

PUB-258 Rev. c. 1

# Your Health and Safety

LAWRENCE  
BERKELEY LABORATORY

DEC 1

**For Reference**

**Not to be taken from this room**

LAWRENCE BERKELEY LABORATORY

PUB-258 Rev. c. 1

## EMERGENCY CALLS

LOCATION	TYPE OF EMERGENCY	
	Fire, vehicle accident, serious injury, explosion, police assistance, etc.	Spill or leakage of radioactive materials or hazardous chemicals or gases.
LBL ON SITE "HILL" BUILDINGS	5333	5333
LBL OFF SITE BUILDINGS IN BERKELEY 930, 931, 932, 933, 934, ETC.	9-911	5333
CAMPUS BUILDINGS 1 & 3	9-911	5333
ALL OTHER CAMPUS BUILDINGS	9-911	2-3333
CAMPUS TELEPHONE RESTRICTED FROM OUTSIDE CALLING	2-3333	2-3333

## GENERAL INFORMATION NUMBERS

### Environmental Health and Safety

(EH&S) Department .....	5251
Chemical Disposal .....	5251
EH&S Area Coordinator .....	5251
EH&S Night Monitor .....	5251
Film Badge .....	5251
Fire Department .....	6015/5251
Industrial Hygiene and Toxicology ...	5829/5251
Laser Safety .....	5829
Radioisotope Control and Transportation	5251
X-ray Safety .....	5251
LBL Telephone Information .....	6111
Medical Services .....	6266
Motor Pool .....	5475
Protective Services—Police .....	5472

## CONTENTS

Health and Safety Policy .....	4
Employee Rights and Obligations .....	7
General Safety Rules .....	8
Protective Equipment .....	10
Safety Equipment and Warning Signs .....	12
Vehicle Operations .....	13
Safety Education and Training .....	15
Emergencies .....	18
Injuries or Illnesses .....	20
Motor Vehicle Accidents .....	21
Environmental Health and Safety Department ...	23
Medical Services .....	24
References .....	25
Index .....	26

# YOUR HEALTH AND SAFETY

This pamphlet was prepared by the Environmental Health and Safety Department to provide you with a handy reference to LBL's health and safety program. Because the pamphlet is too brief to provide full details on all the LBL health and safety programs mentioned, you may wish to consult the health and safety documents referenced in the text for a complete description of our programs, or you may contact the Environmental Health and Safety Department.

We hope this guide will be useful to you; if you have any suggestions on improving it—or on other aspects of our program—you can address them to our department at extension 5251, or to your Environmental Health and Safety Area Coordinator, who is listed by building number in the LBL Telephone Directory.

# Health and Safety Policy

LBL's Director has issued a comprehensive Policy and Procedure Statement on the Laboratory's Health and Safety Program, from which the following passages have been extracted (*Policy and Procedure* (administrative memo), vol. VI, no. 1, January 7, 1980).

- **Policy**

It is the Laboratory's policy to provide a safe and healthful working environment for its employees, to protect its property from damage or loss caused by accident, and to prevent any harm to the health and safety of the general public as a result of the Laboratory's activities.

- **Management Responsibilities**

The Director has delegated to all levels of management the authority necessary to implement the Laboratory's Health and Safety policies.

- **General Responsibilities**

It is a requirement of employment and a precondition for using Laboratory facilities that every employee, visiting scientist, or person working at the Laboratory, or at one of its off-site locations, shall be familiar with, and implement, Laboratory safety standards.

- General Requirements

To achieve its safety goal, the Laboratory's safety program requires that supervisors and other employees:

- . Comply with DOE's fire, health, safety and environmental control policies.
- . Plan and perform experiments and supporting work with full consideration given to prevention of accidents.
- . Prepare Operational Safety Procedures for certain operations that involve potentially hazardous conditions, as defined by the *Health and Safety Manual* (Pub. 3000).
- . Proceed with work only after having implemented appropriate safety procedures.
- . Train employees to perform safely those operations that are potentially hazardous.
- . Maintain continual surveillance and evaluation of potentially hazardous conditions including methods of controlling them.
- . Correct hazardous conditions promptly after they are discovered.

