

University of California, Berkeley
Mechanical Engineering
Injury and Illness Prevention Program

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University of California, Berkeley
(Mechanical Engineering)
Injury and Illness Prevention Program

I. INTRODUCTION AND PURPOSE

It is the policy of the University of California, Berkeley to maintain a safe and healthful work environment for each employee (including student and contract employees), and to comply with all applicable occupational health and safety regulations. The *Mechanical Engineering Injury and Illness Prevention Program (IIPP)* is intended to establish a framework for identifying and correcting workplace hazards within the department, while addressing legal requirements for a formal, written IIPP.

II. RESPONSIBILITIES

Professor and Chair Al Pisano has primary authority and responsibility to ensure departmental implementation of the IIPP and to ensure the health and safety of the department's faculty, staff and students. This is accomplished by communicating the Berkeley campus's emphasis on health and safety, analyzing work procedures for hazard identification and correction, ensuring regular workplace inspections, providing health and safety training, and encouraging prompt employee reporting of health and safety concerns without fear of reprisal.

Mechanical Engineering Safety Committee

The *Mechanical Engineering Safety Committee* has the ongoing responsibility to maintain and update this IIPP, to assess departmental compliance with applicable regulations and campus policies, to evaluate reports of unsafe conditions, and to coordinate any necessary corrective actions. The Safety Committee meets *quarterly* and includes representatives from the faculty and staff. Each employee has a designated representative on the committee. Currently, the department's Safety Committee consists of:

- . • Safety Coordinator Chair Dan Essley (staff)
- Safety Coordinator Co-Chair Scott McCormick (staff)
- Professor Chen
- . • Professor Lieu
- . • Professor Marcus
- . • Eligree Bennett (staff)
- . • One student from each ME lab

The Safety Committee membership rotates periodically.

Unsafe conditions that cannot be immediately corrected by an employee or his/her supervisor should be reported to the Department Safety Coordinator or any Safety Committee member by filling out a "Report of Unsafe Condition or

Hazard" form (IIPP Form 1).

Timely correction of workplace hazards will be tracked by the Safety Committee, which will receive and review reports of unsafe conditions, workplace inspection reports, and injury reports. Specifically, the Safety Committee will:

- . • Review the results of periodic, scheduled workplace inspections to identify any needed safety procedures or programs and to track specific corrective actions
- . • Review supervisors' investigations of accidents and injuries to ensure that all causes have been identified and corrected
- . • Where appropriate, submit suggestions to department management for the prevention of future incidents
- . • Review alleged hazardous conditions brought to the attention of any committee member, determine necessary corrective actions, and assign responsible parties and correction deadlines
- . • When determined necessary by the Committee, the Committee may conduct its own investigation of accidents and/or alleged hazards to assist in establishing corrective actions
- . • Submit recommendations to assist department management in the evaluation of employee safety suggestions

The Safety Committee must prepare and make available to all department personnel written minutes of issues discussed at the meetings. The Committee meeting minutes must be documented on IIPP Form 2, "Safety Committee Meeting Documentation," or a similar form. These minutes are posted in room 5102 Etcheverry Hall and must be maintained on file for at least one year.

The Safety Committee can seek assistance in the remediation of a hazard from other departments, including the Office of Environment, Health & Safety (EH&S) for campus health and safety issues, University Health Services (UHS) for ergonomic and workers' compensation issues, the University of California Police Department (UCPD) for personal security concerns, or the Office of Radiation Safety (ORS) for radiation and laser beam issues (see Section X).

Department Safety Coordinator Dan Essley, 642-7789; alternate Scott McCormick, 642-3427 or cell 510-599-4293

The Department Safety Coordinator is *Dan Essley*. The Safety Coordinator has responsibility for:

- . • Ensuring that the Safety Committee is aware of all accidents which have occurred, and all hazards which have been observed since the last meeting
- . • Working with the Building Coordinator to address facility-related safety concerns
- . • Assisting in the coordination of required health and safety training
- . • Serving as liaison with EH&S and other campus safety resources on issues the department cannot resolve
- . • Maintaining copies of Safety Committee minutes and other safety-related records

The Safety Coordinator may seek assistance from other members of the department as necessary to meet these responsibilities.

