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PUB-708
Revised January 1998

# Integrated Safety Management for Contractors, Participating Guests and Visitors

# Handbook of Safety Policy, Requirements, and Technical Guidance

## Environment, Health and Safety Division

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For 4 weeks

7th Street Warehouse
Lawrence Berkeley National Laboratory

PUB-708
Copy 2

Ernest Orlando Lawrence
Berkeley National Laboratory

## Emergency Numbers – All Emergencies

| | |
|---|---|
| LBNL On- and Off-site Buildings (from phones with 486 and 495 exchanges) | **ext. 7911** |
| All Non-LBNL Campus Bldgs. (642 and 643 exchanges) | **9-911** |
| All other phones | **911** |

EH&S Web page: http://www_ehs.lbl.gov

## Technical Resource Numbers:

### Environment, Health and Safety Division (EH&S)

Biological Safety ..... ext. 6218
Chemical Safety ..... ext. 5286
EH&S Training ..... ext. 7366
Electrical Safety ..... ext. 7067
Emergency Preparedness ..... ext. 6016
Environmental Protection ..... ext. 6903
Ergonomics ..... ext. 6266
Fire Department – Non-emergency ..... ext. 6015
Fire Permits ..... ext. 6015
Fire Protection ..... ext. 6095
General Information ..... ext. 5514
Health Services ..... ext. 6266
Industrial Hygiene ..... ext. 5255
Laser and Non-ionizing Radiation Safety ..... ext. 7658
Occupational Safety ..... ext. 6428
Personal Dosimetry ..... ext. 7497
Radiation Protection ..... ext. 7652
Respiratory Protection ..... ext. 4028
Safety Glasses ..... ext. 7378
Waste Disposal ..... ext. 4872

**Other**

**EH&S Division Infolink Line (24-hour assistance) ..... ext. 5251**
**Berkeley Lab Ethics Line (fraud, abuse, or safety) .... (800) 999-9057**
**Lab Security – non-emergency ..... ext. 5472**

# Integrated Safety Management for Contractors, Participating Guests and Visitors

# Handbook of Safety Policy, Requirements, and Technical Guidance

**PUB-708**

**Revised January 1998**

**Environment, Health and Safety Division**

Prepared for the U.S. Department of Energy
under Contract DE-AC03-76SF00098

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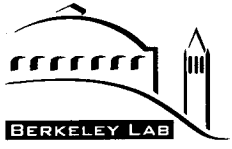


ERNEST ORLANDO LAWRENCE
BERKELEY NATIONAL LABORATORY

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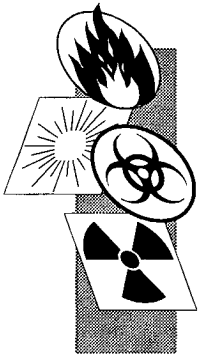
# Introduction



This booklet is intended to provide you with an overview of the Integrated Safety* Management (ISM) System established at LBNL, your requirements for its implementation, and related resources available to you. Use it as a guide and a resource. Telephone numbers for further information or technical assistance are included at the front of the booklet, in individual sections, and at the end.

ISM is simply how we do business at LBNL. It establishes our commitment to work safely, in a manner that strives for the highest degree of protection for everyone who works at the Berkeley Lab. We believe that every member of our community will be assured of a more healthful and safe environment if the principles of ISM are supported and observed by everyone, **including** contractors and visitors.

Health, safety, and protection of the environment are major priorities in all LBNL operations. Contractors and visitors must be familiar with all environment, health, and safety requirements generally applicable to everyone who works at the Berkeley Lab, and must know the hazards in the assigned work area, the level of protection required, specific safe work practices, and applicable health and safety requirements.

It is an LBNL expectation that all contractors and visitors adhere to the ISM principles and functions and implement them into all work activities. By practicing these principles, your work will be planned and performed safely.

# Policy

It is the Laboratory's policy to provide a safe and healthful working environment. It is also Laboratory policy to prevent any harm to the general public or the environment and to protect property from damage or loss as a result of the Laboratory's activities.

*Safety refers to environment, safety, and health.

The Laboratory is committed to implementing environment, health, and safety requirements for all activities onsite, including those of contractors, participating guests, and visitors, commensurate with the nature and scale of the work.

## ISM Guiding Principles

To achieve our safety goals and continuous improvement or sustained excellence in the quality of all environment, health, and safety efforts, the Berkeley Lab has adopted the following ISM principles, which are reflected in the detailed policies and procedures of the Laboratory. Contractors and visitors are to incorporate these principles into the management of their work activities. While these principles apply to all work, the exact implementation is flexible and can be tailored to the complexity of the work and the severity of the hazards and environmental risks.

- **Line Management Responsibility for Environment, Health, and Safety.** Line management is responsible for the protection of the public, the workers, and the environment. More specifically, all contractors and visitors who function as managers or represent management are responsible for integrating EH&S into work and for ensuring active communication up and down the management line and with the workforce.
- **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, and work authorization documents.
- **Competence Commensurate with Responsibilities.** Contractor personnel and visitors must possess the experience, knowledge, skills, and abilities necessary to discharge their responsibilities. Competence includes training, experience, and fitness for duty.

