabinet needs securing
46158	OGP,WW,PT	label for food fridge near back door



46160	OGP,WW,PT	need label for food fridge
46164	OGP,WW,PT,TC	remove shelf from hallway next to mailstop
46179	OGP,WW,PT	remove tote boxes from shelf
46143A	OGP,WW,TC,PT	level floor and replace broken tile in main hall near 146A
46146D	4ABarry, Stover	needs bungee cords on far book shelves
46158D	OGP,WW,PT	need bungee cords on shelves; improve housekeeping; remove 4-l
46160A	4DJulian, Benjeg.	daisy chained extension cord under west desk
7214T	IFAGP,TC,JS,PT,WW	keep notebooks off top of cabinets
46158D	OPT	remove shelf
10202	OPT, JS	black fuzzy spots around bulletin board next to sink area
2453	IFAGP,TC,JS,DS,PT	panel clearance
2457	OGP,PT	check sharps storage
2457	3Robin,Rude,Celest	survey tripod & chair blocking access to electrical panel 248A1A
2457	3Robin,Rude,Celest	door to interior hallway blocked by toolbox in 457 & misc items b
2457	3Robin,Rude,Celest	unrestrained box of books on top shelf of bookshelf behind laser t:
2457	3Robin,Rude,Celest	unlabeled bottle - small with black lid
2457	3Robin,Rude,Celest	emergency exit blocked out of anteroom (407B)
4102	Ofire dept.	remove temporary storage from aisles
4218	1Robinson/Tamura	large bookcase not secured to wall
4user offices	1Robinson/Tamura	most ALS user workstations not ergonomically sound
7202	IFAGP,TC,JS,PT,WW	need GFI on outlet under sink
7214E	IFAGP,TC,JS,PT,WW	need lips on top of cabinets?
7214K	IFAGP,TC,JS,PT,WW	need lips on top of cabinets?
7214L	IFAGP,TC,JS,PT,WW	need lips on top of cabinets?
7214M	IFAGP,TC,JS,PT,WW	need lips on top of cabinets?
27101	4D&EBaptiste, Benjeg.	needs clean-up of excess material
27107	4ABarry, Stover	vector voltmeter & ENI amplifier stacked too high, unsecured
27101B	4BM Chin	remove objects from top of cabinets
27101B	4BM Chin	stretcher and easel may be egress obstacles
7202	IFAGP,TC,JS,PT,WW	improve housekeeping
80156	1Phillips/Lampo	storage on top of cabinet
8011	IFAGP,PT,TC,JS,WW	secure water cooler
10102	OGP,PT,TC	need secondary containment pan for Rotenberg cabinet
10102	IFAGP,TC,JS,PT	need catch on door of Moler/Kellar cabinet
10102	3Bruce Rude	20 ml unknown liquid in 600 ml beaker near ultrasonic cleaner w
10102	3Bruce Rude	various glass bottles of chemicals not in secondary containment or
10102	3Bruce Rude	bottle labeled K4[Fe(CN)6] waste improperly labeled, not in SAA
10110	OGP,PT,TC	improve chemical storage - need caps, secondary containment
10111	2Pusina, Coleston	found 80 psi compressed air on North and South wall systems
10111	2Pusina, Coleston	no restart protection on portable grinder
10111	2Pusina, Coleston	warning signs missing - drill press #18, milling machine J859
10111	2Pusina, Coleston	no fire extinguishers
10111	2Pusina, Coleston	sprinkler heads not ≥ 2 ft. from ceiling
10111	2Pusina, Coleston	daily inspection tag to crane not filled out since '95



10111	2Pusina, Coleston	maintenance info for equipment not visible
10111	2Pusina, Coleston	personnel clear of hoisting - under crane
10111	2Pusina, Coleston	counterfeit parts - unknown
10202	0GP,PT,TC	remove junk from aisle
10202	1Coyne, Rossi	unsecured carts and racks
10206	IFAGP,TC,JS,PT	replace fabric cover for pipe housing
10207	1Coyne, Rossi	housekeeping
10208	IFAGP,TC,JS,PT	fix AC or cut cord
10202D	1Coyne, Rossi	lamp on high shelf
10202E	1Coyne, Rossi	server on high shelf
10210A	IFAGP,TC,JS,PT	restrain bookshelves
8010	2Stricklin, Slater	housekeeping: material on top of grey lockers
8010	IFAGP,PT,TC	determine contents of flam cabinet & owner, dispose of unwanted
8011	2Stricklin, Slater	portable punch press is not seismically safe
80120	IFAGP,PT,TC	need lips on top of cabinets
80130	IFAGP,PT, TC	needs room number
