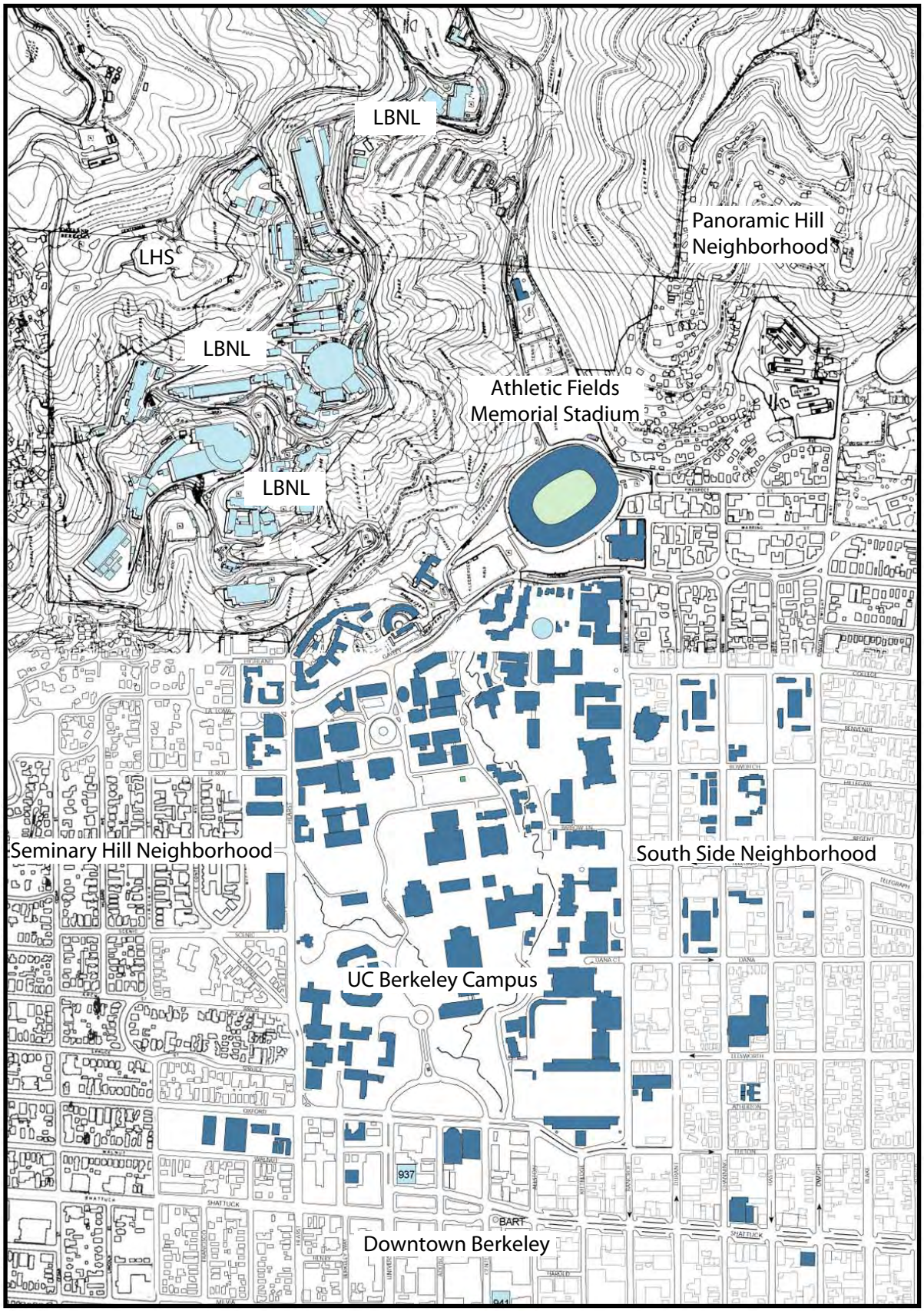

LHS -- Lawrence Hall of Science

Lawrence Berkeley National Laboratory

Figure 3: Land Uses
in LBNL Vicinity

October 28, 2003

Potential Effects

The following is a preliminary assessment of potential environmental impacts that may be analyzed in the LRDP EIR. This assessment will be used as part of the information considered in determining the scope of environmental issues to be evaluated in preparing the EIR.[1] The EIR will consider all areas below. Topic areas that are expected to be impacted by the proposed project will be fully analyzed. Topic areas not expected to be impacted will be addressed briefly or in depth as appropriate.

