Master Emergency Program Plan for the Ernest Orlando Lawrence Berkeley National Laboratory

PUB-533

Revision 2

Effective Date: December 1, 2005

Environment, Health and Safety Division
Lawrence Berkeley National Laboratory
University of California
Berkeley, CA 94720

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Effective Date: October 1, 2005

Approved By: Dan Lunsford October 1, 2005

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Chapter 1. Introduction

The Ernest Orlando Lawrence Berkeley National Laboratory (hereinafter known as LBNL) is located in an area faced with a high risk of being involved in a major disaster. It is located:

- in a geologic area highlighted by major earthquake faults,
- in a geologic area susceptible to wildland fires,
- at the crossroads of major highway, air, and rail transportation routes, and
- in an urban, commercial area of diverse businesses and industries.

1.1 Mission

It shall be the mission of LBNL to respond to an emergency situation in a safe, effective and timely manner. The objectives of emergency planning at LBNL are:

- To save lives and minimize injury,
- To protect the environment and property, and
- To return to normal operations as soon as possible.

1.2 Purpose

The purpose of this Master Emergency Program Plan (MEPP) is to establish policies, procedures and an organizational structure for responding to and recovering from a major disaster at LBNL.

The LBNL MEPP utilizes the Standardized Emergency Management System (SEMS) as described by California Government Code 8607(a), for managing response to multi-agency and multi-jurisdiction emergencies in California. SEMS, adopted by California in 1995, incorporates the use of the Incident Command System (ICS), the Master Mutual Aid agreement, existing mutual aid systems, the County operational area concept, and inter-agency coordination. This system, by promoting the use of common terminology and command structure, facilitates better flow of information and coordination between responding agencies.

This plan also utilizes the National Incident Management System (NIMS), as prescribed by Homeland Security Presidential Directive-5 – Management of Domestic Incidents. NIMS is a nationwide, standardized approach to incident management and response that establishes a single, comprehensive system for incident management and cooperation among Departments and agencies at all levels of government, from Federal to local.

1.3 Scope

This plan guides the LBNL personnel and resources during a major disaster. As the official Master Emergency Program Plan for LBNL it supercedes previous plans and precludes employee actions not in concert with the intent of this plan, or the emergency organization created by it. Nothing in this plan shall be construed in a manner that limits the use of good judgment and common sense in matters not foreseen or covered by the elements of the plan or any appendices hereto.

This plan addresses all aspects of planning for, responding to, recovering and mitigating emergencies or disasters that may overwhelm LBNL resources. The intent of this plan is to provide all possible assistance to the employees on the LBNL main campus and all on-and off-site LBNL facilities, the physical structures of all our facilities, and our neighbors within the City of Berkeley.

This plan applies to all disasters and major emergencies at all buildings and facilities on the Laboratory main site, on the University of California Berkeley Campus, and at its locations in the cities of Berkeley, Oakland, and Walnut Creek, California, and Washington, D.C. Offsite emergency planning incorporates local government and mutual-aid responses.

Emergencies that would not be categorized as disasters are covered by other specific plans and emergency procedures, such as the Hazardous Waste Handling Facility's Contingency Plan.

1.4 Philosophy of Emergency Preparedness

This plan is based on the philosophy that proper response can only be attained if each individual reacts appropriately and knowledgeably. It is the intent of this plan, therefore, to use the talent and specialized knowledge that exists at all levels at the Laboratory. While normal lines of administrative and departmental authority and responsibility will form the basis for emergency action, immediate knowledgeable response at the local level is considered to be the first line of defense. Prompt and proper action by those on the scene will limit the extent of danger to personnel and property, and may avert a disaster. Laboratory management, emergency response groups, and other support groups will become involved as outlined herein.

1.5 Concept of Operation

Sitewide emergency planning is based on credible scenarios presupposing widespread damage and injury. The most credible scenarios are a large earthquake on the Hayward fault and a firestorm in the urban-wildland interface surrounding LBNL. These events would have serious impacts on personnel, facilities and resources. Planning for such scenarios will facilitate dealing with emergencies of a lesser nature. During a sitewide emergency, LBNL will draw on all existing resources to respond to and mitigate the effects of the emergency. This commitment of resources will include (but not be limited to) assignment of personnel; provision of supplies, equipment, facilities, and funding; and requesting mutual aid when necessary.

1.6 Authorities

This Emergency Management Program at LBNL is authorized and governed by provisions in the following documents:

- DOE Contract No. DE-AC02-05CH11231, which incorporates the LBNL Work Smart Standards
- DOE Order 151.1b, Attachment 2 – Contractor Requirements Document

Additionally, policy and procedures addressing related emergency actions are contained within various chapters in the LBNL Publication 201 – Regulations and Procedure Manual, and LBNL Publication 3000 – Health and Safety Manual.

1.7 Funding/Budgets

LBNL institutional funding comes from two sources: direct funding from the Department of Energy and "work for others" in the form of research grants and allowances. A site support tax on both of these sources provide funding for LBNL operations – the Director's office, Facilities, Human Resources, Environment, Health and Safety and Finance. The annual budget for the emergency preparedness program is included within the budget for EHS. Extraordinary funds for disaster response would be allocated by senior management in consultation with the DOE, as described in Section 7.2

1.8 Organization and Updating the Master Emergency Program Plan

The MEPP is organized and updated as follows:

1.8.1 Base Plan

The base plan includes chapters covering the following information: purpose/scope/authorities, policy and administration, hazard assessment, emergency operations, communications and resources, training and recovery/continuity of operations. These chapters are provided for general review and knowledge and will be codified as an official LBNL publication. The base plan will be reviewed annually and updated no later than 30 June, if required.

1.8.2 Appendices

The appendices include those policies, operating procedures, plans and other material utilized by staff or employees during an emergency situation. Documents included as the appendix are developed as guidelines, as well as official publications, and are designed to be reviewed and updated as often as necessary to keep them current. Copies of these documents are maintained in the LBNL Emergency Operations Center, although responsibility for their creation and updating belongs to various LBNL departments and groups. The actual location of the document, as well as the responsible division, is included as part of the appendix.

1.9 Phases of Emergency Management

The phases of emergency management are usually depicted as a circle wherein the four elements of mitigation, preparedness, response, and recovery flow from one phase to the next, reflecting the continuity of the emergency management process, as shown in Figure 1. This model was developed by the National Governors

Figure 1: Phases of Emergency Management

Association in the early 1970s and adopted by FEMA soon after its creation in the early 1980s. FEMA defines each of these phases as follows:

- Mitigation includes activities that eliminate or reduce the occurrence or effects of a disaster (e.g., hazard identification, seismic reinforcement or land use planning). LBNL has an active mitigation program for the hazards it is most susceptible to – earthquakes and wildland fires.
- Preparedness is planning how to respond when an emergency or disaster occurs and working to marshal the physical and human resources to respond effectively (e.g., establishing authorities, planning, training, exercising, acquiring and maintaining resources). LBNL places major emphasis on being prepared for a disaster through policies such as training and seismic mitigation.
- Response is providing immediate emergency assistance to victims and reducing the likelihood of further damage (e.g., alerting and warning, search and rescue, emergency medical care, security, providing shelter, restoring vital services, removing debris). LBNL relies primarily on internal and local fire and police services for primary response, although it does maintain response equipment onsite for use by employees.
- Recovery is the short-and long-term actions necessary to return all systems to normal or near-normal conditions (e.g. continuing to restore vital services, shoring up or demolishing buildings, redevelopment of damaged areas). LBNL's plan includes a planned transition from response to recovery.

The National Response Plan as it was implemented in January, 2005 combines Preparedness and Mitigation into one unit, and adds a phase for Prevention, defined as actions taken to avoid an incident or to intervene to stop an incident from occurring, and primarily relates to applying intelligence and other information to situations.

Chapter 2. Site Description

LBNL is a multiprogram national laboratory operated by the University of California for the U.S. Department of Energy. LBNL originated on the UC Berkeley campus in 1931. In 1940, it was relocated to its present site. It is one of three multiprogram national laboratories operated by the University of California for the DOE. LBNL employees work in such diverse fields as genomics, physical biosciences, life sciences, fundamental physics, accelerator physics and engineering, energy conservation technology, and materials science. The oversight of LBNL operations is assigned to the DOE Berkeley Site Office, located on the main campus in Building 90. The DOE program office with major programmatic responsibilities for LBNL is the Office of Science (OS).

LBNL is located 5 km (3 miles) east of San Francisco Bay (Figure 1-1) and 25 km (15 miles) northeast of San Francisco in Alameda County, California. The Laboratory occupies a 200-acre site (Figure 1-2) on the west-facing slope of the Berkeley Hills above the University of California Berkeley campus. The boundary between two cities divides the site, with the western three-quarters being in Berkeley and the eastern quarter in Oakland. Much of the surrounding area is urbanized. The LBNL site is in the northwest corner of property owned by the Regents of the University of California, and is bounded on the north by single private family homes, and on the west by private multidwelling units and a University student hall. LBNL buildings are owned by DOE and constructed on land leased to DOE under long-term agreements.

LBNL hosts approximately 3,900 scientists and support personnel, including about 600 students. In addition, LBNL hosts 2,000 participating guests each year, who use its unique scientific facilities for varying lengths of time. LBNL also supports 300 scientists and staff at off-site locations, as described below.

Berkeley Lab research and support activities are conducted in structures having a total space of 202,000 gross square meters. Eighty-one percent of this space is on the main site, and the rest located on the UC Berkeley campus, and in the Cities of Berkeley, Oakland, Walnut Creek and Washington DC.

Its present staff of full-time and part-time employees and students exceeds 3,000.

The offsite space, excluding main campus space, currently includes the following. Updated lists are available from the Facilities Planning Division.

- Building 903: Warehouse and Receiving, on Seventh Street, in Berkeley
- Building 937: Berkeley Towers, located at the intersection of Shattuck and University avenues, in downtown Berkeley
- Building 943: Center Street, located at the intersection of Center Street and Milvia in downtown Berkeley
- Building 939: Power Bar, located at the intersection of Shattuck and Center Street in downtown Berkeley.
- Building 977: Berkeley West BioCenter at 717 Potter Street in Berkeley
- Buildings 100 and 400: The Joint Genome Institute, located on Mitchell Drive, Walnut Creek, California

- Building 965: The Computing Services Telecommuting Office in Livermore, California
- Building 960: The Portals in Washington, D.C.