- Regulations

To aid in establishing and maintaining an accident-free working environment, the Laboratory issues the *Health and Safety Manual* (Pub. 3000) for general guidance. The safe design and oper-

ation of hazardous experimental equipment is governed by *Rules and Procedures for the Design and Operation of Hazardous Research Equipment* (Pub 3001). Applicable rules and procedures extend to all Laboratory operations.

- Safety Review Committee

Because much of the work at the Laboratory is experimental, potentially-hazardous techniques, equipment, and materials are often used. The Laboratory has therefore established a Safety Review Committee. This committee advises the Director on all safety issues and makes recommendations for LBL safety policies. Other responsibilities of the committee are to monitor the implementation of safety policy throughout the Laboratory, and review hazardous operations, as well as research equipment designs for which no applicable standards exist. The Safety Review Committee also has several subcommittees to deal with specialized safety problems.

The subcommittees are listed below:

- . Mechanical Safety Committee
- . Electrical Safety Committee
- . Emergency Preparedness Advisory Committee
- . Seismic Safety Committee
- . Toxic Substances Safety Committee
- . Traffic Safety Committee

# Employee Rights and Obligations

The Department of Energy (DOE) has established employee rights and obligations for all contractor personnel. It is a DOE contractor requirement that employees be made aware of these rights and obligations.

- Employee Rights

Employees have the right to employment in a place which is free from recognized hazards likely to cause death or serious injury. They must be given an opportunity to observe monitoring for hazardous substances. They will be notified of exposures to harmful substances and provided records related to such exposures. Employees may file complaints with the local DOE office using Form 628 available from EH&S.

- Employee Obligations

Employees are required to observe DOE safety standards applicable to their work and to report promptly to their supervisor or EH&S any condition which may lead to a violation of these standards. In addition, LBL employees are obligated to respond to emergency warning signals and to report emergencies by calling extension 5333 from LBL locations; other emergency numbers for off-site locations may be found on the inside front cover of this pamphlet.

# General Safety Rules

Listed below are some of the general safety rules that are to be followed by all employees:

- . Report any personal health problems to your supervisor and to Medical Services so that you will not be exposed to work environments that will adversely affect you.
- . Report all injuries, no matter how minor, to your supervisor and to Medical Services.
- . Report all unsafe conditions and procedures to your supervisor.
- . Report all equipment damage or losses to your supervisor.
- . Know how to do the job correctly. If you are not sure of correct job procedures, ask your supervisor or an experienced worker for clarification.
- . Work safely. Do not place yourself or others in a situation that will result in injury. Look out for yourself and your fellow workers.
- . Use the correct tools for the job. Be sure that tools and equipment are in good condition.
- . Do not exceed your physical limitations. No one knows your capabilities better than you. Ask for assistance if you feel it is needed.

- . Wear the protective equipment required in the posted areas of the Laboratory where hazardous operations are carried out.
- . Take adequate precautions when handling or experimenting with hazardous materials. Ask your supervisor to provide you with information on hazardous materials. In addition, any time you plan to use hazardous substances, inform the EH&S Area Coordinator so that he can verify that all safety requirements are met.
- . Carry your radiation film badge while at work. Employees working with or around radioactivity or x-ray machines should clip the film badge to their clothing at chest level.
- . Radioactive materials may not be moved between buildings except by the Transportation Group of the EH&S Department. They can be reached at extension 5251.
- . Arrangements for the disposal of properly-labeled and packaged hazardous chemicals and chemical wastes are made through the EH&S Department at extension 5251.

# Protective Equipment

Many job assignments and locations require protective equipment to guard against specific hazards.

- Safety Glasses

Numerous work assignments require eye protection, and therefore all LBL personnel are eligible for free safety glasses. Nonprescription and prescription glasses are available at Medical Services, Bldg. 26. Personnel wishing to order safety glasses should call extension 6266 for an appointment.

- Safety Shoes

Employees may purchase safety shoes and boots from a shoemobile at reduced prices. Purchases may be deducted from paychecks if desired. Some employees whose jobs require foot protection are eligible for Laboratory-furnished safety shoes. See your supervisor for more details. Shoemobile schedules are included in the *Currents*' section entitled, "This Week." Presently the shoemobile is scheduled for the last Tuesday of each month.