	Will be Analyzed in EIR	No Additional Analysis Required
1. AESTHETICS -- Would the project:		
a) Have a substantial adverse effect on a scenic vista?	■	☐
Project-related development on-site may be noticeable from numerous off-site viewpoints, including University Avenue in Berkeley, the Campanile on the UC Berkeley Campus, the Lawrence Hall of Science, and segments of Grizzly Peak Boulevard. Development would likely include the addition of new visual elements, such as buildings, and by the removal of natural or screening elements, like key screening trees. One likely measure of effect from viewpoints downhill would be whether such visual changes would substantially alter the existing visual character of the LBNL portion of the Berkeley hills, which are characterized by a mix of buildings surrounded by trees, foliage, and natural-appearing topography. A measure of effect from viewpoints uphill would be whether such visual changes would block or substantially detract from panoramic, long-range views of the San Francisco Bay and distant skyline. The LRDP likely would include LBNL aesthetic design guidelines to be incorporated into any development projects.		
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	■
No LBNL on-site resources are within or in the vicinity of a state scenic highway. Regional access to the LBNL hill site is provided by Interstate Highways 80 and 580, and State Routes 24 and 13. None of these are designated or presently eligible as scenic routes. Therefore, no impact would occur to a state scenic highway and additional analysis is not required.		
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	■	☐
LRDP-related on-site development would likely occur on both currently developed and undeveloped areas. Over the planning period, the project could introduce new buildings and structures to the site, remove existing buildings, alter the terrain and landscape, and remove and/or add key screening trees. It could change existing land uses and intensify development in some areas. Due to distance, elevation, and intervening terrain and vegetation, new development would not be expected to appear highly visible from most off-site viewpoints. One likely measure of effect from viewpoints downhill would be whether such visual changes would substantially alter the existing visual character of the LBNL portion of the Berkeley hills, which are characterized by a mix of buildings surrounded by trees, foliage, and natural-appearing topography. LRDP would be expected to include LBNL aesthetic design guidelines to be incorporated into any development projects.		

[1] Brief explanations are provided in shaded boxes. These explanations represent a best estimate based on the current preliminary understanding of the proposed LRDP and its likely effects.