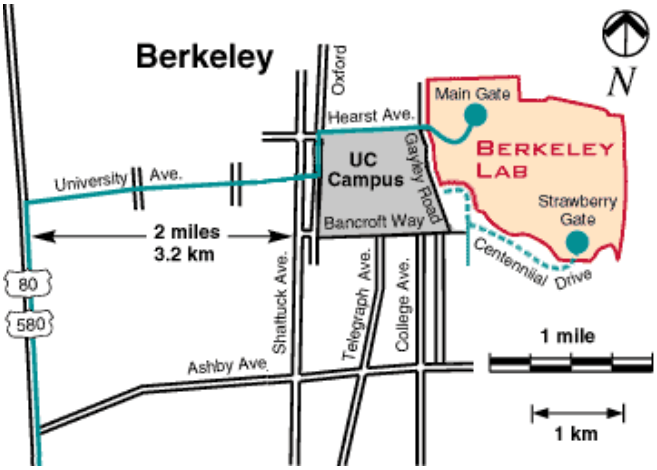


Figure 2-1. Location of LBNL with respect to the City of Berkeley

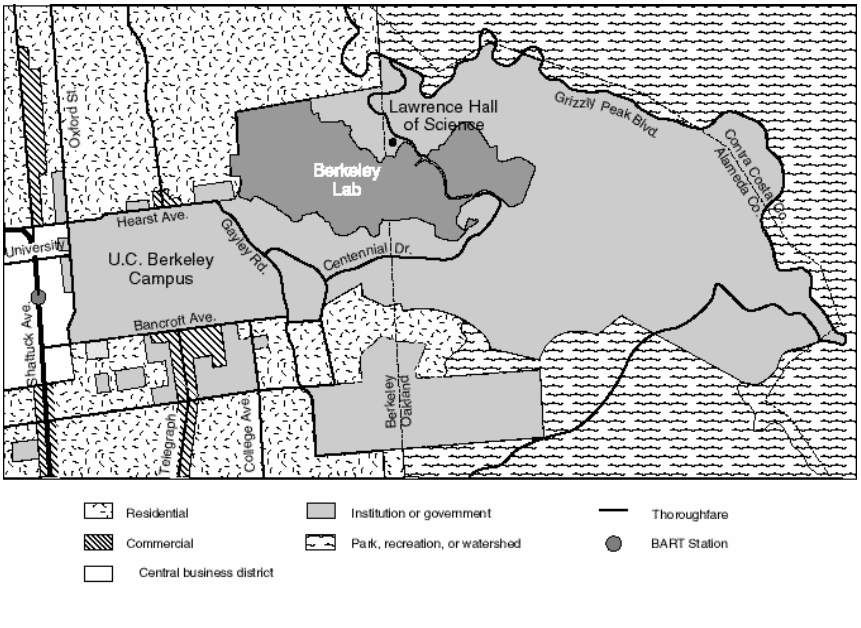


Figure 2-2. Land Use surrounding LBNL and the UC campus.

Chapter 3. Policy and Administration

3.1 Policy

During all emergencies, LBNL policy requires that an organized effort be made to protect personnel from injury and minimize damage to property and the environment. All Laboratory resources can be made available to respond to an emergency. Once those primary goals are achieved, the policy shifts to accomplishing a swift recovery of operations.

3.2 Program Coordinator

The Emergency Program Manager has Laboratory-wide responsibility for developing and implementing the Laboratory's Master Emergency Program Plan policy. Functions include but are not limited to: developing and update the MEPP, planning and conducting emergency drills and exercises, maintaining the Emergency Operations Center, maintaining and managing emergency supplies, providing appropriate training, coordinating and collaborating with state and local jurisdictions and agencies.

3.3 Emergency Preparedness Subcommittee

The Emergency Preparedness Subcommittee is appointed by the Safety Review Committee to provide oversight and make recommendations regarding the emergency management program. Members include representatives from each laboratory division and appropriate outside agencies.

3.4 Emergency Response Organization

The Emergency Response Organization at LBNL performs many functions. This group includes the Emergency Operations Center team, the EOC Executive Team, the Facility Reentry and Occupancy Group, and volunteer teams for buildings, amateur radio and first aid.

3.5 Succession

During emergencies requiring activation of the LBNL Emergency Operations Center, the designated EOC Manager has immediate responsibility for emergency response decisions, and – once the primary response needs are met – for the transition into recovery. Overall responsibility for policy decisions rests with the Laboratory Director. If the Director is not available, the sequence of delegated authority is:

- Deputy Director
- Associate Laboratory Director for Operations
- Associate Laboratory Director for General Sciences
- Associate Laboratory Director for Life and Environment Sciences
- Associate Laboratory Director for Physical Sciences
- Associate Laboratory Director for Computing Sciences

3.6 Vital Records

The Laboratory and the University of California recognize the importance of appropriate treatment of records. Every Laboratory employee has responsibilities for Laboratory records. The current policies for maintaining vital records is outlined in the RPM, §1.16.

Records management is a line function at Berkeley Lab, and the Laboratory Archives and Records Office assists line management in meeting its records management responsibilities.

Records management provides a rational basis for making decisions about recorded information, including what should be saved and what should be discarded. These decisions are necessary to support the legal, fiscal, administrative, and other research needs of the Laboratory, University, federal government, State of California, and general public. The ultimate goal of records management is to identify and maintain records that adequately and properly document the organization, functions, policies, decisions, procedures, and essential transactions of projects and research.

Recorded materials from LBNL are archived by the Archives and Records office at the National Archives and Records Administration's (NARA's) Pacific Region, San Bruno, Records Services Facility.

3.7 Offsite Relationships

Developing and coordinating relationships with offsite agencies, jurisdictions and other groups is vital to a successful multi-agency response to a disaster or emergency. LBNL maintains close working relationships with all surrounding entities, including UC Berkeley, the City of Berkeley, the City of Oakland, the East Bay Municipal Water District and the East Bay Regional Park District.

On behalf of LBNL, the Emergency Preparedness Coordinator maintains active membership in various forums and professional organizations, including Berkeley Alert, the Hills Emergency Forum, the California Emergency Services Association and the International Association of Emergency Managers.

Chapter 4 Hazard Analysis and Assessment

On a regular basis, LBNL analyses its vulnerability to a variety of natural and man-made events, compiling a matrix that will both assess and rank potential threats and hazards. In all of these analyses, the primary hazards with the most potential for injury or death, damage to buildings and infrastructure, and business interruption were the same: a major earthquake and/or a major urban-wildland firestorm. Sitewide emergency planning is based on these most credible scenarios, presupposing that readiness for these events will translate into readiness for all other events. The more recent hazard vulnerability assessment, as well as the relative risk rankings of the threats assessed is available in the Emergency Preparedness office.

In addition to this site-wide hazard analysis, LBNL is required under DOE regulations to conduct certain hazard assessments for specific programs and buildings. Those reports are located in the EHS-Environmental Services Group.

4.1 Earthquake

The most credible and potentially devastating hazard facing LBNL is a significant earthquake (7.0 or greater) along the Hayward Fault. This fault, located just west of the main hill site, runs through the Memorial Stadium on the University campus and continues northeast of the Foothill Housing facility (see Figure 1-4). While damage is difficult to predict, a large earthquake on the Hayward Fault with an epicenter in or near Berkeley will cause significant damage in the Berkeley area. The most exhaustive study of the effects of a magnitude 7.5 temblor on this fault was completed in 1987 by the California Department of Conservation, Division of Mines and Geology. This study was published in their Special Publication 78.

The LBNL planning scenario is based on the maximum credible earthquake that could occur on the Hayward Fault. (The USGS has labeled the Hayward Fault the most dangerous fault in the country.) The assumed characteristics of this earthquake are:

- Richter magnitude of 7.5 (M7.5) that results from the rupture of the entire 100-kilometer length of the fault from San Pablo Bay to east of San Jose,
- surface faulting that produces horizontal offsets averaging 5 feet (1.5 m) [10 feet maximum (3 m)],
- potentially damaging shaking that continues for 25–35 seconds within 20–25 miles (32–40 km) of the fault, and frequent aftershocks that continue for many weeks, including events of M6 or larger.

While this LBNL planning scenario is based upon a maximum credible event for the Hayward Fault, damage patterns would in many respects be similar for an event of smaller magnitude. An M7 event, for example, would result from rupture along only one half the length of the fault and would produce about 3 feet (1 m) of surface offset. The resulting damage to lifelines, critical facilities, and local utility distribution systems, while not as severe, would affect most of the same facilities along the ruptured segment of the fault. Shaking near the rupture zone

would be as severe, but presumably not as prolonged. Ground failures would occur in the same general areas.

4.1.1 Earthquake Emergency Planning Scenario

The following analysis describes the effects of a M7.5 earthquake on an area in and around Berkeley, including LBNL, based on the most recent research and studies:

4.1.1.1 Death and Injuries in the Bay Area:

Deaths resulting from this scenario are estimated to range from 1,500 to 4,500, depending on the time and day of occurrence. Hospitalized casualties are estimated to be three times the number of deaths, and significant nonhospitalized casualties are estimated at 30 times the number of deaths. *LBNL can expect to have its share of casualties based on this scenario.*

4.1.1.2 Transportation Lifelines:

LBNL will experience major transportation delays for both resources and the ability of employees to leave or report to work.

The transbay bridges may be temporarily closed due to ground and structural failures at the bridge approaches. Roadway clearance, emergency repairs, detours, and bridge inspections will prevent or severely restrict use of these bridges during the initial post-earthquake hours. The Oakland–San Francisco Bay Bridge may be effectively closed by major damage at the eastern approach interchanges and northward along Interstate 80/880. The Richmond-San Rafael, San Mateo, and Dumbarton bridges should be available to limited emergency traffic in less than 36 hours. The Golden Gate Bridge should remain open, but traffic will be severely limited by damage at its southern approaches.

All the major freeway routes to the East Bay Region from the east and south either cross the Hayward Fault or are otherwise vulnerable to damage by strong shaking and ground failures. Major routes subject to surface fault offset include Interstate 80 at San Pablo, Interstate 580 in East Oakland, Interstate 680 at Fremont and south to Milpitas, Route 24 west of the Caldecott Tunnel, and most of Route 13. Ground failures due to liquefaction and strong ground shaking may cause major damage along Interstate 880 from Oakland to San Jose. Likewise, virtually all older freeway bridges in the area have been retrofitted to increase their resistance to shaking. Nevertheless, damage to and collapse of some of these bridges is to be expected. Access to and travel within the East Bay region will be difficult and will thus be limited to emergency traffic. Most principal routes on the San Francisco and Marin Peninsulas and the western part of the San Jose area would be open to traffic, but subject to major delays and detours.

