

MITIGATION
MONITORING PLAN
FOR THE PROPOSED RENEWAL
OF THE CONTRACT BETWEEN
THE UNITED STATES DEPARTMENT OF ENERGY
AND THE REGENTS OF
THE UNIVERSITY OF CALIFORNIA
FOR OPERATION AND MANAGEMENT
OF THE
LAWRENCE BERKELEY LABORATORY

September 1992

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UNIVERSITY OF CALIFORNIA,
LAWRENCE BERKELEY LABORATORY

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September 1992

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MASTER

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

**LAWRENCE BERKELEY LABORATORY
SEIR MITIGATION MONITORING PLAN**

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INTRODUCTION

Background

Mitigation Monitoring Plan Objectives

Project-Specific Analysis

Administrative Responsibility for Mitigation Monitoring

Public Availability

Plan Changes

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I. INTRODUCTION

A. BACKGROUND

The Final Supplemental Environmental Impact Report (SEIR) (September 1992) for the Proposed Renewal of the Contract between the United States Department of Energy and The Regents of the University of California for the Operation and Management of the Lawrence Berkeley Laboratory identifies the environmental impacts associated with renewing the contract and specifies a series of measures designed to mitigate adverse impacts to the environment. This Mitigation Monitoring Plan describes the procedures the University will use to implement the mitigation measures adopted in connection with the approval of the Contract.

The California Environmental Quality Act (CEQA) requires the University to adopt a program for reporting or monitoring changes to a project which are intended to lessen or avoid significant effects on the environment. The reporting or monitoring program is to be designed to ensure compliance as the project is implemented through operation and management of LBL. The CEQA requirement is stated as follows:

(T)he public agency shall adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation... (§ 21081.6)

The Contract outlines University of California operation and management responsibility for LBL. The LBL (Long Range) Site Development Plan (LRDP) serves to guide future development necessary for the University to meet its broad missions at LBL. The LBL LRDP, upon which this SEIR has been based in part, is a plan which identifies the anticipated geographic location of future LBL growth related to implementing LBL program goals. The LBL LRDP operates as a general plan governing the facilities development of LBL. While some aspects of LBL growth can not be precisely determined until individual projects (as defined by CEQA) are proposed and analyzed, many environmental impacts and

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mitigation measures are similar in nature, can be anticipated, and thus would generally apply to all CEQA-covered non-exempt or excluded projects.

Hence the SEIR is a program-based EIR. As defined in CEQA, a program EIR is:

... prepared on a series of actions that can be characterized as one large project and related either: (1) geographically, (2) a logical parts (sic) in the chain of contemplated actions, (3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways. [§ 15168 (a)]

It is important to recognize that some of the mitigation measures that will be monitored have already been adopted as part of the original EIR, while additional measures are being adopted pursuant to the Supplemental EIR.

B. MITIGATION MONITORING PLAN OBJECTIVES

The basic objectives of this Mitigation Monitoring Plan are:

- To provide a means of periodically reporting to LBL management compliance with the LRDP mitigation measures and mitigation measures adopted as conditions of Contract renewal;
- To provide assurance and documentation that mitigation measures are implemented as planned;
- To seek assurance that the off-site physical infrastructure improvements identified as mitigation measures are provided on a timely basis;
- To collect analytical data to assist the LBL staff and administration in its determination of the effectiveness of the mitigation measures used; and,

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

- To make accessible to the public information on LBL's compliance with project mitigation measures.

C. PROJECT-SPECIFIC ANALYSIS

The LRDP does not propose the construction of particular capital development projects. However, many of the mitigation measures developed in the SEIR anticipate a project development stage; accordingly, monitoring implementation is appropriate in the context of project specific environmental review, for non-exempt or non-excluded CEQA projects.

As specific projects are proposed, LBL will be responsible for monitoring:

- Incorporation within individual projects of project-level mitigation measures identified in the LRDP; and
- Implementation of mitigating measures identified as a result of a project-specific CEQA review.

The summary chart of the LRDP SEIR, as shown on pages I-15 to I-38 of the April 1992 Draft SEIR, and repeated as Section III of this Mitigation Monitoring Plan, identifies the measures that will be undertaken by the University to mitigate potential adverse environmental impacts.

D. ADMINISTRATIVE RESPONSIBILITY FOR MITIGATION MONITORING

The implementation of the SEIR mitigation measures will require the involvement of many LBL units. Because the LRDP is a broadly based planning document, many administrative units may be involved. Among the LBL units involved, the Associate Laboratory Director for Planning and Development, the Plant Engineering Department, the Office of Assessment and Assurance, the Office of Business Services, and the Environmental Health and Safety Division have important roles in implementing the SEIR monitoring plan.

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Incorporating the mitigation measures throughout the development and construction process requires clear designation of implementation responsibility at the appropriate level of LBL organization. At LBL, the two units most directly responsible for physical planning and development activities are the Office of the Associate Laboratory Director for Planning and Development, and the Plant Engineering Department. The Associate Laboratory Director for Planning and Development is assigned overall responsibility.