	Will be Analyzed in EIR	No Additional Analysis Required
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	■	☐
With the potential inclusion of new buildings, intensification or change of land uses, and removal of screening trees, LRDP-related on-site development could create new sources of light and glare visible from off-site viewpoints. The LRDP would be expected to include LBNL aesthetic design guidelines to be incorporated into any development projects.		
2. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:		
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	■
No active agriculturally-used lands occur on the LBNL site.		
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	■
No active agriculturally-used lands occur on the LBNL site.		
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	■
No active agriculturally-used lands occur on the LBNL site.		
3. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:		
a) Conflict with or obstruct implementation of the applicable air quality plan?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
The LBNL site is located in the Bay Area Air Quality Management District (BAAQMD), an area that is currently designated a non-attainment zone for PM_{10} (particulate matter with a nominal diameter of 10 microns or less) and ozone levels. LRDP-related increases in LBNL staff, laboratory space, equipment, and construction activities would be likely to add incrementally to regional ambient air pollutant emissions, including short- and long-term emissions of criteria air pollutants from mobile and stationary sources, including PM_{10} and ozone. This would not advance the goals of the relevant air quality implementation plan for PM_{10} and ozone, although LRDP-related emissions increases would likely be very minor on a regional level. Standard emission control and reduction measures, such as dust control for excavation, use of alternative fuel vehicles on-site, free shuttle service to public transportation, filtration on exhaust systems, etc., are likely to be identified in the LRDP where appropriate.		
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	■	☐
The LRDP EIR will examine the potential for vehicle and stationary source emissions under the project to violate state and federal air quality standards or contribute to existing air quality violations. The potential for mobile source, construction and operational emissions associated with 2004 LRDP implementation to influence air quality would be examined. The analysis will include examination of criteria pollutants, toxic air contaminants, and airborne radionuclides that might potentially result from project implementation.		
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	■	☐
The BAAQMD is designated as a non-attainment area for ozone and PM_{10} standards, so any increased LBNL contribution of these emissions to the region would likely constitute an adverse cumulative impact. The LRDP EIR will examine the cumulative projection of total emissions through 2025 — including those of the proposed project, the UC Berkeley 2020 LRDP, and the City of Berkeley General Plan — to determine whether increases in non-attainment criteria pollutants would be cumulatively considerable.		
d) Expose sensitive receptors to substantial pollutant concentrations?	■	☐
The LRDP EIR will evaluate whether construction and development activities under the 2004 LRDP would expose sensitive receptors, including nearby schools, to substantial pollutant concentrations.		
e) Create objectionable odors affecting a substantial number of people?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
Ongoing activities from the proposed project are not expected to create nuisance or objectionable odors affecting substantial numbers of people, particularly people off-site. Actions that might create objectionable odors include asphalt-laying during construction activities. Such odors would be temporary and likely noticeable to a small number of off-site people, and then only under limited meteorological conditions. The prevailing wind directions measured on site typically do not blow in the direction of nearby populated areas during normal LBNL operating hours. Nevertheless, the LRDP EIR will examine the potential for objectionable odors resulting from implementation of the 2004 LRDP.		
f) Expose people to substantial levels of toxic air contaminants (TACs), such that the exposure could cause an incremental human cancer risk greater than 10 in one million or exceed a hazard index of one for the maximally exposed individual?	■	☐
Development under the 2004 LRDP could add research facilities or expand existing campus uses that are potential sources of toxic air contaminants (TACs). The 2004 LRDP EIR will include estimates for emissions from development under the 2004 LRDP. If the 2004 LRDP would result in an excess cancer risk greater than 10 in one million or exceed a hazard index of one, a significant impact would be assumed to result and be addressed in the EIR. Calculated cancer risks assume a continuous exposure time of 70 years, which provides a conservative analysis because most exposures are of much shorter duration. The hazard index assumes a one-hour exposure to maximum hourly emissions from all LBNL site sources, which provides a conservative analysis because maximum hourly emissions from all sources are not expected to simultaneously occur within one hour.		
4. BIOLOGICAL RESOURCES – Would the project:		
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	■	☐
In 2000, the US Fish and Wildlife Service (USFWS) designated a substantial portion of the eastern LBNL site as critical habitat for the "threatened" Alameda whipsnake. There have never been reported sitings of the Alameda whipsnake species at LBNL, and most of the habitat so designated by the USFWS had been earlier reported as not "colonizable" in a sitewide survey prepared by a leading whipsnake expert for LBNL (McGinnis, 1996). In 2003, a Federal district court vacated the 2000 USFWS critical habitat listing for the Alameda whipsnake. Nevertheless, LBNL continues to operate with a heightened degree of sensitivity towards potential whipsnake presence on all undeveloped areas of its site. Similarly, LBNL recognizes that habitat for or members of various special status birds, bats, reptiles, amphibians, and other species of concern may exist in the area and must be accounted for in Berkeley Lab's planning. In addition, Cooper's hawk and Red-tailed hawk, both special status species, have been observed at LBNL. The 2004 LRDP EIR will examine the potential for development under the LRDP to adversely affect candidate, sensitive, or special status species or their habitat.		

	Will be Analyzed in EIR	No Additional Analysis Required
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	■	☐
LBNL contains several drainages and a wide range of both native and non-native plant species on-site. The 2004 LRDP EIR will include a sitewide survey to identify any riparian or sensitive natural communities on the LBNL hill site. Any such areas will be considered in the analysis of LRDP implementation.		
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	■	☐
The LRDP EIR will include a sitewide survey to identify any jurisdictional wetlands as defined under Section 404 of the Clean Water Act. Although jurisdictional waters of the United States exist on the Berkeley Lab site, no known federally protected wetlands are thought to exist on-site.		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	■	☐
The LBNL site is not known to serve as a migratory corridor or nursery site to any native resident or migratory species. Site surveys will be conducted to confirm this.		
e) Conflict with any local applicable policies protecting biological resources?	■	☐
The LRDP EIR will evaluate the consistency of the 2004 LRDP with federal and state plans, policies, laws and regulations, such as the Migratory Bird Treaty Act, that are relevant to potentially occurring biological resources. Local ordinances do not apply to Lab projects, because the University is a state agency exempted from local controls in accordance with the state constitution.		
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?	■	☐
The LBNL site is not known to be subject to or designated for any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan. The LRDP EIR will investigate and confirm this.		
5. CULTURAL RESOURCES -- Would the project:		