The runways of the major Bay Area airports are generally constructed on fill placed over bay mud of varying depths. Their performance when subjected to prolonged shaking is questionable, and liquefaction and

differential settlement may render all or portions of many of these runways unusable for larger aircraft. For planning purposes, San Jose Municipal Airport is assumed to be available for larger transport aircraft. San Francisco and Oakland International Airports, the Hayward Municipal Airport, and other secondary Bay Area airports should be available for limited use by small aircraft and helicopters.

The Bay Area Rapid Transit (BART) system will probably shut down due to lack of electrical power and the need to assess and repair damage. Principal damage will be to the Berkeley Hills tunnels, which may be closed indefinitely as a result of fault rupture. Damage to a few elevated spans is postulated in the East Bay region. The transbay tube and the subway systems are expected to survive with no major damage.

Rail service to the Bay Area from the east and south will be curtailed due to fault rupture, ground failures at various locations around the Bay perimeter, and structural damage to numerous bridges. Railroad service via the coast route from Southern California to San Francisco will be restored rapidly, but all other lines to and from the East Bay region will be blocked for at least the initial 72 hours after the earthquake.

Port facilities in San Francisco are not expected to suffer great damage and therefore should remain open. Operations may be curtailed initially by loss of power and impaired access. In the East Bay region, the major Port of Oakland and other smaller commercial port facilities at Richmond and in the Carquinez Straits will generally be nonfunctional as a result of prolonged power loss and damage to truck and rail access routes. Within the port areas, filled land will settle, disrupting both rails and streets. Damage to oil pipeline and storage facilities in Richmond and Carquinez poses a threat of contamination and fire in those areas.

4.1.1.3 Infrastructure Lifelines:

Telephone and cellular communications will be overloaded by post-earthquake calls from within and outside the area. This situation will be further complicated by physical damage to equipment due to ground shaking and loss of electrical power. *LBNL has a seismically-hardened telephone system, but a major earthquake is likely to render it inoperative or inaccessible. The recently installed 400Mhz radio system contains redundancies that would increase the likelihood of its survivability. In addition, LBNL sponsors an active and professional employee volunteer amateur radio group.*

During some portion of the first 72 hours following the earthquake, all portions of the Bay Area will experience some loss of power. It is reasonable to assume that about one-third of the service connections in the area will be without power for 24 hours. In the urban sections of Oakland and other East Bay cities, including LBNL, the power outage should be considered at 100% for the first 24 hours and 75% for an additional 24 hours. *LBNL standby generators for key facilities are provided for use during total power outages.*

Water supply systems in the East Bay region will be severely crippled in this earthquake scenario. Displacement along the Hayward Fault will heavily damage all major tunnels, aqueducts, and the many distribution systems that cross the fault. The flow of water crossing the fault will be reduced significantly. Restoration of water service to all areas east of the fault in the East Bay hills will be greatly delayed. Restoration of full service could take months. *LBNL has two separate public supplies, three incoming lines, emergency pumping stations, three 200,000-gallon (758,000-liter) storage tanks, and two looped systems (each served by separate onsite tanks) Plan are being considered to install automatic shut-off valves on these tanks to minimize the loss of water from broken pipes.*

Horizontal displacement averaging about 5 feet (1.5 m) across the fault zone will cause thousands of breaks in mains, valves, and service connections. High intensity shaking, causing secondary ground breaks near the fault zone, will cause many additional breaks in the system. Some fires could occur in streets due to broken gas mains; structural fires will occur as a result of broken service connections. Fault rupture will also cause damage to the larger-diameter transmission pipelines where they cross the fault at San Pablo and Fremont. As a result, natural gas will be unavailable to the East Bay region from San Pablo to Milpitas. While gas supplies to most areas of the East Bay region will be restored rapidly, some areas in the hills immediately east of the fault could be without gas for several weeks. *Damage will be minimized at LBNL due to the automatic shutoff valves located throughout the system – although there is the possibility of a major fire started offsite and spilling onto LBNL property.*

4.2 Urban Wildland Fire

Wildland fires that destroy multiple buildings occur at least once each decade in the East Bay Hills. These fires are driven by the off-shore winds that typically occur each autumn. Drought conditions coupled with warm east winds make LBNL vulnerable to wildland fires, an extreme example of which was the Oakland–Berkeley Hills Fire of October 1991. Such wildland fires provide some warning but move very quickly under specific meteorological conditions. These fires could approach LBNL from almost any direction and extend to destruction of structures. Depending on the degree of containment and meteorological conditions, the size of such a fire could remain small (an acre or less) or spread to encompass much larger areas. Fires on or off site could trigger secondary events such as power failure, closure of roads, and reduction or loss of water pressure, and could involve multiple casualties.

The conditions that cause buildings to ignite during such wildland fires have been researched and are well-known. The University of California Fire Lab has shown that these fires consume large volumes of fuel quickly, and that any particular building is at risk of ignition from vegetation burning near its exterior walls for approximately 10 minutes under extreme fire conditions.

Using this information and computer modeling, the Laboratory worked with fire chiefs of the California Department of Forestry (CDF) and neighboring communities, and with Lab neighbors and local environmental groups, to develop a vegetation (fuel) management program to reduce wildland fire risks to Laboratory buildings. This vegetation management program is performed annually as a maintenance function. Reduced fuel load, combined with improved, coordinated fire response, makes LBNL significantly less vulnerable to wildland fires than in the past. Additional details are available in the LBNL Site Environment Report, published bi-annually by the EHS Division and included as part of the appendix

The Lab's program reduces vegetation fuel levels on site such that the intensity of a wildland fire moving onto the site will be naturally reduced to the point that buildings will not be exposed to temperatures or flame heights that could ignite the structures. This program will also allow fire fighting personnel to further suppress the fire so it does not move through the Laboratory to the neighborhoods to the west of the Lab. The vegetation management program is now approximately 80 percent implemented. Still to come -- some tree stands are to be thinned so they will not sustain hot "crown fire" conditions, building perimeter plantings will be managed, and much of the landscape will be converted to native perennial grasses.

A number of weather stations have been installed in the East Bay Hills, and when the dangerous combination of wind, temperature and humidity is identified, a "Red Flag" warning is issued. Signs are posted alerting people entering the hills to be particularly alert, extra fire department patrols are dispatched by neighboring cities, open fire grilling is prohibited in Tilden Park, and Laboratory activities with high risk of ignition are curtailed under Red Flag conditions.

Should a wildland fire ignite near the Laboratory, staff will be informed by the Laboratory's public address system. LBNL has published a guide for employees in the Pub 535 - *Wildland Fire Evacuation/Relocation Plan*, included in the appendix

5. Emergency Operations Plan

5.1 Emergency Direction and Control

During emergencies requiring activation of the LBNL Emergency Operations Center, the designated EOC Manager has immediate responsibility for emergency response decisions, has the power to direct staff responses and settle questions of authority and responsibility. Once the primary response needs are met, the EOC Manager transitions the EOC from response to recovery mode.

Overall responsibility for policy decisions rests with the Laboratory Director. The sequence of delegated authority is described in Section 3.3 of this document.

To assist the Manager during operational emergencies there is an established Emergency Response Organization, which consists of the EOC team and first responder groups, and an Executive Team whose members are predesignated from LBNL's executives and assist the Manager with overall policy decisions.

LBNL's emergency management organization is consistent with the Incident Command System (ICS) used in states other than California and with the Standardized Emergency Management System (SEMS) used by state and local jurisdictions within California to manage emergency response to disasters, and with the National Incident Command System, mandated for all Federal agencies by HSPD-5. Both plans are included as part of the appendix.

The purpose of both SEMS and NIMS is to:

- Provide an organizational structure that can grow rapidly in response to the requirements of an emergency.
- Provide management with the control necessary to direct and coordinate all operations and all agencies responding to emergency incidents.
- Assign employees with reasonable expertise and training and certification to critical functions without loss of precious time;
- Allow the activation of only those positions needed to manage a particular incident or level of emergency,
- Provide for the accurate and up-to-date inventory, tracking and typing of all resources used in responding to emergency incidents,
- Provide for coordinated and consistent release of public information and warning information through a joint information center, and
- Promote proper span of control and unity of command.

5.2 Offsite Support (Mutual Aid)

5.2.1 General:

Some emergencies may warrant the interface, coordination, and use of offsite organizations and agencies at the federal, state, and local level. Figure 5-1 illustrates the flow of support for emergency situations from

LBNL to the Federal level according to SEMS. Figure 5.2 illustrates the flow of support for emergency situations from LBNL to the Federal level according to NIMS.

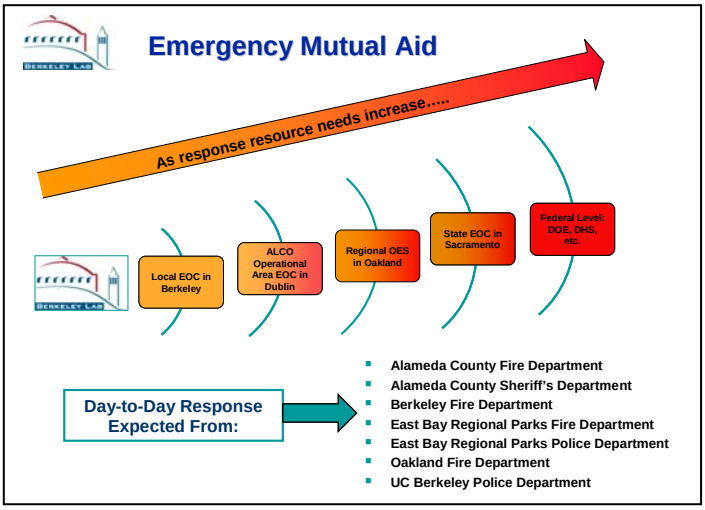


Figure 5.1

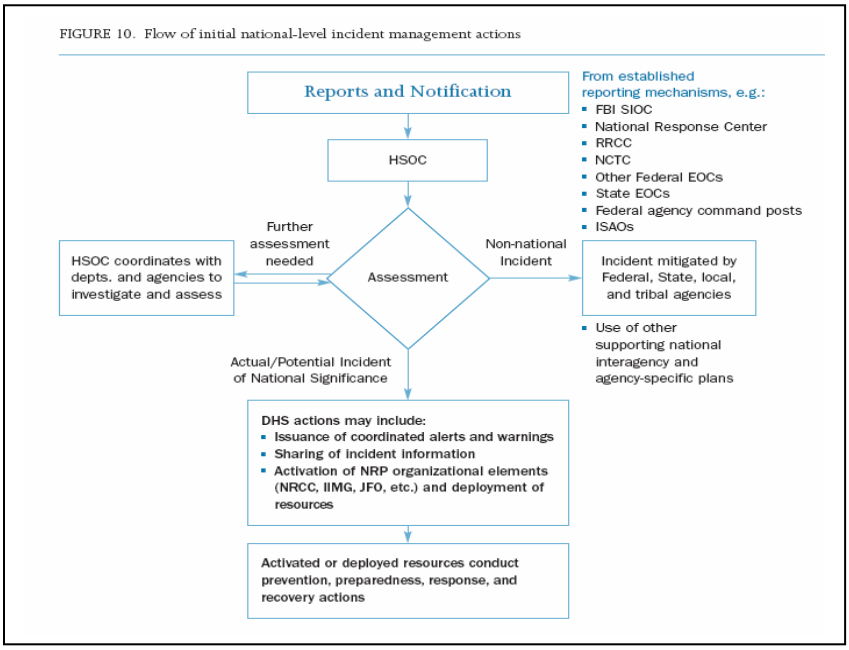


Figure 5.2

5.2.2 Offsite Support Description

LBNL is located in Alameda County, and its main site is located in the cities of Berkeley and Oakland. Alameda County has been designated as an Operational Area by the State Office of Emergency Services (OES) and as such, maintains direct communications with state agencies and serves

as the focal point for emergency responses in Alameda County. LBNL's primary entry point into the California SEMS system of mutual aid support can be made through (a) the City of Berkeley as part of the Alameda County Operational Area, or (b) the UC Office of the President as a state agency, or (c) directly to the DOE HQ in Washington DC as part of the Federal government.