Mitigation measure implementation is initiated by the LBL Office of Planning and Development in the site planning phase of a project. The responsibility for implementation shifts to the Plant Engineering Department in the latter design and construction phases of a development project.

In addition to sharing primary responsibility for mitigation measure implementation with Plant Engineering, Business Services and Environmental Health and Safety Division, the Office of Planning and Development is the administrative unit responsible for assuring and reporting compliance with the LRD^P SEIR mitigation measures.

E. PUBLIC AVAILABILITY

Mitigation Monitoring Plan information will be available for public review through the LBL Office of Assessment and Assurance.

F. PLANNING CHANGES

Changes to the Mitigation Monitoring Plan would be made in accordance with CEQA and permitted after review and approval by the LBL Associate Laboratory Director. Such changes could include reassignment of monitoring and reporting responsibilities and/or program redesign to make appropriate improvements. No changes will be permitted unless the mitigation and monitoring program continues to satisfy the requirements of AB 3180.

COMPLIANCE PROCEDURES

Reporting

Monitoring Measures

Project Standards

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

II. COMPLIANCE PROCEDURES

A. REPORTING

The existing planning, development, and inspection processes at LBL will be used as the basic procedures for mitigation monitoring and will also serve to provide documentation, since these processes and functions address LBL's documentation requirements in addition to the SEIR mitigation measures.

Documentation consists of establishing a record that will involve the following steps:

- The LBL Office of Assessment and Assurance will maintain access to mitigation monitoring supporting documentation.
- Responsible units will verify compliance either by completing a checklist or documenting compliance using their own internal procedures, as referenced in Section II-B.
- The LBL Office for Planning and Development will prepare CEQA recommendations for projects for the UC Office of the President and maintain documentation and tracking for subsequent CEQA determinations.

B. MONITORING MEASURES

In general, the mitigation measures found in this SEIR fall into four categories:

- **Planning measures** which require LBL to take certain actions or implement policies that are unrelated to a particular capital project. (This is shown in Table II-1.)
- **Hazardous Materials Measures** which relate to handling, use, disposal and reporting regarding hazardous materials. (This is shown in Table II-2.)

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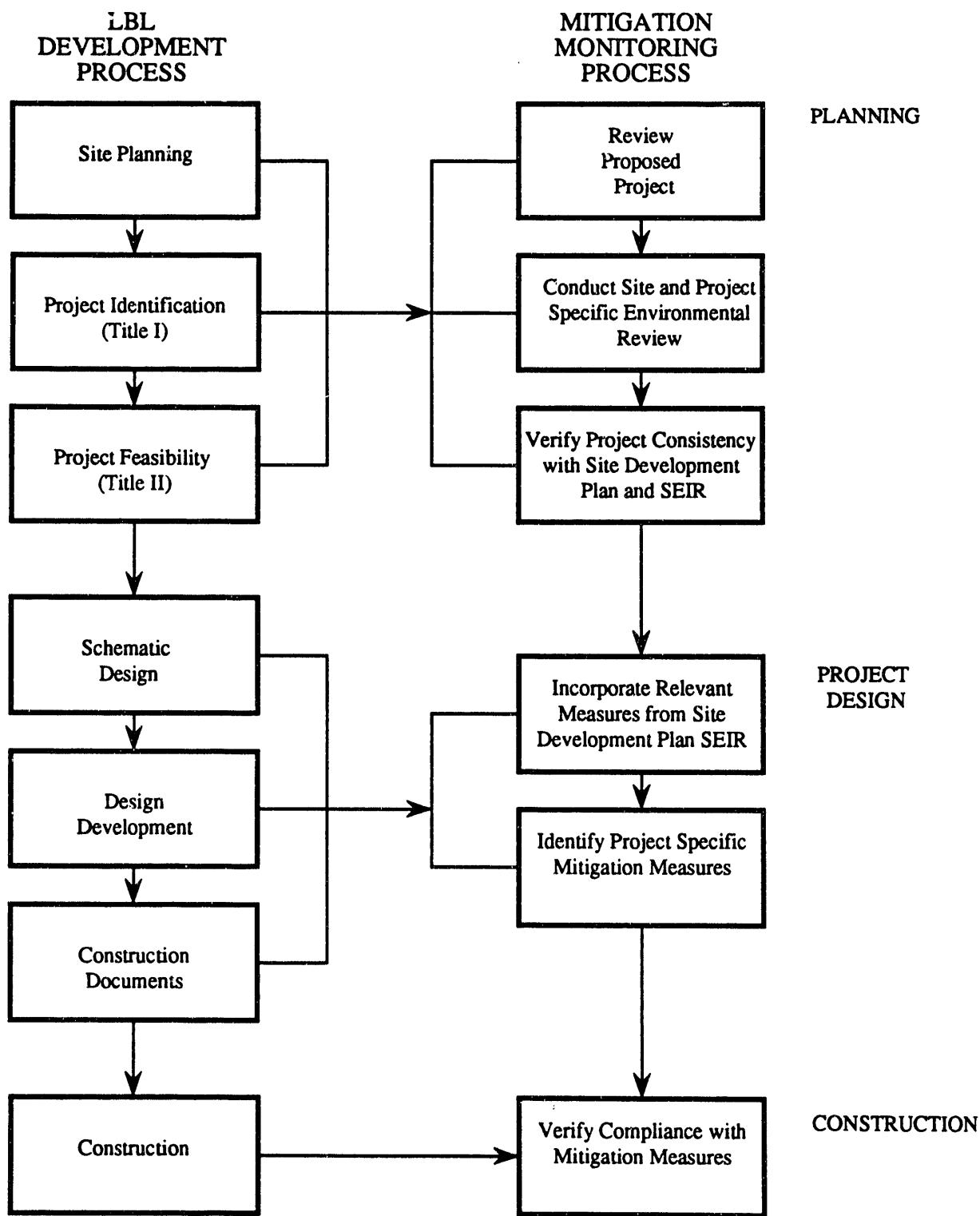
- **Project standards** which restrict the type, location and intensity of development or otherwise set constraints or standards for project development; for example determining building setbacks, providing landscaping, minimizing tree removal and assuring adequate drainage. (This is shown in Table II-3.)
- **Assistance measures** which pledge funding or other types of assistance to aid other agencies in lessening an environmental effect; for example the improvement of off-site road intersections. (This is shown in Table II-4.)