	Will be Analyzed in EIR	No Additional Analysis Required
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	■	☐
The LRDP likely would encourage reuse or redevelopment of functionally obsolete buildings when opportunities for new development arise. Several LBNL buildings are or are approaching 50 years of age and have been associated with LBNL's scientific work. A historic survey is being conducted to assist in determining which structures at Berkeley Lab may be historical resources as defined in CEQA Section 15064.5, and how many among them might be eligible for the National Register of Historic Places pursuant to the National Historic Preservation Act. The results of this survey, as available, will be included in the EIR analysis.		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	■	☐
There are no known archaeological resources on the LBNL site. No archaeological artifacts have been discovered during Lab development and excavation, and archaeological field surveys of the site have uncovered no evidence of prehistoric inhabitation or the presence of archaeological resources. Nevertheless, potential for discovery of unexpected archaeological resources during project development and excavation under the 2004 LRDP program will be examined in the LRDP EIR.		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■
The LBNL site does not contain any known unique paleontological resources or unique geologic features. During the course of development at Berkeley Lab, extensive excavation for buildings and infrastructure have not revealed the presence of unique paleontological or geologic resources. No impact would occur, and no additional analysis is required.		
d) Disturb any human remains, including those interred outside of formal cemeteries?	■	☐
See response to 5b, above. There is no known evidence of prehistoric habitation of the LBNL site, nor any indication that the site has been used for burial purposes either in the recent or distant past. The LRDP EIR will identify actions to be taken to mitigate any impacts that might occur in the unlikely event that human remains were disturbed by implementation of the 2004 LRDP.		
6. GEOLOGY AND SOILS -- Would the project:		
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:		

	Will be Analyzed in EIR	No Additional Analysis Required
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	■	☐
The LBNL site is near the Hayward Fault, and some portions of Berkeley Lab fall within the Alquist-Priolo Earthquake Fault Zone. LRDP-related increases in on-site personnel and building space would create additional exposure to earthquake risk. LBNL observes all applicable earthquake and safety codes in its construction and has evaluated and rated all structures in accordance with the University Seismic Safety Policy. The LRDP EIR shall examine the relationships between LBNL future development and known faults, and will analyze potential risk due to seismic shaking, ground failure, and landslides.		
ii) Strong seismic ground shaking?	■	☐
See response to 6a-i, above. The LRDP EIR will analyze the potential increased seismic shaking-related risk from increased population and built space on the LBNL site due to implementation of the 2004 LRDP.		
iii) Seismic-related ground failure, including liquefaction?	■	☐
See response to 6a-i, above. The LRDP EIR will analyze the potential increased ground failure-related risk from increased population and built space on the LBNL site due to implementation of the 2004 LRDP.		
iv) Landslides?	■	☐
The LBNL site includes steep slopes and retained areas. LRDP-related increases in on-site personnel and building space would create additional exposure to landslide risk, especially during seismic events. See response to 6a-I, above. The LRDP EIR will analyze the potential increased landslide-related risk from increased population and built space on the LBNL site due to implementation of the 2004 LRDP.		
b) Result in substantial soil erosion or the loss of topsoil?	■	☐
Erosion could occur during construction and excavation projects on the LBNL site. LBNL undertakes appropriate construction management practices to minimize the extent of such effects. The LRDP EIR will examine the potential loss of topsoil and potential for substantial soil erosion under the 2004 LRDP development program.		