The California State Office of Emergency Services maintains an Emergency Management Assistance (EMA) program that provides for intrastate mutual aid assignments of emergency management personnel. California is signatory to the Emergency Management Assistance Compact (EMAC) administered by the National Emergency Management Association (NEMA) that allows for interstate mutual aid assignments of emergency management

LBNL contracts its fire department services to Alameda County Fire Department, which staffs a station onsite. ACFD participates in the California Master Mutual Aid Agreement whereby fire support may be requested through the local mutual aid coordinator. LBNL also maintains an automatic aid agreement for fire response with the Berkeley Fire Department that is implemented by ACFD. LBNL also maintains a memorandum of understanding for radiological response with the City of Berkeley and Alta Bates Summit Medical Center.

LBNL's law enforcement support is provided by the Police Department of the University of California at Berkeley through a memorandum of agreement. Other security services, including access control, are provided by a contract vendor. The contract security agency is responsible for Laboratory access, property protection, and traffic control. Staffing and resources consist of an onsite manager, two roving patrols 24 hours per day, and gate access at the Blackberry Gate 24 hours per day. The LBNL *Integrated Safeguards and Security Management Plan* provides a more comprehensive description of these services.

Written agreements (memorandums of understanding/agreement) have been made with offsite agencies to provide support services, which outline the support services that will be provided when requested. These requests for assistance will be initiated by the LBNL 24/7 emergency contact (see section 5.3.2.2) or the Emergency Operations Center through the appropriate channels (see section 5.3.2). Requests to local jurisdictions will be in accordance with the written agreement. Request for federal assistance can also be made through the DOE Berkeley Site Office or the DOE Washington DC EOC.

5.2.3 Memoranda of Agreement/Understanding

All Memoranda of Agreement and Understanding (MOAs and MOUs) are part of the appendix to this plan in the LBNL EOC. Following are general descriptions of these MOAs and MOUs:

5.2.2.1 Emergency Medical Support with the City of Berkeley

This mutual aid agreement sets forth the procedures for emergency medical mutual aid between the City of Berkeley and LBNL.

5.2.2.2 Automatic Aid Agreement with the City of Berkeley

This mutual aid agreement sets forth the procedures for automatic fire dispatch between the City of Berkeley and LBNL.

5.2.2.5 Emergency Radiological Assistance Agreement with Alta Bates Hospital

This agreement sets forth the terms under which Alta Bates Hospital will treat radiation-contaminated patients.

5.2.2.6 Emergency Radiological Assistance Agreement with the City of Berkeley

This mutual aid agreement sets forth the procedures for radiological aid assistance between the City of Berkeley and LBNL.

5.2.2.7 Law Enforcement Agreement with the University of California Berkeley

This agreement outlines the law enforcement services to be provided to LBNL by the University Police Department.

5.3 The Emergency Operations Center (EOC)

The LBNL EOC exists as a concept from which to manage and direct incidents that overwhelm its day-to-day response abilities. Given appropriate communication, the EOC could operate, virtually, from any location. This section is a general description of its physical location and activation. Specific information about the incident command system, standard operating procedures and related plans are included as part of the appendix.

5.3.1 Primary and Alternate EOC

The primary LBNL EOC is located in the training room of the Firehouse in Building 48.

The alternate EOC locations are designated as conference room 90-3148 and conference room 84-318 (based on their current seismic integrity ratings as “good”).

However, an alternate EOC may be established at any location according to the necessity and availability. Two portable dispatch communications units are maintained onsite – one at Building 48 and one at Building 90. Known as the PECS (portable emergency communication system), these units may be deployed to any location in the Laboratory and may operate independent of other systems for up to 24 hours. In addition, a portable file of additional EOC checklists, maps, materials, forms and supplies are maintained with each PECS box.

5.3.2 Activation

The LBNL EOC is activated according to the instructions located in the manual for the Initial Assessment/Emergency Contact Team plan, included as part of the appendix. The diagram in figure 5.2 depicts the process. Basically, the EOC can be activated by either (1) the Initial Assessment Team; or (2) by the request of executive management.

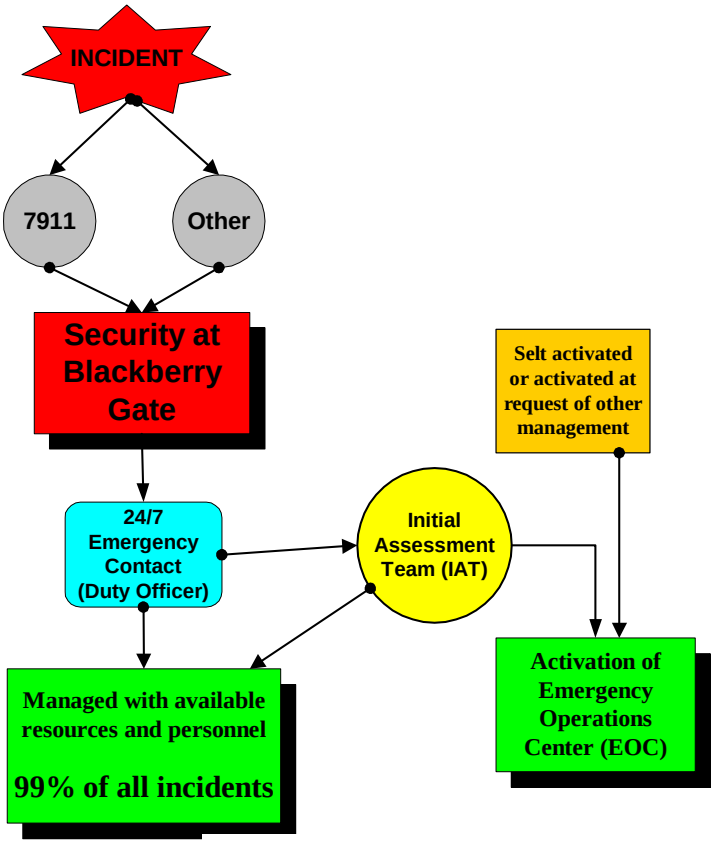


Figure 5.3

5.3.2.1 Declaring a State of Emergency

A state of emergency at LBNL can be declared by any member of the EOC Executive team. As soon as possible, notification is made to both DOE and UCOP. A state of emergency exists where:

a. Conditions exist on or within the vicinity of the LBNL which result from natural or man-made disasters, civil disorders which pose the threat of serious injury to persons or damage to property, or other seriously disruptive events; and

b. Extraordinary measures are required immediately to avert, alleviate, or repair damage to LBNL property or to maintain the orderly operation of the campus.

5.3.2.2 Activation Levels

Level 1 (Standby/Alert): An emergency that includes incidents that can be managed using normal response operations. The EOC is not activated, but appropriate EOC personnel are informed and placed on alert status.

Level 2 (Partial Activation): The emergency can no longer be managed using normal, day-to-day procedures and the EOC is partially activated. With direction from the EOC Manager, some, but not all positions are filled to coordinate and support the response to the incident.

Level 3 (Full Activation): A major emergency (e.g.: major earthquake) causes the EOC to be activated. All or most EOC positions are filled.

5.3.2.3 Initial Assessment Team and 24/7 LBNL Notification/Contact

The Initial Assessment Team is composed of senior personnel within the Operations Division who can:

1. Gather and assess available information
2. Determine if necessary to activate the EOC
3. Notify and advise Executive Team
4. Activate the EOC
5. Direct and control the initial response

The 24/7 LBNL Notification/Contact is a small group of personnel within EHS who:

1. ensure that LBNL management and the DOE Berkeley Site Office (BSO) are notified as appropriate.
2. serve as the point of contact for notification of incidents requiring response by LBNL personnel. Timely notification will ensure appropriate management actions in accordance with LBNL policy and procedure.

5.3.3 EOC Standard Operating Procedures (SOP)

The LBNL EOC SOP's consist of:

1. The red binder on the EOC shelf entitled "Opening the EOC", which contains an opening checklist, operating checklists, and other appropriate that are updated as necessary.
2. Checklists for the various positions, located in each position binder.
3. Pocket cards with generic instructions in each EOC vest.

In addition, appropriate SOP's from the contract security and fire department are maintained in the EOC and included as part of the appendix.

5.3.2 Safety

The safety of LBNL employees and guests is of paramount importance during day to day activities as well as during an emergency situation. On-going safety procedures are described in the Publication 3000 EHS Health and Safety Manual, and Publication 3140 Integrated Safety Management (ISM) System. In addition, there are specific ISM plans within each division, providing specific safety rules and guidelines for jobs and positions within that division. LBNL has a robust Stop Work policy that allows any employee to stop work if they witness a dangerous situation.

The LBNL EHS Occupational Safety group populates the EOC safety position. It is expected that person will direct the incident safety efforts, based on the existing protocols, modified to fit the existing emergency situation.

5.4 Emergency Response Organization (ERO)

The Emergency Response Organization staff performs many functions. Detailed procedures are found in the Standard Operating Procedures (SOP), maintained in the EOC and included as an appendix to this document.