Supervisors

Supervisors play a key role in the implementation of the department's IIPP. (For the purpose of this template, the term "supervisor" includes any employee who oversees the work of others.) Supervisors may be Management Services Officers, Senior Research Associates, Department Chairs, Principal Investigators, or others. They are responsible for:

- . • Communicating to their staff and students the Berkeley campus's emphasis on health and safety
- . • Ensuring periodic, documented inspection of workspaces under their authority
- . • Promptly correcting identified hazards
- . • Modeling and enforcing safe and healthful work practices
- . • Providing appropriate safety training and personal protective equipment
- . • Implementing measures to eliminate or control workplace hazards
- . • Stopping any employee's work that poses an imminent hazard to either the employee or any other individual
- . • Encouraging employees to report health and safety issues to the Safety Committee without fear of reprisal

All Employees

It is the responsibility of all faculty and staff to comply with all applicable health and safety regulations, UC policies, and established work practices. This includes but is not limited to:

- . • Observing health and safety-related signs, posters, warning signals and directions
- . • Reviewing the building emergency plan and assembly area

- . • Learning about the potential hazards of assigned tasks and work areas
- . • Taking part in appropriate health and safety training
- . • Following all safe operating procedures and precautions
- . • Using proper personal protective equipment
- . • Warning coworkers about defective equipment and other hazards
- . • Reporting unsafe conditions immediately to a supervisor, and stopping work if an imminent hazard is presented
- . • Participating in workplace safety inspections

III. IDENTIFYING WORKPLACE HAZARDS

Regular, periodic workplace safety inspections must be conducted throughout the department. By law, the first of these inspections must take place when the IIPP is first adopted by the department. The inspections should be noted on IIPP Form 3 or other documentation, and copies of this documentation must be maintained by the department for at least one year. These regular inspections will be supplemented with additional inspections whenever new substances, processes, procedures, or equipment introduced into the workplace represent a new occupational safety and health hazard or whenever supervisors are made aware of a new or previously unrecognized hazard.

Generally, supervisors are responsible for identification and correction of hazards that their staff and/or students face and should ensure that work areas they exercise control over are inspected at least annually. Supervisors should check for safe work practices with each visit to the workplace and should provide immediate verbal feedback where hazards are observed.

The "Report of Unsafe Condition" Form 1 should be filled out when a referral is made to the Safety Committee as a result of a condition discovered during an inspection for which the responsible supervisor could not determine an immediate remedy. The

"Report of Unsafe Condition" form can also be obtained *room 5102 Etcheverry Hall*, filled out and turned in to the same location anonymously.

IV. COMMUNICATING WORKPLACE HAZARDS

Supervisors are responsible for communicating with all workers about safety and health issues in a form readily understandable by all workers. All department personnel are encouraged to communicate safety concerns to their supervisor without fear of reprisal. The Safety Committee is another resource for

communication regarding health and safety issues for department employees. Each employee has a representative on the committee that will inform him or her of hazard corrections and committee activities. Additionally, Safety Committee minutes and other safety-related items are posted in room 5102 Etcheverry Hall. Employees will also be informed about safety matters by e-mail, voice mail or distribution of written documents. Occasionally, the Safety Committee may also sponsor seminars or speakers or coordinate other means to communicate with employees regarding health and safety matters.

Supervisors are responsible for ensuring that employees are supplied access to hazard information pertinent to their work assignments. Information concerning the health and safety hazards of tasks performed by department staff is available from a number of sources. These sources include, but are not limited to, Material Safety Data Sheets (MSDSs, see below), equipment operating manuals, the Department Safety Coordinator, EH&S, campus libraries, container labels and work area postings.

Material Safety Data Sheets

Material Safety Data Sheets (MSDSs) provide information on the potential hazards of products or chemicals. Hard copies of MSDSs for the chemicals used in the department are available in 5102 Etcheverry Hall. If an MSDS is found to be missing, a new one can be obtained by faxing a written request to the manufacturer. A copy of this request should be kept until the MSDS arrives.

MSDSs are also available over the Internet from a variety of sources. They can be obtained by accessing the EH&S web page (<http://www.ehs.berkeley.edu/>) and clicking on "MSDS." For further information, contact EH&S for a fact sheet explaining how to use MSDSs. Videos and training on how to read and understand the information presented on an MSDS are also available from EH&S.

Equipment Operating Manuals

All equipment is to be operated in accordance with the manufacturer's instructions, as specified in the equipment's operating manual. Copies of operating manuals should be kept with each piece of equipment in the department. Persons who are unfamiliar with the operation of a piece of equipment and its potential hazards must at least read the operating manual before using the equipment. Training should also be sought from an experienced

operator or supervisor.

V. CORRECTING WORKPLACE HAZARDS

Hazards discovered either as a result of a scheduled periodic inspection or during normal operations must be corrected by the supervisor in control of the work area, or by cooperation between the department in control of the work area and the supervisor of the employees working in that area. Supervisors of affected employees are expected to correct unsafe conditions as quickly as possible after discovery of a hazard, based on the severity of the hazard.