	Will be Analyzed in EIR	No Additional Analysis Required
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	■	☐
Implementation of the LRDP EIR is not likely to include development on areas of unstable or unsuitable soils. Future development under the LRDP would be required to meet all building standards and codes for structural integrity and personnel safety. As described in 6.a., above, the potential for development under the 2004 LRDP to occur on lands that expose people or properties to risk due to landslide, liquefaction, or other soils-related condition will be examined in the LRDP EIR;		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?	■	☐
As described above, the potential for 2004 LRDP development to expose people or property to increased risk due to landslide, liquefaction, or other soils-related condition such as expansive soils, will be examined in the LRDP EIR.		
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	■	☐
The LBNL site is served by sanitary sewer systems; thus, this topic does not need to be further analyzed in the LRDP EIR.		
7. HAZARDS AND HAZARDOUS MATERIALS – Would the project:		
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
The presence and use of hazardous materials, and the presence of hazardous waste, provides potential exposure risks to workers, the public, and the environment. These risks during routine transport, use, and disposal are reduced to less than significant levels by a wide variety of measures undertaken by the Laboratory, including compliance with applicable laws and regulations governing hazardous materials and hazardous waste management activities, and the use of Berkeley Lab's Hazardous Waste Handling Facility meeting all applicable regulatory requirements. Hazardous waste is sent to authorized treatment and disposal facilities using licensed transporters. The Laboratory also has an extensive hazardous waste minimization program. Like many older facilities at which hazardous materials have been handled, the Laboratory site includes some areas of contaminated soil and groundwater. The Laboratory undertakes detection, investigation, and remediation activities in accordance with regulatory requirements. In the judgment of regulatory agencies, past releases of hazardous materials at the Laboratory have not created significant hazards to the public or environment. LRDP-related development would not be expected to create any significant new hazardous materials issues at LBNL. Implementation of the 2004 LRDP could result in the development of additional research laboratories and other research facilities that would use, store, and require the transportation of hazardous materials and disposal of hazardous waste. Also, solvents, adhesives, cements, paints, cleaning agents, degreasers, and fuels in construction and other vehicles are among the types of existing hazardous materials used at Berkeley Lab that could increase if the 2004 LRDP is implemented. The LRDP EIR will characterize on-site hazardous materials use, transport and disposal, will identify projected increases in these activities that could occur under the LRDP program, and will evaluate potential impacts associated with these increased activities.		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	■	☐
Upset and accident conditions could expose workers, the public, and the environment to risks from releases of hazardous materials and hazardous waste. The risk of releases currently is reduced to less than significant levels by such measures as complying with Building and Fire Code provisions governing the design of earthquake- and fire-resistant structures, implementing a fuel reduction/vegetation management program that reduces fire hazards from surrounding vegetation, and maintaining necessary emergency preparedness and response capabilities. The LRDP EIR will characterize hazardous waste handling and hazardous materials use in research, operations, maintenance, and construction, along with their transport, handling and disposal. It will identify projected increases in these activities that could occur under the 2004 LRDP and will evaluate associated potential impacts, including potential risks from upset or accident conditions.		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
Although it is adjacent to the UC Berkeley campus, LBNL is not located within one-quarter mile of an existing or proposed school per CEQA Guideline 15186. The Lawrence Hall of Science, which is not a school but an educational institution (science museum) serving many school-aged visitors, is approximately 350 feet from Berkeley Lab's northern property line. In addition, LBNL-used space on the UC Berkeley campus may include some laboratory use of hazardous materials within one-quarter mile of schools or day care centers. While LBNL does handle certain hazardous materials in its capacity as a scientific laboratory, these materials and their handling protocols are subject to extensive regulations and procedures and oversight; they are also on-going activities that are described and approved under the 1987 LRDP and LRDP EIR. Beyond allowing for growth of normal LBNL operations and activities, the proposed LRDP is not anticipated to result in major new sources of on-site hazardous materials or handling. Nevertheless, the EIR shall include analysis of any project-related hazards that could affect the Lawrence Hall of Science and other neighbors.		
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	■	☐
Five LBNL locations are listed on the current CAL/EPA Hazardous Waste and Substances Sites List, also known as the "Cortese list." These sites may be found at: http://www.lbl.gov/Community/env-rev-docs.html . All are listed due to past leaks from underground fuel storage tanks. Corrective action was implemented by the Laboratory, and the local regulatory agency responsible for oversight (City of Berkeley, Toxics Management Division) has approved No Further Action status for four out of the five sites. Interim corrective measures are in place at the remaining site. The sites do not create a significant hazard to the public or the environment. Contamination from the sites has not gone beyond Laboratory boundaries, and has not created any known adverse impacts to on- or off-site personnel, wildlife, or vegetation. (The presence of a site on the hazardous materials sites list does not necessarily indicate a significant hazard. Once a location has been listed, it remains on the list even after all contamination has been removed. This policy enables parties to discover whether tanks or contamination exist or formerly existed on properties where ownership may be transferred.) These sites will be briefly identified and discussed in the LRDP EIR.		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	■