5.4.1 Emergency Operations Center Team

The Emergency Operations Center team performs many functions. The team is composed of a broad cross section of management personnel, selected for their expertise and the needs of the EOC command operations. Once the EOC is activated and the EOC Manager determines the depth of positions necessary for the immediate incident, the members are called and asked to report. Each position is staffed and trained with at least three laboratory personnel, and cross trained to understand the functions of each of the other positions. Position checklists (located as part of the appendix) allow staff trained in other positions to step in and accomplish the primary duties of each position.

The EOC team's function is determined by the incident and current situation. As the primary goals of an initial response (lives and property) are accomplished, the priorities move into recovery. This transition is depicted in Figure 5.4

During the response phase of an incident, the command structure is as depicted in Figure 5.5. As response moves into the recovery phase of an incident, the structure

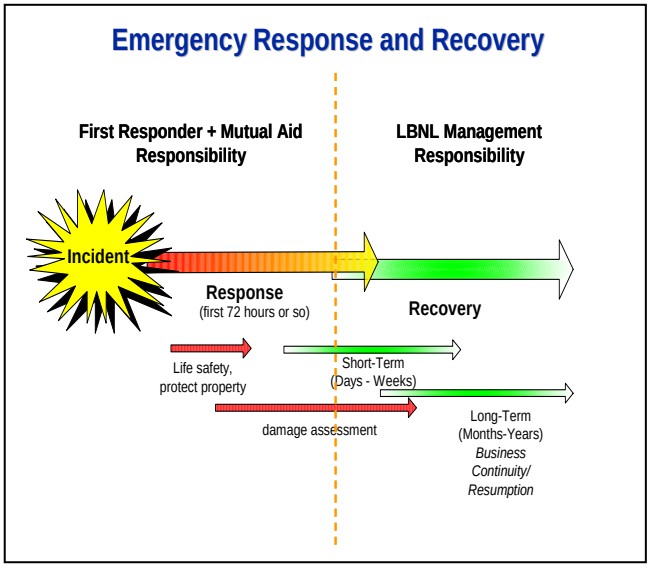


Figure 5.4

of the EOC team changes to reflect a different set of priorities as depicted in Figure 5.6.

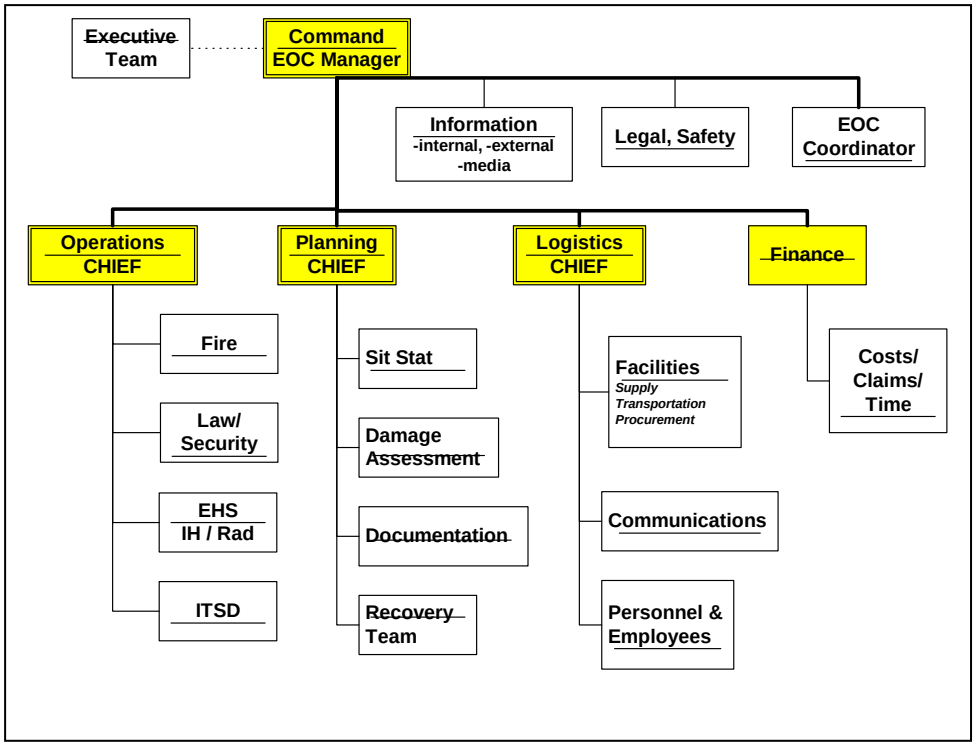


Figure 5.5

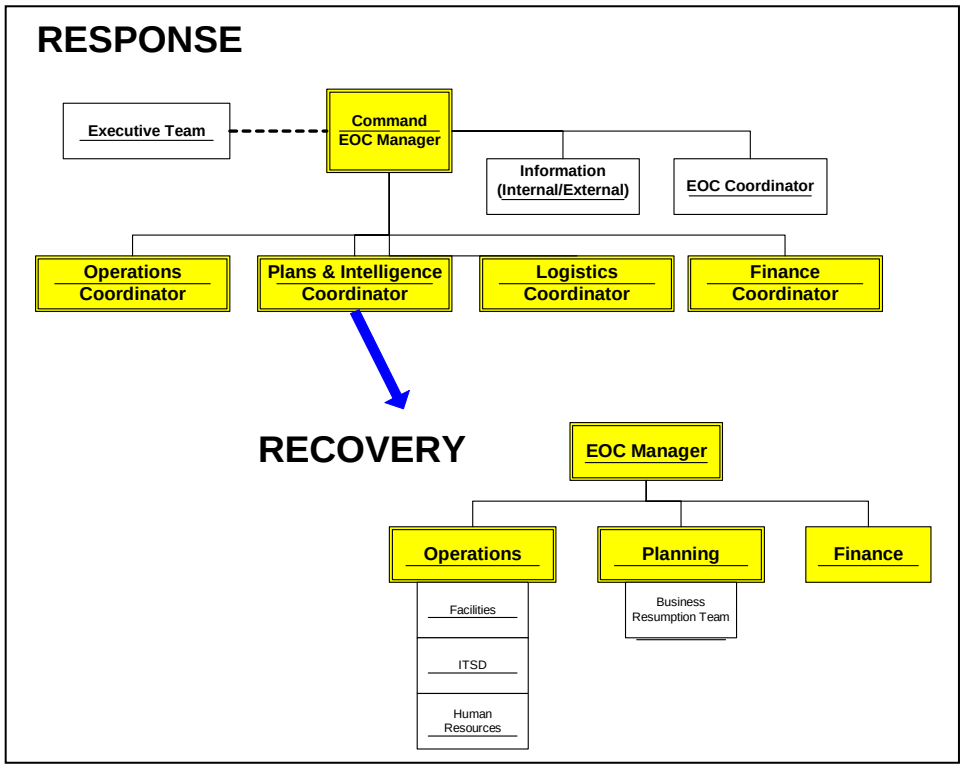


Figure 5.6

5.4.1.1 Emergency Operations Center Staff Responsibilities – Response Phase

The primary responsibilities of each position in the EOC command structure during the response phase of an activation – as well as the division/group responsible for staffing – is as follows:

COMMAND SECTION

EOC Manager

- manages the Laboratory's response to a disaster by coordinating Response with the other members of the EOC, the Executive Team and the field units
- designates a leader for each of the other sections
- facilitate the transition from the Response phase of the disaster into the Recovery phase of the disaster
- *Designation of staff for this position belongs to the Deputy Director for Operations.*

Information Officer

- handles all external inquiries from the media concerning any emergency incident and keeps the EOC Manager informed of all requests for information and inquiries
- receives approval for all information from the executive team before releasing any information
- coordinating with Logistics, gathers and disseminates internal information to LBNL staff on the status of the incident
- *Designation of staff for this position belongs to the Head of the Public Affairs Division.*

EOC Coordinator

- facilitate effective functioning of the EOC; assist and serve as advisor to the EOC staff
- liaison with outside agencies and jurisdictions
- *This position is staffed by the Program Coordinator.*

Safety

- monitors and evaluates all operations (response and recovery) for hazards and unsafe conditions
- *Designation of staff for this position belongs to the EHS Division, Safety program.*

DOE

- serves as liaison to DOE to provide situation reports and request resources as necessary
- *Designation of staff for this position belongs to the DOE Berkeley Site Office.*

OPERATIONS SECTION

Section Chief

- informs and advises the EOC Manager
- maintains communications with Coordinators within the Response Section
- evaluates status reports, makes decisions about commitment of resources and determines need for additional resources during the response phase
- evaluates status reports, makes decisions about commitment of resources during the recovery phase
- *This position is designated by the EOC Manager*.

Fire Coordinator

- manages the activities of personnel engaged in fire and rescue operations, as well as other emergency operations
- *This position is staffed by a representative from the contract fire department.*

Security Coordinator

- coordinates 24-hour on-site security, and manages the activities of security and traffic control personnel on site and coordinates these activities for LBNL facilities off site
- manages the movement of people from hazardous or threatened areas to lower-risk areas
- maintains communication with local law enforcement
- *This position is staffed by a representative from the contract security agency.*

EHS Coordinator

- coordinates activities of EH&S groups in the performance of monitoring and evaluation of spills and releases, including advising regulatory agencies, if necessary
- coordinates activities of medical resources and facilities on-site and off-site, including mutual aid
- assists information officer in monitoring employee evacuation, employee physical/emotional health

- *Designation of staff for this position belongs to the EHS Division Director.*

IT Coordinator

- maintains readiness of all EOC phone/network systems and communication equipment
- monitors and reports on condition of all telephone and network systems
- during the recovery phase, coordinates resumption of services
- *Designation of staff for this position belongs to the IT Division Director.*

PLANNING SECTION

Designation for staffing this position belongs to both the Facilities – Planning Group and Facilities – Design and Construction Group. The Section Chief is appointed by the EOC Manager.

Section Chief

- informs and advises the EOC Manager
- development and distribution of the Incident Action Plan (IAP)
- provide periodic briefings for the EOC Manager and EOC Staff addressing employee issues
- provide periodic briefings for the EOC Manager and EOC Staff addressing Recovery Planning issues

Situation Status

- collect, analyze and develop intelligence for the EOC Manager about all events in the surrounding area

Documentation

- collect, analyze and display information
- collect and maintain documentation of all disaster information

Damage Assessment

- activates the Damage Assessment Team – see appendix
- collects and collates damage assessment information

Recovery

- coordinate transition from Response phase to Recovery phase
- collect and maintain documentation of response efforts through Response phase
- activate the Archives/Records disaster plan Recovery

- direct the transition to the Recovery/Business Resumption phase

LOGISTICS SECTION

Logistics Chief

- informs and advises the EOC Manager
- maintains communications with Coordinators within the Logistics Section
- *This position is designated by the EOC Manager*.