There are 39 mitigation measures in the SEIR. Of these, 13 are planning measures, seven are hazardous materials measures, 18 are project standards, and one assistance measure. Some mitigation measures have multiple sub-parts, for example one mitigation measure related to transportation has nine separate planning measures within the single mitigation measure.

The mitigation measures will be incorporated into the development process used by LBL. Exhibit II-1 on the following page describes the LBL development process in seven major components. The mitigation monitoring process will provide information at appropriate phases as a project proceeds through the development process, in parallel with the major phases of development. The initial assignment of responsibility is based on the phase of development in which the mitigation measure is most appropriately incorporated.

C. PROJECT STANDARDS

The SEIR specifies a number of mitigation measures that LBL will incorporate into project-specific environmental reviews for future development at LBL. Implementation of these mitigations will be accomplished through administrative controls over specific project planning, development, design, and construction. Monitoring of these measures will be documented by LBL personnel responsible for preparing and approving architectural and engineering contract documents.

Lawrence Berkeley Laboratory Mitigation Monitoring Plan**Exhibit II-1
DEVELOPMENT PROCESS AT LBL**

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

All mitigation measures related to specific projects will follow the process illustrated in Exhibit II-1, which identifies the process through which SEIR mitigation measures will be integrated into future projects.

For construction phase mitigation measures, LBL generally has an on-site project manager or inspector observing and verifying the course of the work. These project managers are familiar with a broad range of regulatory issues and will provide the on-site capabilities for much of the monitoring program. LBL project managers are responsible for ensuring appropriate correction of any problems that may arise during construction, including such problems as noisy equipment, dust, off-site sedimentation, etc. The problems are generally corrected through directions to the contractor. Monitoring these types of mitigation measures is assigned to the Plant Engineering Department -- the LBL unit with responsibility for construction activities.

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table II-1
PLANNING STANDARD MITIGATION MEASURES

Mitigation Measure Number	Summary of Mitigation Measure	Verification of Compliance	
		Organizational Unit	Supporting Documentation
BIOLOGICAL RESOURCES			
III-D-2c	LBL will minimize the removal of native trees and shrubs.	Plant Engineering	Title II Plans
III-D-2d	LBL will minimize disturbance to the site perimeter buffer zones.	Plant Engineering	Title II Plans
III-D-2e	LBL will minimize its activity and encroachment in Blackberry Canyon.	Planning and Development	Site Development Plan
III-D-2f	LBL will conduct periodic monitoring of disturbed areas, fill slopes, and other areas of exposed soil treated under the revegetation program and fix them as needed.	Plant Engineering	Annual Maintenance Plan
HISTORICAL AND ARCHAEOLOGICAL RESOURCES			
III-E-1a	LBL will make a photographic record of all structures demolished as part of future projects.	Plant Engineering	Project File/ Photo Archives
III-E-1b	LBL will evaluate the historical significance of specific pieces of LBL scientific equipment that may be replaced.	Archives and Records	Project File/ Photo Archives
III-E-1c	Prior to development of the original laboratory site, LBL will make an analysis of the historical significance of buildings on this site.	Plant Engineering	Project File/ Photo Archives
TRAFFIC, CIRCULATION AND PARKING			
III-I-1a	LBL discourages single occupant vehicle use and will encourage the use of other transportation options;	Business Services	Transportation Management Plan (TMP)

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Table II-1
PLANNING STANDARD MITIGATION MEASURES