80135	IFAGP,TC,PT	ensure clear path to eyewash
80222	0GP,PT,TC	secure file cabinet
80140F	0GP,PT,TC	update hazard sign on door
802nd floor	IFAGP,TC,PT	update occupant directory sign
80shop	2Stricklin, Slater	mills do not have guards to protect employees from flying chips
80shop	2Stricklin, Slater	numerous pipes have cable & wiring tie-wrapped to them through
80shop	2Stricklin, Slater	slippery floor by phone left of panel 342A1A19A39A
80shop	2Stricklin, Slater	ladder/stairs leading to Bldg. 80 tunnel blocked by gear adrift & 1
80shop	2Stricklin, Slater	panel 305A4A2A blocked
80shop	2Stricklin, Slater	no grounding on fan on magnet stand on middle work bench to left
80shop	2Stricklin, Slater	evaluate for counterfeit parts
80shop	2Stricklin, Slater	saw blades stored on top of gray lockers opposite blue ? cabinets r
80shop	2Stricklin, Slater	2 x 4 on top of flammable storage lockers not secured
80A103	IFAGP,PT,TC,JS,WW	improve housekeeping
80A100C	IFAGP,PT,TC,JS,WW	improve housekeeping
46146B	4ABarry, Stover	secure lamp on file cabinet
80120	1Lowry,Srulovitz	stuff over cabinets and under desks
10118	0IFA	improve gas storage
10118	3Tony Young	review cylinder storage- more chains? cylinders & chemicals stc
10118	0PT,GP,JD,TB	label containers (oil?), clean up leaked oil
10118	0PT,GP,JD	could use fiberglass ladder
10118	0PT,GP,JD	need additional flammables storage space
10102	0PT,GP	need alarm for new ALS User chemical refrigerator
10110	0Nordby	sprinkler 18" clearance from ceiling
10117	0GP,PT,TC	cover over fluorescent light missing
10202	0Nordby	extension cord/strip used to run appliances
10206	1Phillips/Lampo	storage on cabinet tops
10207	1Phillips/Lampo	top desk stuff - unsecured storage
10208	3Ritchie, Bell	power panel on the end of rack BL05 blocked

10210	1Phillips/lampo	storage on cabinet tops
10115A	0GP,PT,TC	secure green bookshelf by door to 10-117
10210A	1Phillips/lampo	room divider cabinets not secured
10	1Phillips/Lampo	no postings found for EH&S contacts or occurrence reporting cont:
8012	2Nomura, Scarvie	Le Blond Regal lathe has no obvious emergency shutoff switches
8012	2Nomura, Scarvie	computer for milling machine on west wall in clearance zone in fr
8012	2Nomura, Scarvie	elevated stock racks lack 4" toe boards
8012	2Nomura, Scarvie	parts cabinets (nuts & bolts) on E side lack toe boards up top
8012	2Nomura, Scarvie	no strain relief on any electrical cords
8012	2Nomura, Scarvie	Hardinge lathe near desk area has completely oily cabling
8024	0GP,PT,JS	ceiling tiles missing in hall outside door
80128	1Phillips/Lampo	storage on cabinet tops
80140	3Ritchie, Bell	open electrical box above false ceiling just above exit sign near do
80159	1Phillips/Lampo	storage of excess computer near exit door
80233	1Phillips/Lampo	storage on bookshelves without lips
80246	1Phillips/Lampo	left hand cabinet needs lips
80140D	3Ritchie, Bell	unused coaxial cable through air conditioner duct to next room
80140D	1Phillips/lampo	storage on top of cabinets
80210/214	3Tony Young	secure freezer
80210/214	3Tony Young	restrain LN dewar
4202	1Robinson/Tamura	things on counter should be cleared by user services office or thrc
4208	1Robinson/Tamura	window blinds (on top of bookcase) need to be installed on window
4216	1Robinson/Tamura	housekeeping
4102A	1Robinson/Tamura	ceiling tile missing
4102B	1Robinson/Tamura	attach cup holder to water cooler or wall in conference room
27	Barry/Fahmie	need bumper on cable tray on RF test stand
27	Barry/Fahmie	need flex gas line on furnace
7211	1Coyne/Fujimura	4 short, black cabinets on NW wall not bolted; 3 computers sitting
2453	3Tony Young	components stored on top of cabinets
2457	3Tony Young	residue from glass polishing operation in sink - hazardous?