The LBNL site is neither within an airport land use plan nor within the vicinity of an airport.		
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	■
The LBNL site is not within the vicinity of a private airstrip.		
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
The LRDP likely would require that all operations and development conform or be compatible with all elements of LBNL's site emergency response and evacuation plans.		
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	■	☐
The LRDP EIR will analyze the LRDP-related risks involved with wildland fires. LRDP-related increases in on-site personnel and development would result in increased exposure of persons to potential wildland fire conditions. LBNL is on sloped terrain and adjacent to both urban areas and wildlands and is subject to dry, warm conditions and occasional high winds during the fire season. LBNL has considerable on-site fire suppression capabilities and its on-site fire department, which is maintained under contract with Alameda County, maintains mutual assistance arrangements with neighboring fire districts, and has implemented a fuel reduction/vegetation management program that has greatly reduced the risk of wildland fire in the vicinity of the Lab. All buildings are code compliant and are protected by sprinkler systems or other appropriate measures. LBNL maintains two 200,000-gallon emergency water tanks on site (with a third 200,000-gallon tank under construction) to ensure adequate emergency water supply and pressure, and construction of a third will soon be underway. Any LRDP-related new structures would be constructed under similar conditions and to applicable fire and safety codes.		
8. HYDROLOGY AND WATER QUALITY – Would the project:		
a) Violate any water quality standards or waste discharge requirements?	■	☐
Development under the 2004 LRDP could result in an increase of impermeable surface area, which could produce additional volume and pollutant loading of urban runoff. The Regional Water Quality Control Board has expressed water quality concerns for Strawberry Creek and its receiving waters (the San Francisco Bay) based on releases of sediment, bacteria, nutrients, metals and hydrocarbons. Additionally, increased water usage that could result from implementation of the 2004 LRDP could cause increases in wastewater discharges that could exceed waste discharge requirements for water quality or quantity. The LRDP EIR will evaluate impacts to water quality from runoff and characterize current waste discharge volumes of the LBNL and wastewater treatment capacity at the East Bay Municipal Utility District's (EBMUD's) wastewater treatment plant, and evaluate whether the implementation of the 2004 LRDP would result in a violation of applicable standards or waste discharge requirements.		
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
LBNL does not use on-site groundwater nor does its steep terrain allow it to be an important site for groundwater recharge. Except for monitoring wells, there are no groundwater wells on-site or nearby that support existing or planned land uses. Groundwater is not a local supply source for Berkeley. Therefore, this topic will be briefly discussed in the LRDP EIR.		
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	■	☐
Because Berkeley Lab is situated in an area of hills and canyons with multiple drainages, drainage control and maintenance has historically been an essential component of the Lab's existence. The 2004 LRDP likely would encourage siting of future projects in areas not affecting the major drainage patterns of the site. In cases where such siting is unavoidable, proper engineering would be employed to protect against erosion and siltation. Development under the 2004 LRDP could increase impervious surfaces and alter drainage patterns of building sites, which could result in increased runoff. The LRDP EIR will characterize site-wide drainage patterns and will evaluate the potential for flooding as a result of increased runoff under the proposed LRDP program		
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	■	☐
LBNL's original stormwater drainage system was not initially designed for 100-year storm conditions, although subsequent improvements and expansion have been designed to that standard. Under extremely heavy rainfall, LBNL may contribute to off-site overloading downstream along Strawberry Creek. An LRDP-related increase of impervious surface area could add incrementally to this condition. Such an increase in impervious surface could increase the volume of surface water runoff and increase levels of urban contaminants in stormwater. The LRDP EIR will evaluate if the existing/planned drainage system could accommodate increased runoff generated as a result of development under the 2004 LRDP. The LRDP EIR will also evaluate potential impacts associated with stormwater pollution under the 2004 LRDP.		
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	■	☐
See above. Such an increase in impervious surface could increase the volume of surface water. The LRDP EIR will evaluate if the existing/planned drainage system could accommodate increased runoff generated as a result of development under the 2004 LRDP. The LRDP EIR will also evaluate potential impacts associated with stormwater pollution under the 2004 LRDP. The proposed LRDP likely would encourage new on-site development for existing developed areas such that the need for new impervious surfaces would be minimized. Nonetheless, an increase of new impervious surface is expected to result from the proposed LRDP.		