Mitigation Measure Number	Summary of Mitigation Measure	Organizational Unit	Verification of Compliance Supporting Documentation
III-I-1a (continued)			
	LBL will establish transportation modal-split goals;	Business Services	Transportation Management Plan (TMP)
	LBL will assign a transportation planner;	Business Services	Transportation Management Plan (TMP)
	LBL will promote carpools;	Business Services	Transportation Management Plan (TMP)
	LBL will develop a vanpooling program;	Business Services	Transportation Management Plan (TMP)
	LBL will provide preferential carpool parking;	Business Services	Transportation Management Plan (TMP)
	LBL will permit staggered (flex-time) work hours;	Personnel Department	Regulations and Procedures Manual
	LBL will develop an annual TSM monitoring program;	Business Services	Transportation Management Plan (TMP)
	LBL will promote the LBL TSM programs;	Business Services	Transportation Management Plan (TMP)
	LBL will review its shuttle service and transit interface facilities;	Business Services	Transportation Management Plan (TMP)

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table II-1
PLANNING STANDARD MITIGATION MEASURES

Mitigation Measure Number		Verification of Compliance	
		Organizational Unit	Supporting Documentation
III-I-1a (continued)			
	LBL will review its bicycle routes and storage facilities.	Business Services	Transportation Management Plan (TMP)
III-I-1b	LBL will conduct bi-annual peak hour traffic counts in and around LBL.	Business Services	Transportation Management Plan (TMP)
III-I-1c	If the level of service at intersections along the Gayley Road corridor reaches "D", LBL will conduct a review.	Business Services	Transportation Management Plan (TMP)
III-I-1e	LBL will review details of the Gayley Road corridor improvements at the time the thresholds are reached.	Business Services	Transportation Management Plan (TMP)
III-I-2	LBL will continue to implement and monitor the implementation of its Transportation System Management Program.	Business Services	Transportation Management Plan (TMP)
NOISE			
III-K-1	LBL will compare projected noise levels with ambient noise levels and the Berkeley Noise Ordinance limits.	Plant Engineering	Title II Plans

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Table II-2
HAZARDOUS MATERIALS MEASURES

Mitigation Measure Number	Summary of Mitigation Measure	Organizational Unit	Verification of Compliance Supporting Documentation
HAZARDOUS MATERIALS			
IV-K-1	LBL will prepare an annual report to summarize environmental health and safety program activities.	EH&S Division	Annual Site Environmental Monitoring Report
IV-K-2a	Prior to shipping any hazardous materials, LBL will confirm that the facility is licensed to receive the type of waste.	EH&S Division	Purchase Order Contracts for Disposal Services
IV-K-2b	LBL will continue its waste minimization programs.	EH&S Division	Annual SB14 Report
IV-K-3	LBL will require hazardous waste haulers to provide evidence they are appropriately licensed.	EH&S Division	Purchase Order Contracts for Disposal Services
IV-K-5	LBL will post phone numbers to assist in proper handling procedures and emergency response information;	EH&S Division	LBL Telephone Directory Emergency Pages
	LBL will post "Emergency Response and Evacuation Plans" in all LBL buildings;	EH&S Division	Building Evaluation Plan Postings
	LBL will post all sinks in areas where hazardous materials are used;	EH&S Division	LBL Health and Safety Manual

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Table II-2
HAZARDOUS MATERIALS MEASURES

Mitigation Measure Number	Summary of Mitigation Measure	Verification of Compliance	
		Organizational Unit	Supporting Documentation
IV-K-5 (continued)			
	LBL will post dumpsters and central trash collection areas where hazardous materials are handled.	EH&S Division	LBL Health and Safety Manual
IV-K-6	LBL will update its emergency preparedness and response program on an annual basis.	EH&S Division	LBL Sitewide Emergency Plan
IV-K-7	LBL will continue to maintain copies of the results of its environmental and workplace monitoring programs.	EH&S Division	Annual Site Environmental Monitoring Report

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table II-3
PROJECT STANDARD MITIGATION MEASURES

Mitigation Measure Number	Summary of Mitigation Measure	Verification of Compliance	
		Organizational Unit	Supporting Documentation
GEOLOGY, SOILS AND SEISMICITY			
III-B-1	Geologic and soils studies will be undertaken.	Plant Engineering	Title II Design
III-B-2a	Excavation and earth moving will be designed for stability.	Plant Engineering	Title II Design
III-B-2b	Building foundations will be designed in accordance with geologic and soils engineering recommendations.	Plant Engineering	Title II Design
III-B-2c	Excavations will be shored as required by law.	Plant Engineering	Title II Design
III-B-2d	Disturbed areas will be revegetated.	Plant Engineering	Title II Design
HYDROLOGY AND WATER QUALITY			
III-C-2	Projects will be designed and constructed with adequate storm drainage.	Plant Engineering	Title II Design
BIOLOGICAL RESOURCES			
III-D-2a	Revegetation of disturbed areas will be included as part of all new projects.	Plant Engineering	Title II Design
III-D-2b	Invasion by opportunistic colonizer trees and shrubs will be controlled.	Plant Engineering	Title II Design
VISUAL QUALITY			
III-F-1a	Buildings will occupy as limited a footprint as feasible.	Plant Engineering	Title II Design

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Table II-3
PROJECT STANDARD MITIGATION MEASURES