- **Balanced Priorities.** Resources (financial and human) are effectively allocated by contractors and visitors to address EH&S, programmatic, and operational considerations. Protecting the public, workers, and the environment is a priority whenever activities are planned and performed.
- **Identification of EH&S Standards and Requirements.** Before work is performed, the associated hazards are evaluated and an appropriate set of standards and requirements is known by contractors and visitors. These standards and requirements, if properly implemented, provide adequate assurance that the public, workers, and the environment are protected from adverse consequences. At the Berkeley Lab, applicable standards and requirements are developed using the Work Smart Standards protocol. The appropriateness of the current standards set will be established at least annually.
- **Hazard Controls Tailored to Work Being Performed.** Administrative and engineering controls must exist to prevent and mitigate hazards. They 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.
- **Operations Authorization.** The conditions and requirements to be satisfied for operations to be initiated and conducted are clearly established and agreed upon.

These guiding principles are implemented through the following core EH&S functions, which must become a part of every aspect of contractor and visitor work at the Laboratory:

- **Work Planning.** Clear definition of the tasks that are to be accomplished as part of any given activity.
- **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.
- **Establishment of Controls.** Controls that are sufficient to reduce the risks associated with any activity

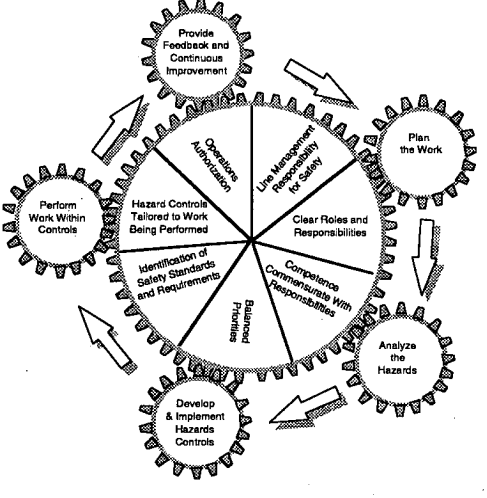
to acceptable levels. Acceptable levels are determined by responsible line management, but are always in conformance with all applicable laws and Work Smart Standards.

- **Work Performance.** Conduct of the tasks to accomplish the activity in accordance with the established controls.
- **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.

The guiding principles and core EH&S functions are closely related. Each level of management at the Laboratory will be evaluated by determining (1) if each of the core EH&S functions is implemented at every level, and (2) by evaluating how well each of the core EH&S functions is informed by the guiding principles. Contractor and visitor performance is factored into this evaluation.

### *The Integrated Safety Management System*



# What are my Rights? What are my Responsibilities?

## Your Rights

**You have the right to work in an environment free from recognized hazards likely to cause death or serious injury.**

- You must be notified of exposure to harmful substances above legal limits.
- You must be given an opportunity to observe monitoring for hazardous substances.
- You must have access to your exposure records.
- You have the right to refuse to work in conditions that could cause death or serious physical harm.

## Your Responsibilities

**It is your responsibility to work safely and to prevent harm to other workers, the general public, and the environment.** You must provide copies of reports for all OSHA-recordable injury and illness cases occurring on site to the Laboratory. You must perform all work in accordance with the ISM guiding principles through the core EH&S functions. You must know and observe all regulatory and LBNL safety standards applicable to your work.

**You must report promptly to your supervisor or to the Environment, Health and Safety (EH&S) Division any condition that may lead to a violation of safety standards.**

You are required to use appropriate personal protective equipment. You have the obligation to stop work if an imminent danger (a possibility of death or serious physical harm) exists for you or other workers. If an imminent danger exists, you must notify the affected workers, your supervisor, the EH&S Division, Laboratory host and the Building and/or Project Manager.

If your employer is engaged in construction or provides routine services to the Laboratory, your employer will have provided a Safety Plan, a Safety Checklist, or a Injury/Illness Prevention Plan to the Laboratory. Your access to the Laboratory is contingent on compliance with all provisions of such plans and checklists.

## Hazard Awareness

Hazards fall into three categories: chemical, biological, and physical. In describing hazards it's important to stress that hazards are only a *potential* problem. The presence of a hazard does not mean you will experience adverse effects. You must recognize the type and degree of hazard present in any work that you do, and take the appropriate protective measures. The Lab has an excellent safety record, which we are committed to maintaining and improving.

## Hazard Signs

Hazard signs alert you to the presence, nature, level of a hazard, and the protection required (safety glasses, hearing protection, etc.) in the work area. For example, signs may indicate the presence of radioactive materials, high-voltage electricity, lasers, carcinogens, corrosives, biohazards, or magnetic fields.


**Danger** indicates the presence of an **immediate** danger, requiring special precautions and specialized controls to ensure employee safety. For instance, high-voltage electricity requires a *Danger* sign.

**Caution** indicates a **possible** hazard for which proper precautions must be taken; for example, the *Caution* signs in an Eye Hazard Area, where safety glasses must be worn.