2400B	1Fenner/Reza	auto shut-off switch for overhead lighting
2400B/C	1Fenner/Reza	Heater does not have tip over switch
2400B/C	1Fenner/Reza	top shelf of lateral file cabinet and bookshelves need seismic rest
27101A	GP,PT,TC,JJ	adjust door stop - blocks electric panel
46144	Baptiste/Kw.	5 center workbenches have 8 power strips /76 outlets on 3 20A
46208	OPT,GP,TC,CN	secure file cabinet
46144A	Baptiste/Kw.	missing outlet cover plate on south wall under computer table
46144B	Bailey/Chin	velcro printers at SW corner
46160A	Julian/Benj.	clean overhead vent
46275K	4P McKean	file cabinet by entry/exit unsecured
46loading dock	4Hinkson/Julian	secure 2 vending machines
46loading dock	4Hinkson/Julian	yellow hazard striping badly worn or missing
46loading dock	OPT, GP, CN	need safety shower, eyewash, and spill kit for forklift battery rec
10106	0GP,PT,TC	improve sharps storage; need sharps disposal container
10108	0GP,PT,TC	check for asbestos & repair holes in walls

10113	OGP,PT,TC	oven left on, unable to determine users
10117	ONordby	blocking of aisles with carts & equipment
10210	1Phillips/Lampo	hallway or foyer - cabinets not bolted & machines (fax, etc.) not
10115A	OGP,PT,TC	install chains on green bookshelf by door to 10-117
2406	1Fenner, Reza	inspect shelves and anchoring to wall on S. Wall of office
2408	3Robin,Rude,Celest	housekeeping - rollup doors on storage cabinets open
2410	1Fenner, Reza	filing, etc. papers on top of unlipped filing cabinet
2413	1Fenner, Reza	unlipped filing cabinets
2416	1Fenner, Reza	boxes, pictures on top of unlipped filing cabinet
2439	IFAGP,TC,JS,DS,PT	secure bookshelf; install lips on shelves
2451	1Fenner, Reza	CXRO - stuff? (closet)
2453	OGP,PT,TC,GM	no sterile downdraft in hood
2457	3Tony Young	two wall-mounted cabinets with glass doors. Heavy objects store
2460	3Robin,Rude, Celest	LTP area - AC unit not secured on benchtop
2460	3Robin,Rude,Celest	outlets at south end of room do not have GFCI protection, under wa
2460	1Fenner, Reza	computer, etc. equipment on top of filing cabinets
2407B	3Bruce Rude	unrestrained items on top shelf of bookcase
4200	OPT	1 ceiling tile missing, others damaged
4215	1Robinson/Tamura	reattach phone jack outlet to wall
65	IFAPT	improper use of recycling containers by PB personnel
61000	Byrne	1st stop sign on downhill road in front of cooling tower, can't see
62203	1Phillips,Fujimura	Lionel needs keyboard tray, move computer, PC cordage tangle
62203	1Phillips,Fujimura	Tao needs keyboard tray, move computer, tangled cords, separate
62215	IFAGP,TC,PT	glass cabinets need film
62225	GP,TC,PT	rack in front of electrical panel; storage in hall
62225	GP,TC,PT	safety shower/eyewash blocked
62236	1Phillips,Fujimura	Denlinger/Rotenburg - needs major housekeeping - empty boxes
62238	1Phillips,Fujimura	housekeeping in photocopy room
61000-10	Tony Young	exit slit: missing bellows safety covers
61000-10.3.1	Tony Young	many loose dewars; storage boxes on floor, difficult to walk
61000-11.0	Tony Young	LISTA panel wrapped & marked "Rich Celestre" leaning precariou
61000-11.0.1	Tony Young	panel "275A-10A" no exclusion zone,
61000-11.2.5	Tony Young	books & manuals loose on top
61000-8.2	Tony Young	many unsecured monitors. some loose on high shelf
61000-8.3	Tony Young	many unsecured monitors. some loose on high shelf