Mitigation Measure Number	Summary of Mitigation Measure	Verification of Compliance	
		Organizational Unit	Supporting Documentation
III-F-1b	Buildings will be planned to blend with their surroundings.	Plant Engineering	Title II Design
III-F-2	Reflective exterior wall materials will not be used on new facilities.	Plant Engineering	Title II Design
LAND USE			
III-G-2	Buildings will follow the design guidelines in the LBL Long Range Development Plan.	Plant Engineering	Title II Design
AIR QUALITY			
III-J-1	Dirt surfaces exposed during construction would be wetted twice daily.	Plant Engineering	Title II Design
III-J-2	Building ventilation systems will be designed to minimize emissions of criteria air pollutants.	Plant Engineering	Title II Design
NOISE			
III-K-2	Noise-generating construction equipment will be located as far as possible from existing buildings.	Plant Engineering	Title II Design
UTILITIES			
III-M-1	Prior to the construction of any project which may add significant sewer load to the city sanitary sewer system, LBL will investigate the potential impact of the project on the city system.	Plant Engineering	Title II Design

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Table II-3
PROJECT STANDARD MITIGATION MEASURES

Mitigation Measure Number	Summary of Mitigation Measure	Verification of Compliance	
		Organizational Unit	Supporting Documentation
III-M-4	New rights-of-way for the 120 KV lines will be recommended to PG&E to minimize visual impact.	Plant Engineering	Title II Design
ENERGY			
III-N-1	Buildings will employ optimum energy strategies and efficiency features.	Plant Engineering	Title II Design

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Table II-4
ASSISTANCE MITIGATION MEASURES

Mitigation Measure Number	Summary of Mitigation Measure	Verification of Compliance	
		Organizational Unit	Supporting Documentation
TRAFFIC, CIRCULATION AND PARKING			
III-I-1d	LBL will pay for its fair share of allowable and necessary signalization improvements along Gayley Road.	Business Services	Transportation Management Plan (TMP)

SUMMARY OF ENVIRONMENTAL IMPACTS

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-B. GEOLOGY, SOILS AND SEISMICITY			
III-B-1	There could be significant adverse impacts on people or property due to continued operation and development of LBL facilities in areas susceptible to surface rupture. There may be potential adverse impact to people and property at the site caused by ground-shaking, landsliding, lurching, and differential compaction during a seismic event.	S	III-B-1 Geologic and soils studies will be undertaken during the design phase of each LBL building project. Recommendations contained in those studies would be followed to ensure that the effects of landsliding, lurching, and liquefaction potential will not represent a significant adverse impact during a seismic event.*
III-B-2	Soil erosion, sedimentation and landsliding caused by construction work may adversely affect the stability of LBL buildings placed on the site.	S	III-B-2a Excavation and earth moving will be designed for stability, and accomplished during the dry season when feasible. Drainage will be arranged to minimize silting, erosion, and landsliding. Upon completion, the land will be restored, covering exposed earth with planting.* III-B-2b Foundations for proposed structures will be designed in accordance with geologic and soils engineering recommendations to minimize the long-term possibilities of landslide.* III-B-2c Excavations will be shored as required by law to preclude minor short-term landslides during construction.*

S = Significant

LS = Less than Significant

SU = Significant Unavoidable Impact

* = Included in 1987 LRDP EIR

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Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
		III-B-2d Revegetation of disturbed areas, including slope stabilization sites, using native shrubs, trees and grasses will be included as part of all new projects.*	

S = Significant
 LS = Less than Significant

SU = Significant Unavoidable Impact
 * = Included in 1987 LRDP EIR

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-C. HYDROLOGY AND WATER QUALITY			
III-C-2 Continued University operation of LBL, including continued implementation of the 1987 LRDP, could produce increased surface and storm runoff.	S	III-C-2 Each individual project will continue to be designed and constructed with adequate storm drainage facilities to collect surface water from roofs, sidewalks, parking lots and other surfaces and deliver it into existing channels which have adequate capacity to handle the flow.*	LS

Less Than Significant Impacts For Which No Mitigation Measures Are Suggested

III-C-1 LBL is not located in a flood-plain area. Continued University operation of LBL, including continued implementation of the 1987 LRDP, is not expected to increase off-site flood hazard, erosion or sedimentation. The project is not expected to deplete groundwater resources, interfere with groundwater recharge, or degrade surface or groundwater quality substantially.

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Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-D. BIOLOGICAL RESOURCES			
III-D-2 Continued University operation of LBL, including continued implementation of the LRDP, will result in the loss of some vegetation, including potential loss of mature trees and areas with some habitat value for non-critical species.	S	III-D-2a Revegetation of disturbed areas, including slope stabilization sites, using native shrubs, trees and grasses will be included as part of all new projects.*	LS
		III-D-2b Invasion by opportunistic colonizer trees and shrubs will be controlled. A maintenance program for controlling the further establishment of eucalyptus, green wattle acacia, French broom, <i>Cotoneaster</i> , and other opportunistic colonizer shrubs and trees in disturbed areas on-site will be undertaken. Herbicides will not be used for this purpose.*	
		III-D-2c Removal of native trees and shrubs will be minimized. (To the greatest extent feasible, the removal of large coast live oak, California Bay, and Monterey Pine trees, will be avoided.)*	
		III-D-2d Disturbance to the site perimeter buffer zones will be minimized.*	
		III-D-2e LBL activity and encroachment in Blackberry Canyon will be minimized.*	