- Ear Protectors

Exposure to noise above specified levels requires use of ear protectors. The Industrial Hygiene Group of EH&S provides noise monitoring and evaluation services. Medical Services issues ear plugs, and ear muffs are available from Stores, Building 7.

- Respirators

Respiratory protection is required in certain work situations. The Industrial Hygiene Group of EH&S provides work environment monitoring and evaluation services, as well as training in the use, fitting, and maintenance of respirators.

- Specialized Equipment

Some jobs may require specialized protective equipment. Contact your EH&S Area Coordinator for assistance.

# Safety Equipment and Warning Signs

Safety equipment and warning signs are available from both the Environmental Health and Safety Department, and Stores in Building 7.

- Safety Equipment and Literature
  - . Portable power-tool testers, safety harnesses, reflective tape, nonskid tape, and safety pamphlets are available from EH&S.
  - . Stores carries the majority of safety items available for immediate issue. This includes hardhats, gloves, face shields, and ground fault interrupters.
  
- Warning Signs
  - . *Danger Signs* are used when an immediate hazard exists. These signs warn of dangers requiring special precautions to assure employee safety.
  - . *Caution Signs* are used to warn against potential hazards or to caution against unsafe practices. These signs indicate a possible hazard against which proper precautions should be taken.
  - . *Notice Signs* are used to provide general instructions or information related to safety.

# Vehicle Operations

Operators of government vehicles are required to have a current Motor Vehicle Operator's Identification Card. Applications may be obtained from EH&S, extension 5251.

- Operation of Special Purpose Vehicles

Training and certification is required prior to the operation of special purpose vehicles, such as earth-moving equipment, forklifts, mobile cranes, and three-wheeled scooters. Operator certification may be revoked if there is evidence of failure to follow safe operating procedures.

- Speed Limit

The maximum speed limit on LBL and University property is 25 miles per hour. However, conditions such as road repair, wet weather, poor visibility, and pedestrian traffic require speeds below the 25 mph maximum. Slow to 15 mph at intersections.

- Hilly Terrain

Due to the hilly terrain, parts of the Laboratory have narrow roads and curves that necessitate driving with special caution at reduced speeds.

- **Parking**

Park only in designated spaces and DO NOT block areas needed by emergency vehicles.

- **Traffic Tickets**

City of Berkeley parking and traffic citations are issued by the LBL Protective Services Department.

## Safety Education and Training

Safety training is a joint responsibility of the employee's department and EH&S. To assist the departments, general safety education is conducted by EH&S. The employee's department conducts job safety and skills training.

Scheduled EH&S courses are announced in the Course Information packet which is published quarterly by the EH&S Department and distributed to divisions and departments.

Divisions and departments can request that any EH&S course be scheduled to meet their training needs.

EH&S course descriptions are included in chapter 24 of the *Health & Safety Manual*.

- **New Employee Safety Orientation**

A safety orientation is provided to all new employees to familiarize them with the Laboratory's Health and Safety Program. The Personnel Department schedules new employees for the training so that it will be completed within the first month of employment.

Visiting scientists and participating guests are scheduled by their division or department to attend the safety orientation. Those who may be working with, or near, potentially hazardous equipment must contact the EH&S safety representative for that area.

The Safety Orientation is presented every Friday in Building 70A, Room 3377 from 9:00 to 9:45 a.m.

- **Driver Orientation**

A driver orientation course is offered on a periodic basis to familiarize new employees of driving conditions peculiar to the Laboratory.

- **Defensive Driving Course**

Defensive driving training is offered to improve the skills of drivers of Laboratory vehicles.

- **Special Purpose Vehicles**

Safety and operational training on special purpose vehicles is the responsibility of the driver's department.

- **Forklift Safety Training**

Forklifts are to be operated only by qualified operators who have received training in safety practices from the EH&S Department, and training in safe operations from their department.

- Crane Operator Training

Cranes are to be operated only by designated, qualified personnel. The employee's supervisor is responsible for training and qualifying crane operators.

- Powder-Actuated Tools

Training and certification in the operation of powder-actuated tools is scheduled by the operator's department and is conducted by a manufacturer's representative.