61000-9.0.2	Tony Young	laser curtain torn
61000-9.0.2.1	Tony Young	outlet strips daisy chained in racks and under Ximer's desk
61000-9.0.2.2	Tony Young	outlet strips daisy chained in racks and under Ximer's desk
61000-9.3.2	Tony Young	rack #929 monitor loose on high shelf
61000-9.3	Tony Young	mirrors labeled "901/902" had loose finger guards
61000-col 7	IFAPT,GP	loose cabinet next to aisle (grey, "Lorklin")
62212C	1Phillips,Fujimura	Lowry needs recyle boxes for white papers
6mezzanine	IFAGP,TC,PT	glass-door cabinets need film
6SR roof	Byrne	electrical conduit at superbend locations is trip hazard, cover w c

7204	0Perdue/Thomas	replace window sills
10101	IFAGP,TC,JS,PT	too many flammables - need small gas cabinet for oxidizers
10102	IFAGP,TC,JS,PT	test for peroxides; dispose of peroxide-former
10102	3Bruce Rude	"Safety Glasses Required" sign missing from door
10106	0GP,PT,TC	broken window
10108	0GP,PT,TC	secure argon cylinder near forklift area
10111	2Pusina, Coleston	drill tap, hardware, and storage cases might fall & block egress
10117	IFAGP,TC,JS,PT	restrain LN2 cylinder
10117	IFAGP,TC,JS,PT	replace LN2 nozzle with safety nozzle or install pressure relief v
10202E	0GP,PT	secure 2 bookshelves
10walkway	0BF	walkway being obstructed by parked cars; barrier needed
27101	GP,PT,TC,JJ	ventilation fan lets out heat in winter
27107	0Julian	high voltage testing needs grounding, secure cover, better table, e
27101A	4BM. Chin	uneven floor
27101B	4BM. Chin	file cabinets need securing
27105C	GP,PT,JJ	enclose fan in rest room
27exterior	4DJulian, Geyer	transite siding panels broken by dumpster
27lab	4Fahmie/Barry	eyewash station needs to be replaced
27	0JJ, PT, GP, TC	building has dry rot - check condition
27	Barry/Fahmie	loose linoleum
46146	0TC,WW	fix exit sign
46177	0GP,WW, TC,PT	remove board from hall
46146 B,C,D	0W Barry	air conditioning needed
46146D	0GP,PT	air handler causes excessive vibration
46149B	4DJulian, Glover	thermostat needs to be mounted or secured to wall
46156/156A	4ABarry, Stover	one missing earthquake strap on equipment shelf
46156/156A	4ABarry, Stover	miscellaneous equipment not secured on middle shelf
46156A	4ABarry, Stover	board not secured on middle shelf
46156A	Bailey/Chin	north storage lockers need lip for storage on top; secure items on
46156A	4Geyer/Fahmie	unsecured items on top of cabinets - general cleanup needed
46156A	0Caronna	remove nipples protruding thru outside wall & patch wall
46158A	0GP,PT	improve housekeeping - egress blocked
46158B	4DJulian, Benjeg.	need chains on top shelf for books
46160A	4DJulian, Benjeg.	no electrical cover on AC receptable behind west desk
46160B	4DJulian, Benjeg.	AC electrical outlet on wall needs cover near computer
46160B	4DJulian, Benjeg.	break up extension cords that are daisy chained under table
46170A	4DJulian, Benjeg.	door from 170A can swing out in front of RM. 160 entry door
46	0GP,PT,WW	mark all fire doors
8010	2Stricklin, Slater	secure drill press on table & file cabinet near door
8010	IFAGP,PT,TC	"not in service" sign for fire hose
8012	2Stricklin, Slater	fire hose (station 3) no inspection tag or out of service tag
8012	2Jones, Nomura	eyewash by sink is substandard
8012	2Jones, Nomura	fire extinguisher has SAA within 3 ft.