	Will be Analyzed in EIR	No Additional Analysis Required
f) Otherwise substantially degrade water quality?	■	☐
Various ways in which the 2004 LRDP could potentially affect water quality are discussed above. An additional mode of potential surface water quality degradation from LBNL is airborne deposition of radionuclides. Currently, Berkeley Lab emits very small quantities of various radionuclides resulting from laboratory use of these chemicals. Because they are airborne, these radionuclides can disperse and become deposited upon surface waters in the area. Extensive monitoring of LBNL radionuclides emission to date indicates that such deposition on surface waters is generally of such low levels as to be undetectable; this has resulted in a negligible effect to area water quality. Expansion of research activities under the LRDP could result in some increase of radionuclide use and resulting emissions. These potential emissions too are expected to have negligible effect on area water quality.		
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	■
The LBNL site is not within a 100-year flood hazard area nor would the proposed LRDP be directly involved in residential siting.		
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	■
See response to 8g, above.		
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	■	☐
See response to 8g, above.		
j) Inundation by seiche, tsunami, or mudflow?	■	☐
Neither seiche, tsunami, or mudflow are considered realistic risks to the LBNL site due to its elevation and proximity to surrounding geographic features.		
9. LAND USE AND PLANNING - Would the project:		
a) Physically divide an established community?	■	☐
The LRDP would not expand or substantially change the LBNL site's borders. Surrounding communities would not be subject to physical division by potential LRDP projects.		