S = Significant

LS = Less than Significant

SU = Significant Unavoidable Impact

* = Included in 1987 LRDP EIR

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Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
		III-D-2f Periodic monitoring of disturbed areas, fill slopes, and other areas of exposed soil treated under the revegetation program will be conducted and fixed.*	

Less Than Significant Impacts For Which No Mitigation Measures Are Suggested

III-D-1 Continued University operation of LBL, including continued implementation of the 1987 LRDP, is not expected to restrict the number or reduce the range of any rare, endangered or threatened plant or animal species, or to cause any existing fish or wildlife populations to drop below self-sustaining levels.

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-E. HISTORICAL AND ARCHAEOLOGICAL RESOURCES			
III-E-1 Continued University operation of LBL, including continued implementation of the 1987 LRDP, while resulting in removal of substandard buildings, is not expected to adversely impact any significant prehistoric, archaeological or paleontological site, or any property of historic or cultural significance, other than the Laboratory itself.	LS	III-E-1a	A photographic record will be made of all structures demolished as part of future projects.*
		III-E-1b	An individual well-versed in the history of science in the twentieth century will evaluate the significance of specific pieces of equipment that may be replaced due to obsolescence or a change in the vector of research.*
		III-E-1c	Prior to the completion of a precise development plan for the original laboratory site portion of LBL, an analysis will be made of the historical significance of buildings on this site. An analysis has been completed of the historical significance of the 184-inch Cyclotron building.*

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LS = Less than Significant

SU = Significant Unavoidable Impact

* = Included in 1987 LRDP EIR

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-F. VISUAL QUALITY			
III-F-1 Continued implementation of the 1987 LRDP will result in a change in the visual quality of LBL and the surrounding environs.	S	<p>III-F-1a Buildings will occupy as limited a footprint as feasible. They will incorporate features that enhance flexibility and future versatility.*</p> <p>III-F-1b Buildings will be planned to blend with their surroundings and be appropriately landscaped. Planning objectives will be for new buildings to retain and enhance long distance view corridors and not to compromise views from existing buildings. New buildings will generally be of low rise construction.*</p>	LS
III-F-2 Some LBL projects may be visible because trees, which would have screened the building, have been removed and replacement landscaping will take some time to reach full height.	LS	III-F-2 Any new facilities will not use reflective exterior wall materials or reflective glass, to mitigate the potential impacts of light and glare.*	LS

S = Significant

LS = Less than Significant

SU = Significant Unavoidable Impact

* = Included in 1987 LRDP EIR

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
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III-G. LAND USE

III-G-2	Continued operation of LBL by the University, including continued implementation of the 1987 LRDP, would result in the conversion of a small amount of open space into urban- or suburban-scale uses.	S	III-G-2	Buildings proposed for development at LBL will follow the design guidelines contained in the LBL Long Range Development Plan.*	LS
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Less Than Significant Impacts For Which No Mitigation Measures Are Suggested

III-G-1 There are no LBL proposed developments in the site development plan which would impact directly on the privately owned multiple family or single family housing along the LBL western and northern boundaries.

III-G-3 Continued operation of LBL by the University, including continued implementation of the 1987 LRDP, would be consistent with the 1990 UC Berkeley Long Range Development Plan, and the General Plans of the City of Berkeley and the City of Oakland.

S = Significant
 LS = Less than Significant

SU = Significant Unavoidable Impact
 * = Included in 1987 LRDP EIR

Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
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III-H. POPULATION, EMPLOYMENT AND HOUSING**Less Than Significant Impacts For Which No Mitigation Measures Are Suggested**

III-H-1 Population growth associated with continuation of existing activities, including continued implementation of the 1987 LRDP, is not expected to have a significant adverse impact.

III-H-2 Population growth associated with continuation of existing activities, including renewal of the contract term could create an impact on the availability of both owned and rented housing.

S = Significant
 LS = Less than Significant

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Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-I. TRAFFIC, CIRCULATION AND PARKING			
III-I-1 Incremental increases in traffic are expected due to projected increases in the number of employees and visitors at LBL.	LS	III-I-1a	Discourage single occupant vehicle use and encourage the use of other transportation options. LBL will continue to implement its Transportation System Management Program. The specific features of this program include:
		Establishing transportation modal-split goals for LBL which will result in a reduction in the number and percentage of single-occupant automobiles being driven to and from LBL;*	
		Assigning a transportation planner to coordinate the design and implementation of TSM programs;*	
		Promoting carpools by creating a carpool matching program;*	
		Providing preferential carpool parking;*	
		Developing a vanpooling program through funding support of Berkeley TRIPS;*	
		Permitting staggered (flex-time) work hours;*	