- Respirator Training

Training in the use of respirator equipment for routine and emergency responses is conducted by EH&S Industrial Hygiene Group.

- Laser Safety Training

Prior to the operation of any laser, personnel must be trained in safe operating procedures by a qualified person. Laser safety training is provided by EH&S.

- Radiation Safety Training

Supervisors of personnel exposed to possible radiation hazards must be certain these individuals receive radiation safety training. EH&S will provide assistance on request.

# Emergencies

In case of fire, explosion, gas leak, chemical accident, or other emergency situations, assistance must be called for immediately. On the main Laboratory site, known as "The Hill," call extension 5333. For "off-hill" emergency phone numbers, see the inside front cover of this pamphlet or the LBL Telephone Directory. The person calling should give all information needed to dispatch appropriate aid to the scene.

An injured person should not be moved by personnel unskilled in first-aid treatment unless such action is necessary to save the victim from further serious injury. However, emergency action to stop serious bleeding or to give artificial respiration should be carried out immediately without waiting for the arrival of trained first-aid personnel.

- **Preservation of the Accident Scene**

The Department of Energy requires that the scene of a serious accident be preserved until a DOE investigating team has released the area. In the event of an accident involving a fatality, disabling injuries or illnesses of five or more persons in one incident, or estimated damage exceeding \$100,000, the following action must be taken, after calling for emergency assistance:

- . Secure the scene.
- . Prevent movement of equipment or vehicles.
- . Notify the Director's Office and EH&S immediately.

- . Take color photographs, particularly of transient evidence, such as liquids or scuff marks.

- Radiological Accidents/Emergencies

Accidental radiation exposure, on or off-hill, must be reported immediately to the EH&S Monitor/Area Coordinator, and to the Fire Department at extension 5333. Appropriate monitoring assistance and equipment are available for immediate dispatch.

These are the immediate emergency procedures to follow in the event of radioactive spills:

- . Evacuate all personnel from the immediate area, and retain involved persons in a safe area until they are monitored by EH&S.
- . Quarantine the contaminated area so that there will be no further exposure of personnel to penetrating radiation or airborne radioactivity, and no additional spread of contamination.
- . Preserve the scene of the accident.
- . Notify the EH&S Area Monitor or call extension 5251.
- . Inform the EH&S of all pertinent facts of the incident.
- . Assist, as requested, in the accident investigation.

## Occupational Injuries or Illnesses

All job-incurred injuries, including scratches, bruises, strains, and illnesses must be reported to the employee's supervisor. The employee must also report to the Medical Services Department for prompt treatment.

- **Lost Time Injuries or Illnesses Treated by an Off-Site Physician**

In cases of work-connected injury or illness necessitating absence from work, the employee involved is responsible for notifying both his or her supervisor and Medical Services of the circumstances as soon as possible. When ready to return to work, the employee must report to Medical Services for confirmation of ability to resume duties.

- **Investigation Procedures**

The purpose of accident investigation is to identify causes so that hazards may be corrected and similar accidents prevented. The supervisor conducts the investigation and the EH&S Area Coordinator provides technical assistance.

# Motor Vehicle Accidents

All accidents involving a vehicle used on LBL business must be reported by the driver. If the driver is unable to make the required reports, another employee who has knowledge of the accident should do so.

- **Basic Information Required**

A printed card form titled "In Case of Accident" is kept in the glove compartment of each official vehicle. It is a guide for noting information at the accident scene.

- **Reporting Procedures**

All vehicle accidents must be reported to the Laboratory Protection Department as soon as possible.

The driver must complete an LBL Motor Vehicle Accident Report and submit it to his or her supervisor within one work day of the accident. Forms are carried in the vehicle and are available at the Motor Pool.

Accidents occurring off Laboratory premises that involve an unattended vehicle, or that result in an injury or death, must be reported as required by law.

- Admission of Responsibility

Personnel should not admit responsibility for accidents involving vehicles being used on Laboratory business. Such admissions are reserved for the University.

- Collision with Parked Vehicles

In case of collision with an unattended vehicle, the driver of the moving vehicle is required by law to notify the other party and to provide information pertaining to the collision. If unable to do so, leave a note giving your name, address and vehicle license number.