Facilities

- assesses initial damage to facilities
- repair/restore essential services
- coordinate procurement/delivery of necessary services/equipment
- activate the Damage Assessment Team
- directs rebuilding, demolition and commitment of resources during the recovery phase
- maintain close coordination with Finance
- *Designation of staff for this position belongs to the Facilities Division Director.*

Radio/Communications

- ensure radio/communication services are provided to LBNL.
- *Designation of staff for this position belongs to the Facilities – Radio Communications Group.*

Personnel

- in coordination with the information officer, coordinate information/services to employees
- assist in providing personnel resources as necessary to response/recovery effort
- provide continuing support for employee transition during recovery
- *Designation of staff for this position belongs to the Human Resources Division Director*.

FINANCE SECTION

Designation for staffing this position belongs to the Chief Financial Officer. The Section Chief is appointed by the EOC Manager.

- coordinate with EOC manager and Executive Team on financial concerns
- coordinate with EOC staff for necessary purchases during response and recovery phases

- maintain all appropriate financial records/documentation
- document resources received.
- develops and institutes policies regarding vendors, provision of services, equipment and support of emergency operations, including preauthorized purchase orders.

5.4.1.2 Emergency Operations Center Staff Responsibilities – Recovery Phase

The primary responsibilities of each position in the EOC command structure during the recovery phase of an activation – as well as the division/group responsible for staffing – is included and described in Chapter 9.

5.4.2 Executive Team

The Executive Team is appointed by the Laboratory Director or designee from the executive staff. Their responsibilities are to support the EOC efforts during the response/recovery phase, provide policy direction for the response/recovery efforts, maintain communication/communication with executives at the DOE Headquarters, University of California and City of Berkeley.

5.4.3 Damage Assessment Team

A policy and procedure plan for the Damage Assessment Team is included as part of the appendix. This team is composed of engineers and EHS safety specialists, whose responsibility is to inspect buildings for structural and other infrastructure damage after a major event, e.g.: seismic activity, explosion, fire, etc. They then have the ability to draw on the skilled trades within the Facilities Division or other EHS specialists, e.g.: industrial hygienists or radiation control technicians. The Chief Structural Engineer and the EHS Safety Program Manager coordinates the membership, planning and training.

5.4.4 LBNL Volunteer Teams

Volunteer teams are readily available to assist in emergencies. All teams participate regularly in sitewide drills to ensure emergency preparedness. These teams are described below.

5.4.4.1 Building Managers and Building Emergency Teams

To ensure efficient and effective management of LBNL facilities, LBNL assigns line managers to perform appropriate work functions. Building Managers are assigned to each occupied building by the division occupying the most space in that building. Building Managers are authorized by the division director to ensure that the required building management functions are staffed properly by one or more qualified individuals, and the building duties are carried out effectively. Building management functions include but are not limited to:

- Emergency preparedness

- Being informed of, and – where necessary – coordination of construction and maintenance activities with building occupants
- Serving as a point of contact for general information about the building activities and occupants
- Miscellaneous building duties as required by their division

The Emergency Preparedness functions of the building managers include recruiting and fielding an employee volunteer Building Emergency Team (BET). These teams are administered by the building managers, who report to the Emergency Manager in matters concerning emergency preparedness. Each occupied building has an emergency team headed by an Emergency Team Leader. The team's primary responsibilities are: is to assist the building manager until a Professional Emergency Response Group arrives.

- Coordination of building evacuations and search procedures
- Control of assembly areas
- Search and rescue procedures (only under supervision of professional responders)
- Assistance to professional responders
- Communication with the Emergency Operations Center (EOC)
- Maintenance and control of emergency equipment assigned to them
- Control of building re-entry

5.4.4.2 Amateur Emergency Radio Team

This team, administered and staffed by the Emergency Preparedness Coordinator, communicates outside LBNL via amateur radio operators using both personal and Laboratory equipment. It responds during a widespread emergency by providing backup communications services.

5.4.4.3 First Aid Team

This team is administered and staffed by the Health Services Group and assists by providing support during any multicasualty situation. Following any widespread disaster situation, such as a severe earthquake, team members meet at Building 26 for assignment.

5.5 Voluntary Donations

Major disasters often result in an outpouring of gifts and donations for disaster victims, and requires agencies and organizations to develop plans to receive, warehouse and distribute them. LBNL, as a small federal facility with no responsibility for care and sheltering of its employees, does not accept such donations.

5.6 Evacuation and Shelter-in-Place

Depending on the circumstances, employees could be advised to evacuate specific buildings or the entire site, or they could be advised to shelter-in-place. Situations could include a prolonged power outage, the threat of a wildland fire, release of a hazardous material, or a workplace violence incident. Responsibility for ordering a site-wide evacuation resides with any member of the LBNL Executive Team. Individual evacuation or shelter-in-place orders can be made by the EOC manager or a field incident commander. Instructions for routes to be used for a safe evacuation are given depending on the circumstances. Instructions for sheltering-in-place are distributed to all employees during the initial orientation.

5.7 Demobilization and Termination of the EOC

The EOC Manager, advised by the Executive Team, will determine when to deactivate the EOC and transition to normal business activities.

Chapter 6 Communications

This section includes information about communications at LBNL and is divided into three sections

a. Systems and equipment
b. Notification including alerts and warnings
c. Emergency public information.

6.1 Systems and Equipment

The primary LBNL communication system consists of a multichannel UHF FM trunked radio network, the sitewide public address system, the LBNL phone system, and a digital data network that connects the Laboratory computing resources.

The phone system provides general voice communications and some digital data transfer via modems. The LBNL digital data networks includes both circuit and packet- switched networking in support of computer system interconnection, terminal access, distributed file and print services, and access to external (offsite) networks, with a backup microwave link to LLNL. There are portable satellite phones on site and a dedicated satellite phone system in the EOC.

The primary telecommunications system in B50E and the primary radio base station in B48 are part of the sitewide standby generator system.

Two portable dispatch communications units are maintained onsite, one in B48 and one in B90. Known as the PECS (portable emergency communication system), these units duplicate our radio system and contain a telephone, television, AM/FM radio and amateur-band radio. It can be deployed to any location in the Laboratory and can operate independent of other systems.

6.1.1 Telephone/Digital Data System

The telephone system used at LBNL, based on a private PBX switch, is nonblocking, so it can support all the communication paths possible between installed ports. The PBX switch and the voicemail system are maintained under Networking and Telecommunications Department (NTD) contracts.

Support power, HVAC, fire alarm, and emergency-generator equipment are maintained by the Laboratory's Facilities Department, in accordance with scheduled inspection and preventive-maintenance programs. These systems are in daily operation and are tested by actual usage.

6.1.2 Radio System

A Motorola multichannel UHF FM trunked radio network provides redundant radio communications on site for all day to day or responding employees. Among the channels on this system are dedicated channels for security, the building emergency teams, the EOC and transportation. A complete list of the current talkgroups are available from the Facilities Radio Communications Group. Radios are distributed to all Building

Mangers and other key emergency personnel. These systems are in daily operation and are tested by actual usage.

The Alameda County Fire Department's station #19, housed in B48, can communicate with the ALCO dispatch center in Livermore, as well as all appropriate surrounding jurisdictions (e.g.: City of Berkeley and Oakland, East Bay Regional Parks, East Bay Municipal Water District) In addition, they carry several LBNL radios that allow them to communicate directly to any LBNL talk group.

Through the MOU with UC Berkeley's Police Department, the LBNL contact security force can communicate directly about law enforcement issues. UCPD has links to the Alameda County Sheriff's Office and the California Highway Patrol through the California Law Enforcement Telecommunications System.

6.1.3 Public Address system

The sitewide public address system broadcasts messages to the interior of all buildings. This system is dependent on power, and in the event of a major power outage, is not expected to operate in those buildings that are not on backup generators. This system is tested monthly, along with the building emergency team radio talkgroup.

6.1.4 Emergency Alarms

A proprietary fire alarm system is installed throughout LBNL, which monitors all fire related alarms. Alarms are initiated by manual pull-down boxes, automatic smoke detectors, heat detectors, water flow switches and other such devices. Alarms lead to the monitoring equipment located in B48 and are then transmitted to the Alameda County Dispatch Center at LLNL, who dispatches the appropriate response.

A security alarm system is installed throughout most of LBNL, for both perimeter, building and room security. Security alarms are reported to the Blackberry Gate security kiosk and investigated by security personnel.

6.2 Notification

LBNL employees, guests, and contractors are responsible for recognition of emergencies and the importance of timely notification. In accordance with LBNL health and safety policy, each employee, guest, and contractor must be familiar with emergency reporting procedures.

During an emergency that requires activation of the EOC, the EOC Manager is responsible for ensuring notifications are made as soon as possible to the following agencies/organizations. Phone numbers for each of these are maintained in the EOC.

- DOE Headquarters in Washington DC
- University of California, Office of the President
- City of Berkeley

6.2.1 DOE Notifications

All operational emergencies (alert, site area alert and general emergencies) will be classified in accordance with DOE Order 151.1b CRD. These emergencies require activation (full or partial) of the emergency command center.

Incidents or events not classified as operational emergencies, will be managed in accordance with DOE Order 231.1a, and the LBNL Occurrence Reporting and Processing System (ORPS).

6.2.2 Onsite and Offsite Notifications

The communications systems described in this chapter may be used to notify and provide instructions to the general Laboratory population during the regular workday. Each division is responsible for maintaining phone trees and emergency contact numbers for the employees within their division. If the network and telephone systems are available, employees can be notified with group email or group voicemail messages. Messages can be recorded on the employee 800 emergency telephone number, or posted on the main website.

LBNL has a number of redundant methods of communicating with the public and surrounding agencies after a disaster. Public announcements can be made to the media through the PIO or posted on the web sites. The LBNL Amateur Emergency Radio group can contact all the local jurisdictions involved in the RACES programs. The City of Berkeley (1610AM) and UC Berkeley (90.7 FM) both maintain radio stations that are part of their individual emergency plans.

6.3 Emergency Public Information

The Public Affairs Department is responsible for the dissemination of information about all activities occurring at LBNL to both the employees and the public. This department includes specific groups for Communications (responsible for press releases and various online and print publications) and Government and Community Relations (responsible for interaction with federal, state and local government officials, plus much of the Laboratory's local community outreach effort). Both are integral parts of the EOC staff.