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Lawrence Berkeley Laboratory Mitigation Monitoring Plan**Table III-1**
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
	Developing an annual monitoring program to evaluate the programs in relation to established goals and identify new elements which should be added to the program;*		Promoting the TSM programs by giving orientation briefings to new employees, providing information aids to be distributed to LBL employees, organizing an information center, and selling transit tickets on-site at LBL;*
	Reviewing LBL shuttle service and transit interface facilities; and*		Reviewing bicycle routes and storage facilities for improvements.*
III-I-1b		LBL will conduct bi-annual peak hour traffic counts in and around LBL. In particular, the bi-annual count will include the Gayley Road corridor between Hearst Avenue and Bancroft/Piedmont.*	

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Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-I-1c	If and at such time as the level of service at intersections along the Gayley Road corridor reaches "D", a review of necessary improvements will be conducted with UC Berkeley.*		
III-I-1d	LBL will pay for its fair share of allowable and necessary signalization improvements along the Gayley Road corridor proportional to LBL's share of increases in traffic.*		
III-I-1e	Details of the Gayley Road corridor improvements, including environmental assessment of the improvements, will be reviewed at the time the thresholds are reached.*		
III-I-2 The ratio of parking spaces to LBL employees will decrease during the LRDP implementation period.	S	III-I-2	LBL will continue to implement and monitor the implementation of its Transportation System Management Program.*
			LS

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Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-J. AIR QUALITY			
III-J-1 Construction of new facilities projected in the 1987 LRDP would generate short-term emissions of air pollutants.	S	III-J-1 Construction contract specifications would require that during construction exposed surfaces would be wetted twice daily or as needed to reduce dust emissions. In addition, contract specifications would require covering of excavated materials.	LS
III-J-2 The proposed project at LBL would generate long term emissions of criteria air pollutants.	S	III-J-2 LBL will design building ventilation systems to minimize emissions of criteria air pollutants following compliance with all applicable regulatory requirements (e.g., NSR). This mitigation measure would not reduce the impact to less than significant.	SU
III-J-3 The increases in toxic air contaminants (TACs) associated with the proposed project would result in an increased cancer risk of 0.6 in one million and increases in hazard and exposures indices of 0.0003 and 0.002, respectively.	LS	III-J-3a None required.	LS

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Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-J-4	The proposed project would result in an increase in emissions in radionuclides predicted to cause an increased cancer risk of 0.12 in a million for the maximally exposed individual (MEI).	LS	III-J-4 None required.
III-J-5	The proposed project may produce a total increase in both radionuclides and toxic air contaminants (TACs) that could cause an excess cancer risk of 0.7 in a million to the maximally exposed individual (MEI).	LS	III-J-5 None required.

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Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation		
III-K. NOISE					
III-K-1	Ambient noise levels from the University's continued operation of LBL will generate noise levels which could conflict with applicable noise ordinances and standards.	LS	III-K-1	Projected noise levels will be compared with ambient noise levels and the Berkeley Noise Ordinance limits, or other applicable regulations. Acoustical performance standards would be included in future construction contract documents.* LBL will continue to design, construct and operate buildings and building equipment taking into account measures to reduce the potential for excessive noise transmission.	LS
III-K-2	Construction activities resulting from continued implementation of the 1987 LRDP could create significant adverse noise impacts on-site.	S	III-K-2	Noise-generating construction equipment will be located as far as possible from existing buildings. If necessary, windows of laboratories or offices will be temporarily covered to reduce interior noise levels on-site.*	LS

Less Than Significant Impacts For Which No Mitigation Measures Are Suggested

III-K-3 Since construction periods are of a short term, approximately one to two years for site work and exterior construction, the overall off-site construction noise impacts are not expected to be significant.

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Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
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III-L. PUBLIC SERVICES**Less Than Significant Impacts For Which No Mitigation Measures Are Suggested**

III-L-1 The construction of additional facilities and any increased population, would not cause increased impacts on local police and fire protection services.

III-L-2 The construction of additional facilities and any increase in population according to the 1987 LRDP would not cause significant impacts on local school systems.

III-L-3 Development proposed under the 1987 LBL LRDP would increase demand for recreational services. This increase is not considered significant.

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Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-M. UTILITIES			
III-M-1 Projected development according to the 1987 LRDP may create demands with regard to existing waste water and sanitary sewer systems.	LS	III-M-1 Prior to the construction of any project which may add significant sewer load to the city sanitary sewer system, LBL will investigate the potential impact of the project on the city system. LBL will identify mitigation measures to accommodate the sewer load if the impact investigation indicates that the city system could not accommodate the additional sewage.* LBL will reimburse the City of Berkeley and/or EBMUD for its fair share of allowable and necessary sewer improvement capital costs which are needed to accommodate increased demand and mitigate sewer impacts resulting from implementation of the LBL LRDP.	LS
III-M-4 The development of the LBL East Canyon site as currently planned will require rerouting of the PG&E 120 KV service into LBL.	LS	III-M-4 New rights-of-way for the 120 KV lines will be recommended to PG&E to minimize visual impact. The recommended routing will be selected so as to obviate the need for future rerouting. A minimum of trees and/or existing planting will be removed during construction of the new 120 KV lines.*	LS

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Lawrence Berkeley Laboratory Mitigation Monitoring Plan

Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
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Less Than Significant Impacts For Which No Mitigation Measures Are Suggested

III-M-2 Development proposed under the 1987 LBL LRDP would increase the demand for domestic water. This demand is well within the capacity of the existing ties to EBMUD and the LBL water distribution system. This demand is not considered significant.