8012	2Jones, Nomura	all machinery has some depth of oil, metal chips
8012	2Jones, Nomura	deterioration of insulation of steam heating pipes near ceiling abov

8012	2Jones, Nomura	loose ethernet cable near ceiling
8012	OGP, PT, WW	replace safety shower
8012	IFAGP,PT,TC,JS,WW	pressure relief on compressed air nozzles
8021	2Stricklin, Slater	ventilation duct above panel 342A1A7A3A is clogged (90%) with
8021	2Stricklin, Slater	power panel 477A behind locked fence, preventing emergency acc
8021	2Stricklin, Slater	gear adrift on top of blue cabinets outside room 021
8021	2Stricklin, Slater	work benches & tool boxes not seismically safe
8024	OGP,PT,WW	need finger guard on corner sheer
8024	OGP,PT,TC	update hazard sign on door
80107	1Lowry,Srulovitz	long dangling cord outside room not secured properly
80118	1Lowry,Srulovitz	stuff is everywhere. This includes cords and boxes
80120	1Lowry,Srulovitz	electrical components(heavy) are not properly secured on desk
80122	1Lowry,Srulovitz	lots of stuff under desk
80124	1Lowry,Srulovitz	huge boxes under desk prevents leg access
80130	1Lowry,Srulovitz	stuff over cabinets and under desks, inadequate leg access
80135	OGP,PT,WW	replace eyewash
80135	1Lowry,Srulovitz	keyboards not ergonomic
80135	1Lowry,Srulovitz	hole in ceiling on far right side of room
80135	1Lowry,Srulovitz	bookshelf not secured to wall
80140	OGP,PT,TC	hose bib by back door, above printer, needs plug
80140	OPT,GP	secure new storage cabinet
80151	1Lowry,Srulovitz	tops of cabinets and desks piled with lots of stuff
80156	1Lowry,Srulovitz	computers in way of user's feet
80157	1Lowry,Srulovitz	stuff on ledge and piles of things on floor, waste basket in way of e
80159	1Lowry,Srulovitz	user needs flat screen monitor; existing monitor cannot be pushed
80248	OGP,PT,TC	remove stuff from top of cabinet and monitors from floor
80012A	2Stricklin, Slater	material stored on top not seismically safe
80012A	2Stricklin, Slater	unable to access MSDS sheets when office locked
8011A	OGP,PT,JS,TC	replace deluge hose with safety shower
80140D	1Lowry,Srulovitz	lots of stuff on tops of cabinets, against control room wall, etc.
80140D	IFAGP,TC,PT	need lip on top of cabinet
80first floor	1Phillips/Lampo	no postings found for EH&S contacts or occurrence reporting cont
80shop	2Stricklin, Slater	copper pipe going to drain not properly labeled as drain pipe
80shop	2Stricklin, Slater	numerous cables tie-wrapped to LCW return lines on W wall above
80shop	2Stricklin, Slater	newspaper jammed around pipe opposite metal rack, E wall, above
80shop	2Stricklin, Slater	small portable fan on cart under CR4-80 hoist has bent power pl
80shop	2Stricklin, Slater	warning label at sink near welding area unreadable
80shop	0Tom Caronna	power strip loose on middle work bench to left of tunnel
80shop	2Stricklin, Slater	hoses on gas bottles in brazing area showing wear
80shop	2Stricklin, Slater	no inspection tag on acetylene gas regulator
80shop	2Stricklin, Slater	oxygen bottle regulator needs recertification
80shop	2Stricklin, Slater	no goggles found in brazing area
80shop	2Stricklin, Slater	personal radio on top of vent hood unsecured; powered through ex
80shop	2Stricklin, Slater	safety glass holder damaged and not secured
80shop	2Stricklin, Slater	microwave on top of refrigerator not seismically safe



80shop	2Stricklin, Slater	numerous carts not chocked
80shop	2Stricklin, Slater	fans: extension cord, cord too short, not secured
80shop	2Stricklin, Slater	refrigerator not properly labeled for food storage
80shop	2Stricklin, Slater	all fluorescent lights overhead are not seismic safe against bulb di
80shop	2Stricklin, Slater	maintenance records for machine tools?
80shop	2Stricklin, Slater	grinder opposite welding area needs blower to pull dust away
80shop	2Stricklin, Slater	grinder opposite welding area needs seismic tie down
80shop	2Stricklin, Slater	grinder to left of panel 342A1A19A51A needs ventilation & work
80shop	2Stricklin, Slater	light at grinder has 2-wire cord
80shop	2Stricklin, Slater	grinder opposite metal rack needs ventilation & seismic safety
80shop	2Stricklin, Slater	lead hammer on work bench near fume hood is worn & needs to be
80shop	2Stricklin, Slater	copy machine & first aid kit not seismic
80shop	2Jones, Nomura	toe board to top level of stock shelf; ? to rm 21 wall < 4"