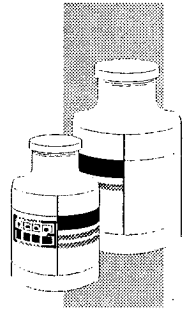
**Notice** is used to provide general instructions or information related to safety. Dosimeter areas for radiation workers are indicated by *Notice* signs.

# Hazard Communication


The Hazard Communication Standard (also known as the Right to Know law) and the OSHA Laboratory Standard (29 CFR 1910.1200 and 29 CFR 1910.1450) are required by DOE and the Occupational Safety and Health Administration (OSHA). They mandate that all employees must be provided with health and safety information necessary to protect themselves against potentially harmful exposures to hazardous substances. A hazardous substance is any chemical or material that can harm your body either at the time of exposure or later.

A Hazard Communication Program includes hazard identification, labels, material safety data sheets (MSDSs), and training. It is the responsibility of your employer if you work for an LBNL subcontractor, or your division if you are a student or visitor, to fulfill the requirements of the Hazard Communication Program. Call ext. 5286 for more information.

# What are the hazards?



## Chemical Hazards

A chemical is considered hazardous if it has flammable, corrosive, reactive, or toxic properties. Examples are cleaners, solvents, and acids. Labels should identify the nature of the hazard. The toxic effects of chemical exposures will depend on several factors: toxicity, dose, duration of exposure, route of entry (inhalation, skin absorption, injection, ingestion), individual susceptibility, and the possible combined effects of several exposures (syngerism).

## Chemical Spills

Proper handling of chemical spills depends on the nature and amount of the material spilled. You may be able to clean it up yourself, or you may need to call EH&S for assistance. General guidelines are:

First, consider the potential hazards of the material. Do you have the proper protective equipment and the necesssary training for handling it? Can you clean it up without risking a potentially harmful exposure?

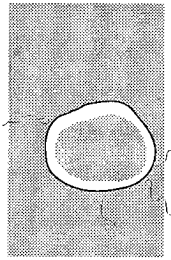
Second, consider the amount of material spilled. Can you clean it up quickly and thoroughly? A good rule of thumb is that you should not attempt to clean up a spill if it will take you and a co-worker more than one hour to accomplish.

If you determine that you can clean it up safely and completely, use the appropriate spill kit or absorbent material, either for flammable solvents, acids, or caustics. Make sure a set of spill kits is available in your lab. Read the instruction inside the kit.

The bottom line on spills is this: if the spill has potential for environmental or personal harm, or can spread through air, water, or personal contamination, **call ext. 7911 for assistance**. Whether you clean it up yourself or call for help, notify your supervisor. Remember, you must dispose of absorbed spilled material as hazardous waste.

Don't hesitate to call EH&S at ext. 5514 with any questions regarding spills.

## Reproductive Hazards



Exposure to some hazardous substances can pose reproductive hazards to both men and women. Examples include heavy metals, anesthetic gases, some organic compounds, and ionizing radiation.

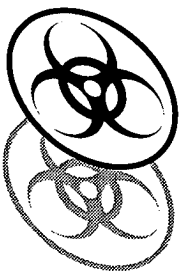
### More Information on Reproductive Health

If you would like more information on reproductive health and radiation, a booklet, *Reproductive Health: Effects of Chemicals and Radiation on Fertility and the Unborn Child,* is available from the Health Services Group (ext. 6266).

### Pregnancy

The developing fetus is particularly sensitive to exposure to radiation or toxic substances. If you work with ionizing radiation or toxic chemicals and you are pregnant, or planning to become pregnant, talk to the Health Services Group to discuss potential hazards associated with your work. For instance, there are special radiation-exposure limits for pregnant women. Copies of the *Declared Pregnant Worker Policy* are available at Health Services. Remember, the first three months of pregnancy are the most crucial for the developing fetus, so consult Health Services as soon as possible.

## Biological Hazards



Biohazardous material is defined as material of biological origin capable of causing disease or infection in healthy humans. These materials include agents classified by the Center for Disease Control (CDC) and the National Institutes of Health (NIH) as bloodborne pathogens, recombinant DNA, and human tissue and cell cultures. Agents requiring Biosafety Containment Levels are listed in Publication CDC/NIH, *Biosafety in Microbiological and Biomedical Laboratories.* Risk Groups are listed in the NIH *Guidelines for Research Involving Recombinant DNA Molecules.*

Research involving biohazardous materials will be conducted in a safe manner incorporating the latest CDC and NIH recommendations in order to protect individual researchers and the community at large.

The following groups of agents must receive authorization from the Berkeley Lab Institutional Biosafety Committee prior to commencing research:

- Risk Group 2 agents, or agents requiring implementation of Biosafety Level 2 containment, and
- Attenuated Risk Group 3 agents

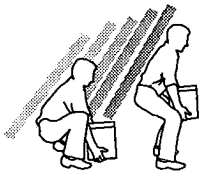
Agents requiring implementation of Biosafety Level 4 containment, or Risk Group 4 agents, may not be used or stored at Berkeley Lab.

Guidance for the disposal of biohazardous material is provided in PUB-3000, Chapter 20, *Hazardous Waste Disposal*. When biohazardous waste is to be rendered noninfectious, the process must be accomplished either by addition of bleach (sodium hypochlorite) or treatment by the biohazardous waste subcontractor. Autoclaving a biohazardous material may not render the material noninfectious or sterile, because autoclaves do not operate under a formal permit that ensures inactivation of all biohazards.