- Personal Injury Reports

All personal injuries sustained by Laboratory personnel must be promptly reported to Medical Services and to the injured person's supervisor.

- Traffic Safety Committee (TSC)

The Traffic Safety Committee reviews Laboratory vehicle accidents to determine preventability, to identify problem areas, and to recommend action to eliminate hazards. Drivers whose cases are being reviewed (and their supervisors in certain cases) attend and present pertinent information.

## Environmental Health and Safety Department

The EH&S Department is a multidisciplinary group responsible for developing and assuring safe practices in the fields of radioisotope control, radiation safety, occupational safety, safety training, industrial hygiene, laser safety, fire safety, and earthquake safety. The department also monitors the safety aspects of building design and construction, and the safety aspects of mechanical design.

Among the staff of the EH&S Department are persons designated as Area Coordinators who are assigned as safety representatives for a specified area. The principle functions of the Area Coordinator are to aid in resolving safety problems with the various Laboratory research and support groups, coordinate safety programs run by the EH&S Department, and provide assistance to Building Managers. The names of the Area Coordinators and Building Managers are included in The LBL Telephone Directory.

## Medical Services

The Medical Services Department is located in Building 26. The medical services facilities include a first-aid room, examination rooms, x-ray room, a two-bed holding ward, a decontamination room, and a clinical pathology laboratory.

The Medical Program at LBL emphasizes safety problems peculiar to the Laboratory's research activities. The mental and physical well-being of an employee, visiting scientist, or guest is the responsibility of Laboratory management. This is safeguarded through cooperation with the patient-employee, and Laboratory medical personnel, in conjunction with private physicians. In cases of radiation exposure or contamination, the Laboratory assumes a major role in prevention, diagnosis, and—where required—treatment.

## References

The following references, available from department heads and the EH&S Department, describe the general health and safety regulations, which are consistent with requirements found in DOE Manual Chapter 0550. Reference copies of specific codes and regulations required by DOE orders may be found in the EH&S library in Building B75 B. Other local rules and procedures may be found in the Operational Safety Procedures Manuals prepared for specific facilities and at work sites where certain potentially hazardous equipment (such as x-ray generators and lasers) is used:

- Health and Safety Manual*, Pub. 3000
- Rules and Procedures for the Design and Operation of Hazardous Research Equipment*, Pub. 3001
- Radiation Monitoring Program*, Pub. 256
- Pregnancy and Radiation*, Pub. 105
- Regulations and Procedures Manual (RPM)*, Pub. 201

# Index

Area Coordinators .....	23
Caution Signs .....	12
Chemical Disposal .....	9
Committees, Safety Review .....	6
Crane Operator Training .....	17
Danger Signs .....	12
Defensive Driving Course .....	16
Ear Protectors .....	11
Education and Training .....	15
Emergency Reporting .....	18
Employee Obligations .....	7
Employee Rights .....	7
Environmental Health and Safety Department ...	23
Film Badge .....	9
Forklift Training .....	16
Laser Training .....	17
Manuals, References .....	25
Medical Services Department .....	24
Motor Vehicle Accidents .....	21
Motor Vehicle Operator's I.D. Card .....	13
Occupational Injuries and Illnesses .....	20
Operational Safety Procedures .....	25
Orientation .....	15
Policy .....	4
Powder-Actuated Tools .....	17
Radiation Exposure .....	19
Radiation Safety Training .....	17
Radioactive Materials .....	9
References .....	25

Regulations .....	5
Requirements .....	5
Respirator Training .....	17
Respirators .....	11
Responsibilities .....	4
Roads, LBL .....	13
Rules, Safety .....	8
Safety Equipment .....	12
Safety Glasses .....	10
Safety Orientation .....	15
Safety Review Committees .....	6
Safety Shoes .....	10
Specialized Protective Equipment .....	11
Speed Limit .....	13
Traffic Safety Committee .....	22
Warning Signs .....	12



Lawrence Berkeley Laboratory  
University of California  
Berkeley, California 94720

*Prepared for the U.S. Department of Energy under Contract W-7405-ENG-48*

Technical Information Department/Pub 258/2000/Rev. July 1980