On a daily basis, these groups communicate the science-based mission of LBNL to the public and employees. General safety and emergency information is regularly included in all LBNL publications. The EOC Public Information Officer position is pre-designated from employees within these groups, and are responsible for communications to employees and the public.

The LBNL Communications Plan (located in the EOC binder for Communications) contains details about information gathering and dissemination, the onsite information center and staffing.

6.3.1 Joint Information Coordination

The National Incident Management System (NIMS) mandates establishing a local, multiagency coordination center, to provide a centralized place for the effective and efficient distribution of emergency information by all agencies involved in a response effort.

6.3.1.1 City of Berkeley: Joint Information Center

As the local point of contact within the Alameda County Operational Area, the City of Berkeley maintains plans to open and staff a joint information center at the city offices. Organizations included in the planning include, but are not limited to, LBNL, UC Berkeley, Alta Bates Summit Medical Center and Bayer Healthcare Corporation. Once activated, the city contacts each relevant agency, who sends a representative to the designated location. While each agency still maintains autonomy for its own public information, the JIC allows all agencies to coordinate general information to the public.

6.3.1.2 DOE/HQ Information Coordination

A member of the DOE Berkeley Site Office (BSO) has a permanent place in the EOC. The PIO will coordinate all information, and any release of it, with the IC and BSO. The BSO representative is responsible for coordination with DOE Headquarters. If the BSO representative is not available, the EOC will interact directly with DOE Headquarters. If the nature of the emergency and the number of organizations affected by it make it advisable, the PIO may establish a Joint Information Center with these agencies and organizations.

6.3.2 Emergency 800 Numbers and Emergency Web Site

Two 800 emergency information numbers are maintained to provide general information to employees and LBNL executives and division directors, who can use this number to ascertain the status of LBNL after any event. The employee 800 number is printed on each proximity/ID badge. The executive 800 number is printed on the executive call list. The messages are updated on a regular basis by the Emergency Program Coordinator. During an event that would require activation of the EOC, the responsibility for updating the messages belongs to the EOC PIO.

LBNL maintains an off-site Emergency Web Site at Argonne National Laboratory that can be accessed via a computer in the EOC, to post emergency information if the LBNL network is down. The Public Affairs Department (Creative Services group) maintains the LBNL home pages, which can be altered appropriately during an emergency that does not affect the LBNL network.

Chapter 7 -- Resources and Finance

7.1 Resource Management

Resource management involves the systematic development of methodologies for the prompt and effective identification, acquisition, distribution, accounting and use of personnel and major items of equipment for essential emergency functions. At LBNL, resource management takes place within the EOC during an emergency situation, and is the primary responsibility of the Logistics and Finance sections.

7.1.1 Resource Management Objectives

The objectives of resource management at LBNL are to maintain accurate and accessible information on equipment and trained personnel available on the LBNL campus, as well as appropriate contracts and vendors for other resources. Resource management and acquisition objectives are based on the hazard vulnerability analysis as described in the appendix, and the worse possible scenario event at LBNL – a major earthquake on the northern Hayward fault. Planning for this scenario will facilitate planning for emergencies of a lesser nature.

7.1.2 Resource Identification

Property Management (Office of the Chief Financial Officer) tracks all Berkeley Lab property considered sensitive and/or valued at $5,000 or more and maintains a database indicating the location of property and to whom it is assigned. A copy of that database in an Excel spreadsheet format (sortable and searchable) is made monthly and maintained in the EOC. Each division and group within the Facilities Division maintain inventories of lesser valued property according to their function (electrical, plumbers, riggers, et al). During an emergency situation, all equipment on site will be made available for response and recovery operations.

While a major event is likely to require additional expertise and knowledge, LBNL personnel include a variety of trained engineers, crafts, and safety personnel, as well as generous stocks of emergency supplies and rescue equipment. While it is expected that all employees would want to check on the status of their families and homes after a major event, an event that occurred during normal work hours would find most of those employees available – at least temporarily – to assist in response efforts, and – eventually – to assist in recovery efforts.

7.1.3 Resource Ordering

Nonetheless, it is expected that additional assistance will be necessary for tasks such as debris removal and building stabilization. Anticipating those expected needs, the EOC position described as “Logistics – Procurement” maintains current copies of relevant pre-incident agreements and contracts, vendors and similar information in the EOC. This function is supported by the EOC Finance section, who maintain templates for purchase orders and contracts, copies of procurement cards and

checkstock available to EOC personnel. During an emergency requiring activation of the EOC, those resources would be used to locate and acquire necessary resources for the response and recovery operations. If necessary, resources can be requested through the existing SEMS and NIMS mutual aid channels.

7.1.4 Resource Tracking

Accounting for resources (equipment and personnel) is a function of the EOC Logistics section. Internal resources are tracked through available in-house methods. External resources are tracked as described in the EOC standard operating procedures for the Logistics section.

7.1.5 NIMS

In compliance with requirements in the National Incident Management System, and inventory of equipment and personnel subject to potential use as mutual aid during a major event are listed in the LBNL NIMS Implementation Plan, located as part of the appendix. This list is limited to the vehicles used by the contract security force and the contract fire department station.

7.2 Finance/Administration

The Office of the Chief Financial Officer (OCFO) at LBNL is organized into separate departments, which are comprised of Financial Systems, Controller's Office, Budget, Financial Policy and Training, Procurement, and Sponsored Projects. The Financial Policies and Procedures Manual, as well as the Procurement and Sponsored Projects Policies and Procedures Manual, are available on the OCFO website. These manuals serve as a reference and provide guidelines for financial accountability, compliance with UC and DOE regulations, sound business practices and effective financial decisions. There are also references (links) to other regulatory guidance documents; such as Federal Cost Account Standards (CAS) and the DOE Accounting Handbook.

During an emergency requiring activation of the EOC, the policies and procedures manuals would provide the basis for financial procedures designed to support response and recovery operations. Procedures are in place with Union Bank, LBNL's banking partner, to reproduce the most recent payroll if LBNL is unable to provide an updated electronic transfer. Procedures to facilitate emergency purchases are kept in the EOC. Close coordination with the other EOC sections as well as the DOE representatives to the EOC would assure that no unallowable costs were incurred. If necessary, all financial actions during an emergency could be kept in manual logs and reentered into the electronic systems.

Chapter 8 -- Training and Drills/Exercises

8.1 Training

Training is key to the success of this plan. Required training is tailored to meet the credible emergencies described in section 4.1 and focuses on skills required to execute this plan. All personnel assigned to the Emergency Response Organization (as defined in Section 5.4) will receive training appropriate to their level of participation – including SEMS/NIMS. This training includes an annual orientation to the EOC, and annual participation in exercises and drills. The program includes both individual and collective training and may be conducted on and off site and includes classroom work, drills, and exercises.

8.1.1 Training Assessment

Employees are required to attend a New Employee Orientation, which includes an overview of emergency management and site access, as well as General Emergency Radiation Training. Each employee is also required to complete an on-line Job Hazard Questionnaire (JHQ), which is a series of questions designed to identify specific assignments and associated training. Employees who indicate they are part of an emergency response team have their training profiles automatically updated with required and recommended training. Employees can view their own training profiles at any time. The Program Coordinator can access all records.

8.1.2 Training Documentation

All training is scheduled and documented by the EHS Training Program in an electronic training database. Records can be accessed by course or by individual. Each course related to this plan has a course syllabus included in the EHS course catalog. A bi-monthly course schedule show which course are offered as classroom and web-based courses. Some courses are not scheduled through the EHS training program. Drills and exercises, for example, are scheduled through the program coordinator for specific personnel. Nevertheless, they are documented and recorded through the EHS training program.

8.1.3 Training Courses

Program courses include first aid and CPR, fire extinguisher training, Building Manager orientation, Building Emergency Team training and seminars, EOC training (includes SEMS/NIMS), exercises and drills. Additional courses can be added as necessary to support the program.

8.1.4 DOE Quarterly Metrics Reports

DOE requires a quarterly Emergency Management Programs Metrics Data Collection Form from each facility that includes statistics about ERO personnel training, corrective actions and preparedness events (drills and exercises). Copies of all these reports are maintained in the EOC.

8.1 Drills and Exercises

Drills and exercises are an integral part of the LBNL emergency management program. They are conducted to provide emergency response training and to evaluate the Laboratory's capability to respond effectively to an emergency. Analysis of the results from a drill or exercise provides the necessary information for improvement.

8.2.1 General

LBNL uses the following definitions to distinguish between drills and exercises. A drill is a supervised hands-on event that develops, tests, or maintains a specific operational or emergency response capability, e.g.: notification, emergency communication, medical emergencies, hazardous material spills or leaks. Exercises are comprehensive performance evaluations of the integrated capability of most aspects of the emergency management program associated with the Laboratory. LBNL exercises assess the adequacy and effectiveness of organizational command and control, implementation procedures, and response organization personnel performance.

Exercises must be designed and conducted for maximum realism and attempt to duplicate the sense of stress inherent to an actual emergency situation. A variety of exercise formats (e.g.: full participation, tabletop) are utilized depending on the participants, situation and ultimate goals. The exercise design format as described in FEMA's IS-139 course.

8.2.2 Conducting Drills/Exercises

Major LBNL exercises are conducted annually that requires the participation of the designated ERO personnel. A site-wide evacuation drill involving all LBNL employees is conducted annually. Annual drills and exercises are coordinated with the City of Berkeley, UC Berkeley and AltaBates Summit Medical Center.

The safety of personnel and the facility is paramount during all drills and exercises. The planning and management of drills and exercises ensure that sufficient precautions and limitations are established and adhered to for their safe conduct. A safety engineer has authority during a drill or exercise to halt all activity if unsafe practices are observed.

8.2.3 Findings and Corrective Actions

Evaluating drills and exercises lead to ways for resolving deficiencies and incorporate improvements into the emergency management program. All drills and exercises are appraised by participants, observers and evaluators. Those comments are incorporated into findings and corrective actions, which are entered into the LBNL Corrective Action Tracking System (LCATS). LCATS is an on-line database designed to record, assign responsibility and track completion of all corrective actions at LBNL.

Chapter 9 -- Recovery / Continuity-Resumption Plan

Recovery is the short-and long-term actions necessary to return all systems to normal or near-normal conditions after a major disaster or emergency.

Continuity of Operations refers to the ability to sustain mission critical processes in the event of an extraordinary event that causes these systems to fail.