Anyone working with biohazardous material must attend the EH&S training class EHS 737, *Blood Biosafety and Medical Waste*.

For concerns regarding the handling and use of biohazardous materials or sanitation, contact the EH&S Biosafety Officer, ext. 6218. Questions regarding biohazardous or medical waste may be directed to the Generator Assistance Specialist assigned to biosafety, ext. 4843. For related medical information, call the Health Services Group, ext. 6266.

## Physical Hazards



Some safety hazards are common to everyone. Slips, trips, and falls can injure anyone at the Lab. Back problems and other strains and sprains are the major cause of injury and lost work time at all workplaces, including LBNL. Lifting properly and keeping in good physical shape help to prevent debilitating back problems. Do not exceed your physical limitations; ask for assistance when necessary. No one knows your capabilities better than you do.

Operating hazardous equipment and machinery can cause industrial accidents involving hands, wrists, and fingers. Eye injuries can occur in shops or laboratories. Always use the proper protective equipment for the job to reduce your risk of injury.

Remember that anyone entering areas that require eye protection must wear safety glasses. Visitor safety glasses are available for your use if you are in such areas temporarily.

Examples of other physical hazards are ionizing radiation, high-voltage electricity, noise, high-pressure systems, microwaves, and lasers. Protection from these hazards is generally provided through training, safe work practices, protective equipment, and engineering controls such as safety interlocks.

Remember, common accidents are the dominant contributors to workplace impacts.

## Ionizing Radiation

There are several sources of ionizing radiation at the Lab. Some, such as particle accelerators and x-ray units, emit radiation when in operation. Others, including radioactive sources, irradiators, and radionuclides used in labs, are constant sources of radiation.

If you will be working in a Controlled Area (an area where there is a potential for radiation exposure), you will receive special training on radiation hazards, the

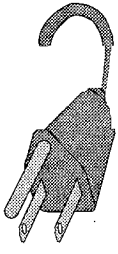
protection available, safe work practices, and the exposure limits. If you are not trained, you may not enter Controlled Areas without an escort. Signs are posted throughout these areas warning of any hazard that may exist. **Only those people with business in a Controlled Area should enter.** Within Controlled Areas there may be *Radiological Material Areas*, *Radiation Areas*, *High Radiation Areas*, and *Very High Radiation Areas*, which have increased levels of radiation hazard and increased safety features, including interlock systems, to protect personnel. Interlocked doors and other barriers restrict entry into most *High Radiation* and all *Very High Radiation Areas.*


### Radiological Emergencies/Accidents

During the normal work hours, 8 a.m.-5 p.m. Monday through Friday, use ext. 5514 to request assistance from the Radiation Protection Group (RPG) on small radiation spills and contamination. This phone number will put you in contact with EH&S Division Office administrative staff, who will obtain required RPG assistance. After hours, this number allows you to page the EH&S Division Duty Officer for assistance. Extension 5514 does not replace the 7911 emergency number used to notify the Fire Department of more significant incidents categorized as emergencies. However, minor incidents involving radiation may be handled more appropriately by RPG staff.


## Electrical Safety

Everyone should be aware of potential electrical hazards and safety practices in their work areas. Even "low voltage" electricity can deliver harmful, and sometimes lethal, shocks. Always assume that any wiring or electrical fixture is "hot," since many types of equipment contain hazardous levels of stored energy even when they're unplugged.



Extension cords are normally approved only for temporary use and can be unsafe if used incorrectly. Use only approved and properly maintained equipment such as 3-conductor extension cords. Don't link extension cords together or run them through doorways, windows, or across walkways. Never use any electrical device with a frayed or altered cord.

Many research activities involve the use of electrical equipment. Recognizing the degree of hazard is paramount for working safely with such energized equipment. Only authorized individuals may do rewiring or other electrical work. If you work on high-voltage electrical equipment, always work in pairs. Above all, always work on equipment that is in a completely de-energized state. Apply shorting, grounding, and lock-and-tag procedures as appropriate, and never remove a lock or tag that was not installed by you.

## Lockout/Tagout (LOTO)

Any person who performs servicing, maintenance, or modification tasks on equipment is required to fully de-energize, neutralize stored energy, test, tag, and lock the equipment to prevent someone else from accidentally re-energizing it. This requirement applies to all energy sources including, but not limited to, electrical, chemical, mechanical, hydraulic, and pressure energies. Each person involved in the work must have a personal lockout on the equipment, regardless of any other lockouts present. No person may remove or defeat a lockout other than their own. If you need to remove a lockout other than your own, contact a supervisor or project manager who is familiar with LBNL Emergency Lockout Removal Procedures.

You must be properly trained and authorized before performing Lockout/Tagout. For more information on Electrical Safety or Lockout/Tagout, call ext. 7067.

## Construction Safety

All construction activities at LBNL must be conducted safely, in accordance with OSHA regulations, with appropriate measures taken to minimize the possibility of injury to individuals, or damage to the environment or property. Site inspections are made by LBNL's safety inspector and/or fire inspector, and in situations where there is a reasonable possibility of serious physical harm, either the LBNL inspector or the subcontractor may temporarily stop work at the site until the problem is resolved.