Specific procedures that can be used to correct hazards include but are not limited to the following:

- . Tagging unsafe equipment "Do Not Use Until Repaired," and providing a list of alternatives for employees to use until the item is repaired
- . Stopping unsafe work practices and providing retraining on proper procedures before work resumes
- . Reinforcing and explaining the need for proper personal protective equipment and ensuring its availability
- . Barricading areas that have chemical spills or other hazards and reporting the hazardous conditions to a supervisor or Building Coordinator

Supervisors should use the "Hazard Correction Report" (IIPP Form 4) to document corrective actions, including projected and actual completion dates. If necessary, supervisors can seek assistance in developing appropriate corrective actions by submitting a "Report of Unsafe Condition" to the Safety Committee. If the Safety Committee requires assistance from other campus resources such as EH&S, PP-CS, or UCPD, these resources should be contacted immediately.

If an imminent hazard exists, work in the area should cease, and the appropriate supervisor must be contacted immediately. If the hazard cannot be immediately corrected without endangering employees or property, all personnel need to be removed from the area except those qualified and necessary to correct the condition. These qualified individuals will be equipped with necessary safeguards before addressing the situation.

VI. INVESTIGATING INJURIES AND ILLNESSES

Injury Reporting

Employees who are injured at work must report the injury immediately to their

supervisor. Students who are not employees who are injured or involved in an accident should report the incident to their instructor. In either case, if immediate medical treatment beyond first aid is needed, call 9-911. The injured party will be taken to the appropriate hospital or medical center. If non-emergency medical treatment for work-related injuries or illnesses is needed, call the Tang Center's Occupational Health Clinic (2-6891) or Urgent Care Clinic (2-3188).

The supervisor of the injured employee must work with *Maria Aranas* to ensure that the "Employer's Report of Occupational Injury or Illness" and a "Workers' Compensation Claim Form" are completed properly and submitted to the Workers' Compensation Office (Tang Center, Suite 2100).

If the injured employee saw a physician, the supervisor should obtain a medical release form before allowing the employee to return to work. The health care provider may stipulate work tasks that must be avoided or work conditions that must be altered before the employee resumes his or her full duties.

Injury Investigation

The employee's supervisor or student's instructor is responsible for performing an investigation to determine and correct the cause(s) of the incident. Specific procedures that can be used to investigate workplace accidents and hazardous substance exposures include:

- . • Interviewing injured personnel and witnesses
- . • Examining the injured employee's workstation for causative factors
- . • Reviewing established procedures to ensure they are adequate and were followed
- . • Reviewing training records of affected employees
- . • Determining all contributing causes to the accident
- . • Taking corrective actions to prevent the accident/exposure from reoccurring
- . • Recording all findings and actions taken

The supervisor's findings and corrective actions should be documented and presented to the Safety Committee using the "Occupational Accident, Injury or Illness Investigation Report" (IIPP Form 5). If the supervisor is unable to determine the cause(s) and appropriate corrective actions, other resources should be sought.

Available resources include the department's Safety Committee, EH&S, and other campus safety organizations (see Section X).

The Safety Committee will review each accident or injury report to ensure that the investigation was thorough and that all corrective actions are completed.

Investigations and/or corrective actions that are found to be incomplete will be routed back to the supervisor for further follow-up, with specific recommendations noted by the committee. Corrective actions that are not implemented in a reasonable period of time will be brought to the attention of *the Department Chair* by the Department Safety Coordinator.

VII. EMPLOYEE HEALTH AND SAFETY TRAINING

Employee safety training is provided at no cost to the employee and is conducted during the employee's normal working hours on University time. Safety training may be presented by a knowledgeable supervisor, other department personnel, or by representatives from other relevant campus departments. Regardless of the instructor, all safety training must be documented using the "Safety Training Attendance Record" (IIPP Form 6) or an equivalent record that includes all the information required on IIPP Form 6. By law, this documentation must be retained by the department for at least one year.

Initial IIPP Training

When the IIPP is first implemented, all department personnel will be trained on the structure of the IIPP, including individual responsibilities under the program, and the availability of the written program. Training will also be provided on how to report unsafe conditions, how to access the Safety Committee, and where to obtain information on workplace safety and health issues.

Personnel hired after the initial training session will be oriented on this material as soon as possible by the Safety Coordinator or appropriate supervisor. These individual training sessions will be documented using IIPP Form 7, "New Employee Safety Training Record," or the equivalent. This document must also be kept by the department for at least one year.

Training on Specific Hazards

Supervisors are required to be trained on the hazards to which the employees under their immediate control may be exposed. This training aids a supervisor in understanding and enforcing proper protective measures.

All supervisors must ensure that the personnel they supervise receive appropriate training on the specific hazards of work they perform, and the proper precautions for protection against those hazards. Training is particularly important for new employees and whenever a new hazard is introduced into the workplace. Such hazards may include new equipment, hazardous materials, or procedures. Health and Safety training is also required when employees are

given new job assignments on which they have not previously been trained and whenever a supervisor is made aware of a new or previously unrecognized hazard.