III-M-3 Development proposed under the 1987 LBL LRDP would increase the usage of natural gas. The projected usage is within the capacity of the existing PG&E and LBL systems, except for the main extensions required for new buildings. This increased usage is not considered significant.

III-M-5 Development proposed under the 1987 LBL LRDP would increase the usage of electrical power. PG&E has the capacity to supply this power. This increased usage is not considered significant.

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SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
III-N. ENERGY			
III-N-1 Increased energy demand from new facilities will occur in conjunction with continued implementation of the 1987 LRDP.	LS	III-N-1 Buildings will employ optimum energy strategies and efficiency features to include building envelope insulation, solar control, automated ventilation and climate control, and passive or active solar energy systems, where feasible.*	LS

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Table III-1
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
IV. HAZARDOUS MATERIALS			
IV-K-1 Continued UC operation of LBL, including proposed increases in laboratory and facility space, may result in impacts from the increased use of hazardous materials in research, facility construction, and facility maintenance activities.	S	IV-K-1 LBL will prepare an annual self-assessment summary report. The report will summarize environmental health and safety program activities, and identify any areas which LBL is not in compliance with laws and regulations governing hazardous materials, hazardous waste, hazardous materials transportation, regulated building components, worker safety, emergency response, and remediation activities.	LS
IV-K-2 Continued UC operation of LBL, including proposed increases in laboratory and facility space, is expected to result in the increased generation and discharge of hazardous wastes, including offsite disposal of hazardous, radioactive and medical wastes, from research, facility construction, and facility maintenance activities.	S	IV-K-2a Prior to shipping any hazardous materials to any hazardous waste treatment, storage or disposal facility, LBL will confirm that the facility is licensed to receive the type of waste LBL is proposing to ship to that facility.	LS
		IV-K-2b LBL will continue its waste minimization programs and strive to identify new and innovative methods to minimize hazardous waste generated by LBL activities.	

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SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
IV-K-3 Continued UC operation of LBL, including proposed increases in laboratory and facility space, will result in the increased transportation of hazardous materials and wastes.	LS	IV-K-3 LBL will require hazardous waste haulers to provide evidence that they are appropriately licensed to transport the type of wastes being shipped from LBL.	LS
IV-K-4 Continued UC operation of LBL, including proposed increases in laboratory and facility space, will result in the upgrading or removal of regulated building components.	LS	IV-K-4 None required, since upgrading or removing regulated building components will be done in conformance with requirements designed to protect public health and the environment and since the upgrading and removal operations will result ultimately in reductions in the likelihood of potential harm to human health or the environment from potential incidents relating to underground storage tanks, above ground storage tanks, asbestos-containing building materials, and electrical equipment containing polychlorinated biphenols.	LS

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SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures	Potential Significance with Mitigation
IV-K-5 Continued UC operation of LBL, including proposed increases in laboratory and facility space, will result in increased numbers of employees and thus increase the potential for exposures to hazardous or radioactive materials.	S	IV-K-5 In addition to implementation of the numerous employee communication and training requirements included in regulatory programs, LBL will undertake the following additional measures as ongoing reminders to workers of health and safety requirements: <ul style="list-style-type: none"> Posting, in areas where hazardous materials are handled, of phone numbers of LBL offices which can assist in proper handling procedures and emergency response information. Continuing to post "Emergency Response and Evacuation Plans" in all LBL buildings. Continuing to post all sinks in areas where hazardous materials are handled with signs reminding users that hazardous wastes cannot be poured down the drain. Continuing to post dumpsters and central trash collection areas where hazardous materials are handled with signs reminding users that hazardous wastes cannot be disposed of as trash. 	LS

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Lawrence Berkeley Laboratory Mitigation Monitoring Plan**Table III-1**
SUMMARY OF ENVIRONMENTAL IMPACTS

Impacts	Potential Significance without Mitigation	Mitigation Measures		Potential Significance with Mitigation
	IV-K-6	IV-K-6	IV-K-7	IV-K-7
IV-K-6 Continued UC operation of LBL, including proposed increases in laboratory and facility space, will result in a need to continue emergency preparedness and response programs to minimize impacts which may result from actual or potential release of hazardous materials in the workplace or the environment.	LS	LBL will update its emergency preparedness and response program on an annual basis, and will provide copies of this program to local emergency response agencies and to members of the public upon request.		LS
IV-K-7 Continued UC operation of LBL, including proposed increases in laboratory and facility space, may affect ongoing activities to characterize and remediate prior spills of hazardous materials and leaching of these materials into the soil and groundwater.	LS	In addition to implementing its site characterization and remediation program, LBL will continue to maintain copies of the results of its environmental and workplace monitoring programs. LBL will continue to make this information available for review at the request of employees or members of the public, as permitted by law.		LS

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September 1992

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