A hard hat and other appropriate safety equipment, such as safety shoes, face shields, or safety harnesses, must be used as necessary. Safety requirements for ladders, scaffolding, work surfaces, and elevated work stations are described in the LBNL *Health and Safety Manual* (PUB-3000).

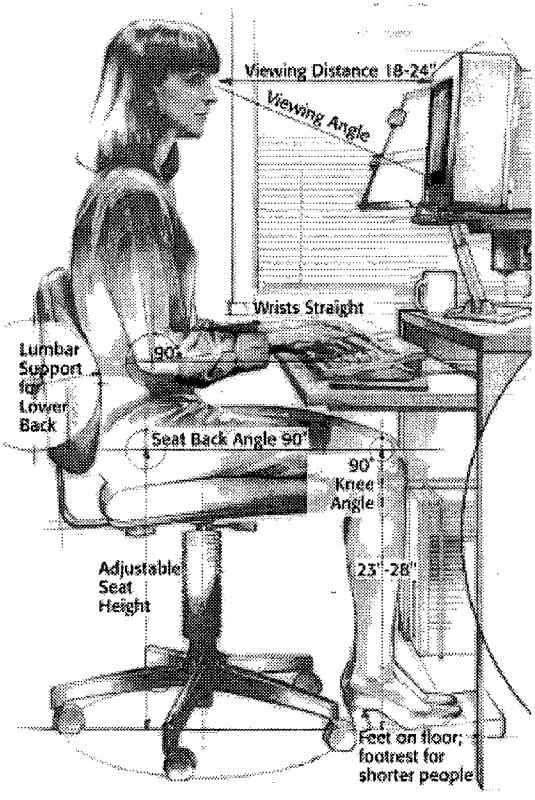
All operations causing sparks or producing open flames (including welding, flame cutting, or powder-actuated tools), as well as those posing other types of fire hazards (such as spray painting, excavations, and tar kettle work), require a fire permit, which is available from the Fire Department (ext. 6015).

## Confined-Space Safety

Confined-space entry constitutes a serious potential hazard to workers, and as a result, it is subject to strict controls. Confined spaces, which include tanks, ducts, and electrical, telephone vaults, may be severely oxygen-deficient, or may contain flammable or toxic gases and vapors.

An entry permit for confined-space work must be issued by the supervisor with EH&S approval. Atmospheric testing, lockout procedures, and training are required; additional ventilation, protective equipment, or other controls may also be necessary.

## Computer Workstation Variables



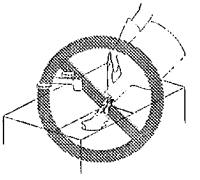

## Ergonomics

Ergonomics is the science of designing the job, equipment, and workplace to fit the worker. Proper ergonomic design is necessary to prevent repetitive strain injuries, which can develop over time and can lead to long-term disability. The four main contributing causes of these injuries are quick, repetitive actions, awkward position, use of force, and lack of rest. Minimization of repetitive tasks and awkward body positions can help to prevent such injuries from occurring.

Consultation and training on computer ergonomics, back injury prevention, and other ergonomic-related health issues are available. Call ext. 5286 for information

on training, or ext. 6266 for additional information on equipment and resources. Talk with your supervisor about redesigning work tasks that pose ergonomic risks.

## Management of Hazardous Materials and Wastes



Hazardous wastes and chemicals, radioactive materials, medical waste, and contaminated equipment must be appropriately managed to prevent exposures or injuries to LBNL staff, the general public, and the environment. All visitors, employees, and contractors who generate hazardous waste at LBNL must comply with federal and state regulations and with Laboratory requirements for waste training, storage, characterization, labeling, and disposal.

### Waste Generator Training

To ensure compliance with LBNL waste management policies,

- All generators of hazardous and mixed wastes must attend EH&S 604, Hazardous Waste Generator Training.
- All generators of radioactive or mixed wastes must attend EH&S 622, Radioactive and Mixed Waste Generator Training.

Call EH&S at ext. 7366 to obtain schedules for these important courses.

### Transporting Hazardous Materials

You may not transport hazardous materials (including radioactive materials or sources) in any vehicle between buildings or off the LBNL site.

### Drain Disposal and Trash Receptacles

Never pour hazardous liquids down the drain or put hazardous materials in the trash. If you are unsure whether your waste is hazardous, please consult PUB-3092, *Guidelines for Generators to Meet HWHF Acceptance Requirements for Hazardous, Radioactive, and Mixed Wastes at Berkeley Lab,* or call your Generator Assistance Specialist.