9.1 Recovery

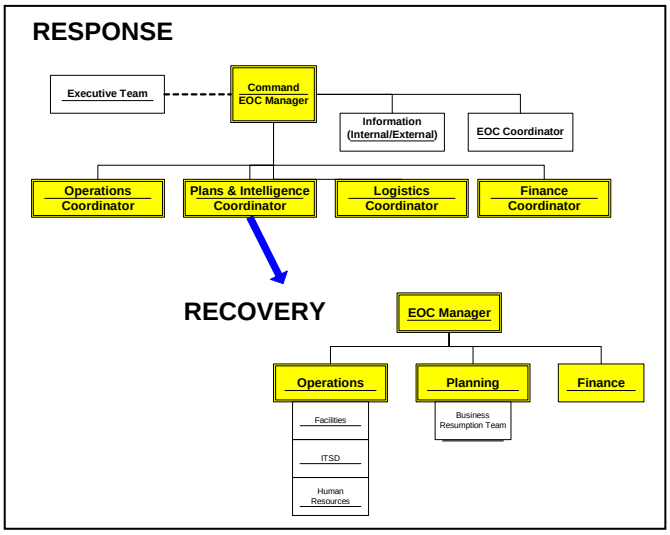
Recovery operations should begin as soon as possible after a disaster. A successful recovery starts at the moment of impact. There is no clearly defined separation between response and recovery. The tasks are different from response, but they should be carried out simultaneously.

This plan envisions a smooth transition from response to recovery, as depicted in the images in section 5.4.1. Recovery consists of both short-term and long-term issues.

1. Short term Recovery consists primarily in restoring the infrastructure, including electric power, communications, water, etc.
2. Long term recovery consists of actions that will return LBNL back to normal pre-disaster levels of services, including analysis of potential mitigation measures and post-event assessments. Implementing continuity of operations plans are part of the long-term recovery efforts.

9.1.1 EOC Staff Responsibilities – Recovery Phase

The primary responsibilities of each position in the EOC command structure during the recovery phase of an activation – as well as the division/group responsible for staffing – is as follows:



COMMAND SECTION

- manages the Laboratory's recovery efforts by coordinating with the other members of the Recovery EOC, the Executive Team and the field units
- designates a leader for each of the other sections
- *Designation of staff for this position belongs to the Deputy Director for Operations.*

OPERATIONS SECTION

Section Chief

- informs and advises the EOC Manager
- maintains communications with Coordinators within the Response Section
- evaluates status reports, makes decisions about commitment of resources during the recovery phase
- *This position is designated by the EOC Manager.*

Facilities

- informs and advises the EOC Manager
- conduct on-going damage assessments
- repair/restore essential services
- directs rebuilding, demolition and commitment of resources
- coordinate procurement/delivery of necessary services/equipment

Information Technology

- activates IT disaster recovery plans
- monitors and reports on condition of all telephone and network systems
- implements the Archives/Records disaster plan
- *Designation of staff for this position belongs to the IT Division Director.*

Human Resources

- coordinate information/services to employees and provide continuing support for employee transitions
- assist in providing personnel resources as necessary to response/recovery effort
- *Designation of staff for this position belongs to the Human Resources Division Director.*

PLANNING SECTION

The Business Resumption Team is appointed by the Deputy Director of Operations to oversee the recovery process as part of the lab-wide continuity of operations actions (see Section 9.2).

FINANCE SECTION

- coordinate with EOC manager and Executive Team on financial concerns

- coordinate with Operations for necessary resources
- maintain all appropriate financial records/documentation
- *Designation for staffing this position belongs to the Chief Financial Officer.*

9.1.2 Mitigation

Mitigation includes activities that eliminate or reduce the occurrence or effects of a disaster This aspect of recovery operations is critical in reducing or eliminating disaster related property damage and loss of lives from reoccurring. The immediate post-disaster period presents a rare opportunity for mitigation.

9.2 Continuity/Resumption

9.2.1 General

In the aftermath of an earthquake or other major disaster, business resumption at LBNL will depend on well-trained employees, restoration of critical infrastructure and functional information systems. LBNL recognizes the potential financial and operational losses that are associated with interruptions of normal operations.

These plans provide information necessary to facilitate the decision-making process and a timely response to disruptive or extended interruption of LBNL's normal operations and services. This is especially important if the cause of the interruption is such that a prompt resumption of operations cannot be accomplished by employing normal daily operation procedures.

9.2.2 Planning Assumptions

The planning goal of LBNL's resumption plans are having the institutional capacity to resume operations within 30 days. Failure to reopen constitutes a considerable threat to the viability of LBNL as a national laboratory. This goal is a planning tool, not a deadline. It is understood that some facilities and operations will be able to resume operations prior to that time and some will take longer.

Although this plan provides guidance upon which to base emergency response, resumption and recovery, it is not intended as a substitute for information decision-making. Individual divisions and groups must identify services for which disruption will result in significant financial and/or operation losses and develop plans to accommodate such disruptions.

LBNL is dependent on a variety of systems which provide mission critical functions of connectivity, internet access and email and major applications written to provide services that allow LBNL to operate. The primary focus of a contingency plan revolves around the protection of the two most important assets of any organization: personnel and data. All facets

of a contingency plan should address the protection and safety of personnel and the protection and recovery of data.

9.2.3 Business Resumption Team

In the event of a disaster or other circumstances which bring about the need for contingency operations, the normal organization of LBNL will shift into that of the contingency organization. The focus will shift from "business as usual" to the resumption of time-sensitive business operations. An activation of the EOC for initial response envisions establishing recovery operations as soon as possible. An integral part of recovery operations is establishing a Business Resumption

The Business Resumption team's primary duties are to work within the EOC Recovery incident command system to:

- protect division and information assets until normal business operations are resumed.
- accomplish rapid and efficient resumption of time-sensitive operations, technology, and functional support areas.
- ensure regulatory requirements are satisfied.
- streamline the reporting of resumption and recovery progress

Chapter 10 -- MITIGATION PLAN

Mitigation includes activities that eliminate or reduce the occurrence or affect of a disaster. Mitigation is based on risks from events that could occur and may impact LBNL's scope, performance or objectives. The goal of mitigation planning at LBNL is to proactively identify and address risks. Mitigation is both a daily activity designed to recognize events or situation that could affect the overall mission of LBNL, and an effort to diminish the effects of the larger threats – a major earthquake or urban-wildland interface fire.

10.1 Safety Mitigation Planning

Mitigation planning at LBNL occurs on many levels. On a general day to day level, mitigation is accomplished through an active and robust safety program, that includes safety publications, a Safety Review Committee, division safety liaisons and coordinators, and on-going "lessons learned" and "corrective action" program. All findings are entered into the LBNL Corrective Action Tracking System (LCATS), an on-line database designed to record, assign responsibility and track completion of all corrective actions at LBNL.

10.2 Earthquake Mitigation Planning

The LBNL main campus is located less than a mile from the northern Hayward fault. A major earthquake on that fault is the primary planning scenario for all disaster/emergency planning. The LBNL mitigation strategy for Earthquakes is both structural and nonstructural. The buildings were evaluated for seismic safety during the 1970's; a reevaluation was begun in FFY 2004. Results and mitigation measures are posted as they are available on the Facilities website. In addition, Chapter 23 of Pub 3000 – Seismic Safety –defines the responsibilities for seismic safety at LBNL, design criteria and recommended nonstructural safety measures for bookcases, file cabinets, racks, glassware, reagents, gas cylinders, etc.

10.3 Urban-Wildland Fire Mitigation Planning

The LBNL main campus is in the Oakland-Berkeley Hills, in the path of Diablo winds, and in the midst of an area with a recognized wildland fire history. The LBNL mitigation strategy for urban wildland interface fires include a structured vegetation management plan, building upgrades and participation in a regional coalition of public agencies – The Hills Emergency Forum. Efforts taken to minimize wildland fire damage are detailed in the annual Site Environment Report.

LBNL is a founding member of the Hills Emergency Forum, which consists of representatives from LBNL, the University of California at Berkeley, the City of Berkeley, the City of Oakland, the City of El Cerrito, the California Department of Forestry, the East Bay Municipal Water District and the East Bay Regional Parks District. The HEF mission is to coordinate the collection, assessment and sharing of information on East Bay hills fire hazards and to provide a forum for building interagency consensus on the development of fire safety codes, incident response, management protocols, public education programs, multi-jurisdictional training and fuel reduction strategies. LBNL hosts their website at http://www.lbl.gov/ehs/hef.

APPENDIX

The appendices include those policies, operating procedures, plans and other material utilized by staff or employees during an emergency situation. Documents included as the appendix are developed as guidelines, as well as official publications, and are designed to be reviewed and updated as often as necessary to keep them current. Copies of these documents are maintained in the LBNL Emergency Operations Center, although responsibility for their creation and updating belongs to various LBNL departments and groups. The actual location of the document, as well as the responsible division, is included as part of the appendix.

Document	Location	Responsible Department
LBNL Hazard Vulnerability Assessment (June, 2005)	Emergency Preparedness Program Office	EHS Emergency Preparedness Program
Wildland Fire Plan	EOC	EHS Emergency Preparedness Program
Operating Documents: Wildland Fire Plan Building Manager Policy Building Emergency Team Policy DOE 151.1b and the CRD WorkSmart Standards UC-DOE contract links Fire Department SOP's Security SOP's Plans: NIMS/SEMS NIMS Implementation Plan MOU's and MOA's Pub 3000, Chapters 9 and 23 RPM Section 7.01 NFPA 1500 standards ISSM Manual	EOC	EHS Emergency Preparedness Program is responsible for maintaining copies in the EOC, the responsibility for updating each document varies.
IAT/ECT Procedure Binder	EOC and IAT/ECT Team	EHS Emergency Preparedness Program
Emergency Scripts Binder	EOC and Communications	EHS Emergency Preparedness Program
EOC Checklist binders	EOC	EHS Emergency Preparedness Program
OPENING THE EOC/SOP's	EOC	EHS Emergency Preparedness Program
EP Subcommittee Binder	Emergency Preparedness Program Office	EHS Emergency Preparedness Program
Site Environmental Report	EOC	EHS – Environmental Services

Phone Numbers: DOE/UCOP/ALCO/DC	EOC	EHS Emergency Preparedness Program
Energy Emergency Briefing Guide	EOC	Facilities and EHS
PA Announcements – Instruction binder	EOC	Facilities – Radio Shop
Radio/PA/Satellite Phone Test binder	EOC	EHS Emergency Preparedness Program
Drill and Exercise Binders	EOC	EHS Emergency Preparedness Program
Equipment Binder (rescue boxes, disaster trauma kits, Damage Assessment bags)	EOC	EHS Emergency Preparedness Program
LBNL Amateur Radio Group	EOC	EHS Emergency Preparedness Program
DOE Metrics/ERAP	EOC	EHS Emergency Preparedness Program