Specific topics which may be appropriate to department personnel include but are not limited to the following:

- . • Fire prevention techniques and fire extinguisher use
- . • Obtaining emergency medical assistance and first aid
- . • Disaster preparedness and response, including building evacuation procedures
- . • Health and safety for computer users
- . • Back care, body mechanics, and proper lifting techniques
- . • Hazard communication, including training on MSDSs, chemical hazards and container labeling
- . • Proper housekeeping
- . • Chemical spill reporting procedures

Safety Videos

A list of workplace safety videos that are available for borrowing can be obtained by contacting EH&S. Videos are available on a wide range of topics, including hazard communication, chemical safety, and various physical hazards. You can read descriptions of the videos and order them on-line via the EH&S web site at <http://ehs.berkeley.edu> by clicking on "Videos" under the "Publications" heading. Videos should be used to supplement, not replace, face-to-face safety instruction, so that trainees have an opportunity to ask questions of a knowledgeable instructor.

VIII. ENSURING COMPLIANCE

All department personnel have the responsibility for complying with safe and healthful work practices, including applicable regulations, campus policy, and departmental safety procedures. Overall performance in maintenance of a safe and healthful work environment should be recognized by the supervisor and noted in performance evaluations. Employees will not be discriminated against for work related injuries, and injuries will not be included in performance evaluations, unless the injuries were a result of an unsafe act on the part of the employee.

Standard progressive disciplinary measures in accordance with the applicable

personnel policy or labor contract will result when employees fail to comply with applicable regulations, campus policy, and/or departmental safety procedures. Faculty members will be disciplined for unsafe practices in accordance with the Faculty Code of Conduct. Students not employed by the University will be disciplined for unsafe practices in accordance with the Student Code of Conduct. All personnel will be given instruction and an opportunity to correct unsafe behavior. Repeated failure to comply or willful and intentional non-compliance may result in disciplinary measures up to and including termination.

IX. RECORD KEEPING

Documents related to the IIPP are maintained in Mechanical Engineering Safety Manual on the Department web page *or* 5102 Etcheverry Hall. By law, certain documents related to the IIPP must be kept by the department for at least one year. These records include:

- . • Records of scheduled and periodic workplace inspections, including the persons conducting the inspection, any identified unsafe conditions or work practices, and corrective actions (IIPP Form 3 or equivalent)
- . • Employee safety training records, including the names of all attendees and instructors, the training date, and material covered (IIPP Forms 6 and 7 or equivalent)

Other documents related to the IIPP that should be kept on file include:

- . • Reports of Unsafe Conditions or Hazards (IIPP Form 1)
- . • Safety Committee Meeting Documentation (IIPP Form 2)
- . • Hazard Correction Reports (IIPP Form 4)
- . • Accident, Injury or Illness Investigation Reports (IIPP Form 5)

X. CAMPUS SAFETY RESOURCES

A number of University programs and service organizations have been established to address injury and illness prevention and to maintain and promote a safe and healthful work environment for the campus community. A list is provided below, please use the Campus Telephone Directory for up-to-date telephone numbers.

Office of Emergency Preparedness -For information on disaster preparedness 642-9036 <http://public-safety.berkeley.edu/oepweb/>

Office of Environment, Health & Safety -For information on various safety topics, including hazard evaluations and employee training 642-3073

<http://www.ehs.berkeley.edu> **Office of Radiation Safety** -For information on radioactive materials and lasers 643-8414 <http://radsafe.berkeley.edu:5016/>

Office of Risk Management -For safety issues that may generate lawsuits against the

University 642-5141 **Office of the Academic Ombudsperson** -Assistance for academic appointees in

dealing with supervisory issues 642-4226 **Office of the Ombudsperson for Staff** -Assistance for staff employees in dealing with

supervisory issues 642-7823 <http://stfombuds.berkeley.edu/> **Personnel Office** - For information on personnel policies and labor contracts 642-9046 <http://hrweb.berkeley.edu/hrhome.htm> **Physical Plant - Campus Services** -For installation and repair of facility safety

equipment 642-1032 **School of Optometry: Vision Care Services** -For assistance with safety eyewear 643-2020 **Student Life Advising Services** -Assistance for student employees 642-7224 **The Chancellor's Office** -For information on campus policies 642-2331 **UC Police Department** -For information on personal security at the workplace 642-6760

<http://public-safety.berkeley.edu/police>

University Health Services -For assistance on various topics, including psychological counseling, medical evaluations and treatment, ergonomic issues, worksite wellness, and Workers' Compensation programs

642-2000 <http://www.uhs.berkeley.edu/>