### Who to Call for Assistance

If you have questions about the nature of your waste or how to manage waste in your work area, please contact an EH&S Generator Assistance Specialist:

| Division | Generator Assistance Specialist | Extension | Pager |
|---|---|---|---|
| Energy and Environmental Technologies<br>Materials Sciences | Brian M. Smith | x6508 | 425-0024 |
| Facilities Department<br>Engineering<br>EH&S<br>Nuclear Sciences<br>Physics | Mark Lasartemay | x6825 | 448-1596 |
| Earth Sciences<br>Chemical Sciences<br>ICSD<br>AFRD | John Chernowski | x7457 | 448-3890 |
| Life Sciences<br>Physical Biosciences<br>Joint Genome Institute | Li-Yang Chang | x4843 | 425-0046 |

# How can I protect myself?

## Training

All new employees must attend the course "Introduction to EH&S at LBNL" within the first month after starting work at LBNL. All participating visitors working at LBNL for more than one month must also attend.

If you are a student or visitor, your LBNL supervisor must ensure that you are adequately trained to protect yourself against the hazards you may encounter in the course of your work at LBNL. If you are an employee of

a subcontractor to LBNL, your employer must fulfill these obligations, and in general, must fulfill the supervisor's responsibilities described in this booklet.

If you will be handling hazardous or radioactive materials (such as radioisotopes) directly, you will need additional training.

Consult the *Health and Safety Manual* (PUB-3000) and your supervisor for more information on other training requirements. You may also contact EH&S Training at ext. 7366 for more information.

## Protective Equipment

You must use protective equipment to guard against special hazards in many locations and for certain job assignments. The following equipment is available at the Lab.

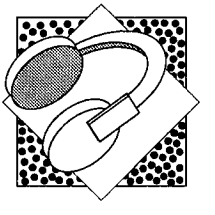
### Safety Glasses

All workers, other than subcontractors, are eligible for free non-prescription safety glasses. If you have been at the Lab for at least three months, you may be eligible for prescription safety glasses at a reduced price through Health Services, Building 26. Call ext. 7378 for information.

### Safety Shoes

Safety shoes are available from a Shoemobile at the Lab twice a month; you can find the schedule in the "Calendar" section of *Currents*, the Lab's weekly newspaper. Ask your supervisor for more details.

### Hearing Protection



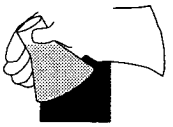
If you are a long-term visitor or guest and you are exposed to noise above harmful levels (85 decibels for an eight-hour day), you may be required to participate in the Lab's Hearing Conservation Program. This includes the use of ear protectors, medical monitoring, and training. The Industrial Hygiene Group provides noise monitoring and evaluation. Health Services

provides a video training program, audiometric testing, and issues ear plugs; ear muffs are available from Stores, Building 7, ext. 5268.

### Respiratory Protection

Always use lab hoods or other local exhaust systems to minimize your inhalation exposure to toxic volatile liquids, powders, and fumes. In some cases, you must use a respirator to protect yourself from exposure to harmful dust or organic vapors. An Industrial Hygienist conducts monitoring, helps determine when respirators are necessary, and provides respirators, fit testing, and required training. Call ext. 5829.

### Gloves



When working with chemicals, be sure to use the correct type of gloves. The material of construction should be matched to the chemical being used to ensure that you are getting the proper protection. Gloves are available from Stores. Information on different types of gloves is available in the *Chemical Hygiene and Safety Plan* and from Industrial Hygiene at ext. 5255.

### Other Safety Equipment

Standard safety equipment such as hard hats, face shields, and ground fault interrupters is available from Stores. Some jobs may require specialized protective equipment, such as a safety harness. If you need specialized equipment, contact your supervisor or EH&S for assistance at ext. 6428.

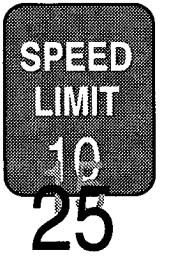
## What else should I know before I start?

### Emergency Preparedness

Each building has an Emergency Plan and a Building Emergency Team, which is headed by the Building Manager, or Team Leader. The Building Emergency

Team coordinates evacuations and other defensive response actions in the event of an emergency. Note the name and location of the Building Manager for areas you occupy. Become familiar with evacuation routes and assembly areas for your building(s). Look around and note the location of exits, fire extinguishers, fire alarm pull stations, first aid kits, emergency showers, and eyewashes, and memorize the emergency numbers listed on the back cover of this booklet.

## Vehicle Safety




The maximum speed limit at LBNL is 25 mph. However, lower speeds are often necessary due to the hilly terrain, wildlife, and frequent hazardous conditions such as road repair, wet weather, poor visibility, and pedestrian traffic. Drive carefully and wear seat belts.

Park only in designated areas, and do not block access areas needed by emergency vehicles. For parking and traffic concerns, contact Burns Security, ext. 4855.

### Operation of Special Purpose Vehicles

Training and certification, available in some cases from EH&S, is required for operation of special-purpose vehicles, such as earth-moving equipment, forklifts, and mobile cranes. Contact EH&S Training at ext. 7366 for more information.

### LBNL Shuttle Bus

Free shuttle bus service from downtown Berkeley to all areas around the Hill is available to anyone on LBNL business. The main offsite LBNL bus stop is at Building 65, just above the Blackberry Canyon gate. Maps of on- and off-site routes are available from any bus driver. Onsite shuttle stops are located throughout the Lab as posted.

# Where can I find more information?

## Environment, Health & Safety, ext. 5514

EH&S is a multidisciplinary division that can help you with all of your health and safety needs. EH&S personnel provide oversight, technical guidance, and monitoring in the fields of radiation safety, occupational safety, security/site access, emergency management, fire protection, industrial hygiene (which includes chemical and biohazards safety), health services, hazardous waste disposal, environmental protection, and training.

## Health Services
**ext. 6266**

If you are injured on the job, go to the Health Services Group immediately for medical attention, and be sure to notify your supervisor as soon as possible.

Health Services, located in Building 26, provides first aid services to subcontractors and visitors. Report all injuries, no matter how minor, to your supervisor and to Health Services. In addition, you should report any work-related illness or other health conditions to Health Services; this information will be kept confidential.

## Fire Department
**ext. 6015**

The LBNL Fire Department is the first responder in an emergency. It provides 24-hour fire protection and emergency response services, including emergency medical care. It also conducts building inspections for fire safety. Call the Fire Department if you have questions about flammable materials handling and storage at ext. 6360.

## Site Access/Badging/Security for Visitors

There are several types of visitors at Berkeley Lab: casual visitors, participating guests, contractors and vendors.

*Casual visitors* coming to the Laboratory need to be granted access in advance by a host contact. Please stop at the Blackberry Gate for a parking permit and day pass. The host will provide this information in advance to the Gate Officers.

*Participating Guests and Contractors* will need to contact the Site Access Office to receive a ID/Prox card. The Site Access Office is located in the Bldg. 65 lower level and is open 8–12 and 1–4. Participating guests and contractors need to bring (or have faxed) a copy of their most recent paperwork – a Participating Guest form (PGI) or Contract Labor Action or Assignment form (CLAF), respectively. (Foreign visitors need to call the Foreign Visitors' Office at ext. 6515 to go over the necessary paperwork and to make an appointment with the Site Access Office.)

*Vendors* must contact the Site Access Office for temporary parking permits.

*Temporary Parking Permits* are granted to participating guests and vendors only. Please refer to the Regulations and Procedures Manual (RPM) Section 1.04, *Operation and Parking of Vehicles* [http://www.lbl.gov/Workplace/RPM/R1.04.html] at LBNL to determine eligibility. Then fill out the Parking Permit Application Form (available either on line or at the Site Access Office in Building 65).

For **nonemergency** security issues, contact the Blackberry Gate at ext. 5472.

## Building Evacuation Procedures in the Event of a Bomb Threat

An announcement will be made specifying the building/area to be evacuated. The announcement will be repeated once.

*Evacuate the building; leave immediately.* The time interval between a bomb threat and the actual explosion can be a matter of minutes. Learn evacuation routes and emergency plans for your area.

*Use the stairways; do not use the elevators.* Once outside, continue to your designated assembly area, staying clear of the building being evacuated.

*Do not reenter.* Wait outside until the building has been cleared. Serious injuries can result should you reenter at the time of the explosion.

*Never touch, handle, or move a suspicious object.* Ticking sounds may not always be heard. Some bombs are devised to detonate if moved just slightly.

*Do not drive a car.* Roads must be kept clear for emergency vehicle use.

## In Case of Emergency

In case of fire, explosion, medical emergency, gas leak, or chemical or radioactive emergency, call immediately for help. On the main Laboratory site, know as "the Hill," call extension 7911. For "off-Hill" emergency phone numbers, see the back cover or the back of the LBNL Telephone Directory. Give all information requested by the dispatcher.

An injured person should not be moved by personnel unskilled in first-aid treatment unless such action is necessary to save the victim from other serious injury such as a chemical exposure. Stop any serious bleeding and, if appropriate, start artificial respiration immediately, before the arrival of emergency personnel.

Evacuate personnel and notify your supervisor or line management immediately.

# EARTHQUAKE PROCEDURES

## DURING AN EARTHQUAKE...

*If You Are Inside*

**Stay calm**. If you are indoors, **stay there**. Get under a desk or table and hang on to it, or stand under an inner doorway or in an inside corner of a room. Stay clear of windows, tall bookcases, and experimental setups. Do not rush outside; you could be injured by glass or pieces falling from buildings. Do not use the stairs or elevators while the building is shaking.

*If You Are Outside*

If you are outside, **get into the open, away from buildings** and overhead power lines. Watch out for falling rocks and other debris that could have been loosened by the quake.

*If You Are Driving*

If you are driving, **stop in a safe open area** away from buildings, trees, and overhead power lines. Stay inside your car. Do not stop or park close to the edge of a hill, because the road may give way and you and your car could slide down.

## AFTER AN EARTHQUAKE...

*What to Do*

Provide assistance, account for others in your area, but **DO NOT reenter the building** looking for them. Remember that aftershocks and subsequent earthquakes can be even more damaging than the initial shock.

*Check for Injuries*

Persons in your area may be injured or trapped. Summon or provide medical or rescue help if you can; otherwise, notify your Building Manager or call ext. 7911. **DO NOT attempt to move seriously injured persons** unless they are in immediate danger of further injury.

*Check for Fires and Potential Hazards*

**Check** for gas leaks. Shut off the main gas valve if a leak is suspected. **DO NOT smoke or light matches. DO NOT operate electrical switches or appliances.** If a gas leak exists, these actions could cause an explosion.

**Check** for any hazardous chemical spills and for the release of any radioactive materials. If you suspect such hazards, evacuate the area immediately, and then **call extension 7911.**

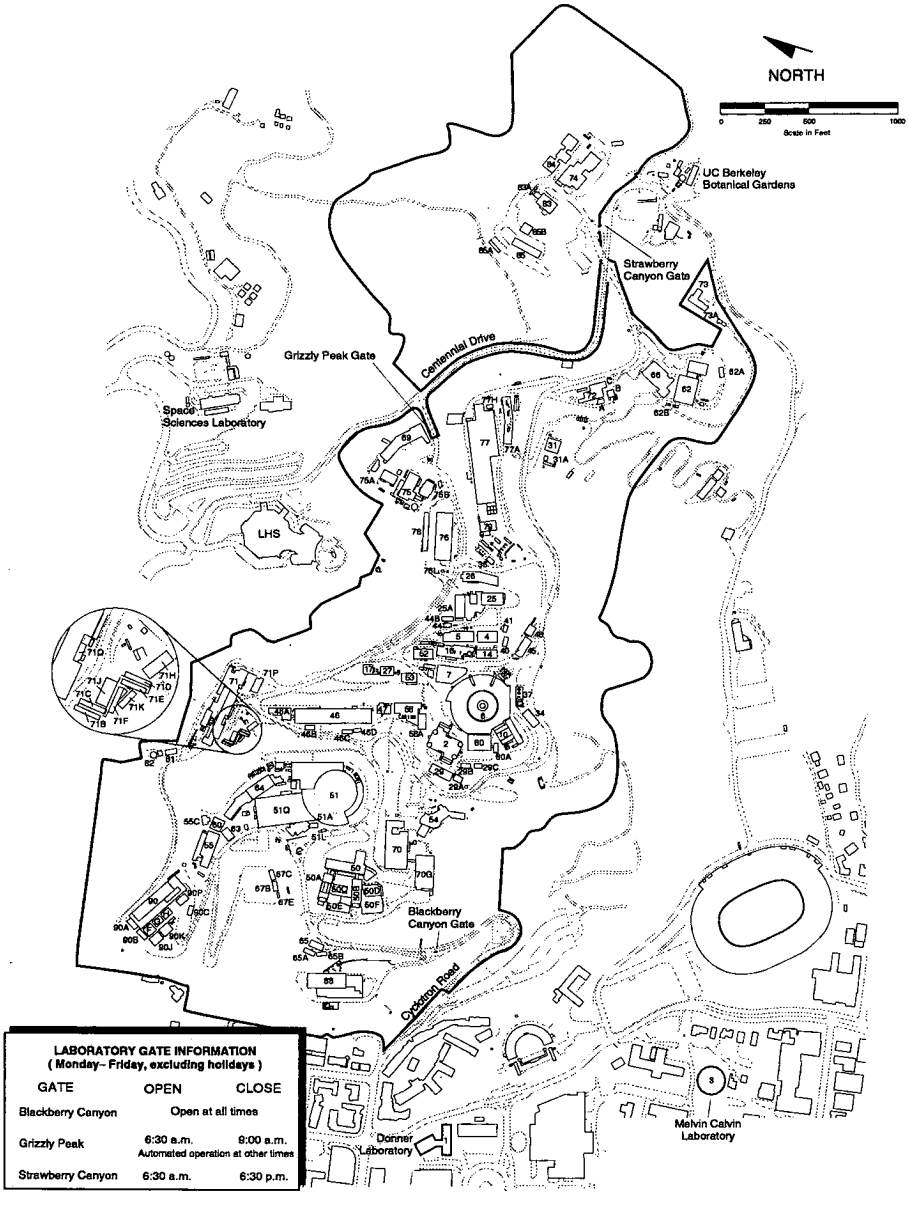
*Evacuate the Building and Await Further Instructions*

**Leave the building/area** and go directly to your specified assembly area. **DO NOT ATTEMPT TO USE THE ELEVATORS.** Await instructions from the Police, Fire Department, or from a member of the Building Emergency Team.

**Do not try to leave the Laboratory by car.** Roads and access routes, if not blocked by landslides, must be kept clear for emergency vehicle use.

# Notes

# Index




**LABORATORY GATE INFORMATION**
**( Monday– Friday, excluding holidays )**

| GATE | OPEN | CLOSE |
|---|---|---|
| Blackberry Canyon | Open at all times | |
| Grizzly Peak | 6:30 a.m. Automated operation at other times | 9:00 a.m. |
| Strawberry Canyon | 6:30 a.m. | 6:30 p.m. |

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is an equal opportunity employer.

## Emergency Numbers – All Emergencies

| | |
|---|---|
| LBNL On- and Off-site Buildings (from phones with 486 and 495 exchanges) | ext. 7911 |
| All Non-LBNL Campus Bldgs. (642 and 643 exchanges) | 9-911 |
| All other phones | 911 |

**"Good research needs both the *GENIUS* to make new discoveries and the *DISCIPLINE* to do it safely."**

Charles V. Shank, Director
Ernest Orlando Lawrence
Berkeley National Laboratory

ABT444
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