	Will be Analyzed in EIR	No Additional Analysis Required
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the LRDP, general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	■	☐
The LBNL site is not subject to local or agency land use planning besides the University of California's approved LBNL LRDP.		
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	■	☐
The LRDP would not affect any applicable habitat conservation plan or natural community conservation plans.		
10. MINERAL RESOURCES -- Would the project:		
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	■
The LBNL site does not include known mineral resources of regional value.		
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	■
The LBNL site does not include any locally-important mineral resource recovery sites.		
11. NOISE – Would the project result in:		
a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?	■	☐
Increases in traffic, mechanical equipment associated with new structures, and increases in LBNL Hill site population could result in potential long-term increases in noise levels. Additionally, operation of construction equipment could result in substantial short-term noise increases that might include short-term, temporary exceedances of noise ordinances in nearby areas. The LRDP EIR will analyze the magnitude of these noise increases, and will evaluate whether the increased noise levels associated with implementation of the 2004 LRDP would exceed applicable standards.		

	Will be Analyzed in EIR	No Additional Analysis Required
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	■	☐
Because construction at LBNL generally does not include pile driving, LBNL activities do not generate excessive groundborne vibration or groundborne noise levels, particularly to off-site receptors. The LRDP EIR will address vibration and groundborne noise issues, as appropriate.		
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	■	☐
See above. Increases in on-site population and general operations under the 2004 LRDP could result in ambient noise-level increases. The LRDP EIR will evaluate whether the increased permanent noise levels would exceed applicable standards.		
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	■	☐
See above. Operation of construction or other equipment could result in substantial temporary or short-term noise increases. The LRDP EIR will use current noise modeling methods to predict the magnitude of these temporary noise increases, and will evaluate whether the increased temporary noise levels associated with implementation of the 2004 LRDP would exceed applicable standards.		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	■
The LBNL site is neither within an airport land use plan nor within two miles of a public airport.		
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	■
The LBNL site is not within the vicinity of a private airstrip.		
12. POPULATION AND HOUSING -- Would the project:		
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
By raising the LBNL population ceiling by approximately 750, the proposed LRDP could increase the demand for housing near the Lab area. This demand would be dispersed over 20 years and, based on current commute patterns of Lab employees, over a broad area of the East Bay and beyond. While this would be an insignificant increase in demand relative to the overall number of houses in the region, cumulative growth over 20 years could cause an aggregate increase in demand versus a dwindling supply of available residences. Hence, the LRDP could contribute slightly to a cumulative housing impact. This will be analyzed in the LRDP EIR.		
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	■
The LBNL site does not include housing or long-term residential uses, and no housing would be displaced.		
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	■
The LBNL site does not include housing or long-term residential uses, and no housing would be displaced.		
13. PUBLIC SERVICES		
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:		
Fire protection?	■	☐
2004 LRDP-related increases in development and on-site personnel would increase the potential need for emergency fire services. LBNL's on-site fire response equipment, water storage or distribution, and fire department may be expanded as needed to address any increases in demand. The LRPD EIR will analyze impacts to both on- and off-site fire protection providers.		
Police protection?	■	☐
LRDP-related increases in development and on-site personnel would increase the potential need for police protection services. LBNL's on-site security forces likely would be expanded as needed to accommodate any increases in demand. The LRPD EIR will analyze impacts to both on- and off-site security and police protection providers.		
Schools?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
LRDP-related increases in LBNL personnel could draw more families with school-aged children to the LBNL commute area. This would be a relatively small increase in demand for schools when dispersed over 20 years and a relatively wide geographic area. The LRPD EIR will analyze impacts to both on- and off-site security and police protection providers.		
Parks?	■	☐
LRDP-related increases in LBNL personnel could draw more families into the area and thus increase demand for parks and recreational facilities. The LRPD EIR will analyze impacts to parks and recreational facilities, as appropriate.		
Other public facilities?	■	☐
See response to 13a "Parks," above.		
14. RECREATION --		
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	■	☐
2004 LRDP-related growth in on-site personnel might slightly increase demand for parks and recreational facilities throughout the region, but this increase would be imperceptible and would not be anticipated to substantially contribute to physical deterioration of facilities. The LRDP EIR will address this issue as appropriate.		
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	■
New or expanded recreational facilities are not expected to be a result, either direct or indirect, of the proposed project. The LRDP EIR will address this issue as appropriate.		
15. TRANSPORTATION/TRAFFIC -- Would the project:		
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
Implementation of the proposed 2004 LRDP would increase the LBNL population and the number of on-site parking spaces, which could result in increased vehicular traffic on local streets and the adjacent regional highway system. The LRDP EIR will analyze the impact of additional LRDP-related and cumulative traffic on the local street networks, including intersection capacity, and the regional highway network, including the impact on the capacity of Congestion Management Program designated roadways and freeway ramps and adjacent segments.		
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	■	☐
The EIR will analyze the impact of additional 2004 LRDP-related and cumulative traffic on the local street networks, including intersection capacity, the regional highway network, and including roads and highways designated by the Alameda County Congestion Management Agency.		
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	■	☐
Implementation of the 2004 LRDP would not alter existing air traffic patterns.		
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? Create unsafe conditions for pedestrians or bicycles?	■	☐
The 2004 LRDP is a general land use plan intended to guide the pattern of campus development and does not articulate specific projects or structures. The LRDP EIR will evaluate the potential for future changes to the campus circulation system or development of incompatible uses to increase hazards to traffic, pedestrians or bicyclists. It is expected that any design of new roads under the proposed LRDP would feature safety and compatibility with expected uses. All appropriate design guidelines, regulations and safety plans would be followed.		
e) Result in inadequate emergency access?	■	☐
See response to 15d, above. The LRDP EIR will analyze impacts to emergency access and egress resulting from implementation of the 2004 LRDP.		
f) Result in inadequate parking capacity?	■	☐
The 2004 LRDP will include parking policies and projections to be carried out under project implementation. The LRDP EIR will evaluate the adequacy of existing and proposed parking at Berkeley Lab. Where parking demand may not be met, measures will be identified to encourage or enhance use of alternative means or transportation, including car and van-pooling, and public transportation.		

	Will be Analyzed in EIR	No Additional Analysis Required
g) Conflict with applicable policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	■	☐
See above. It is expected that the proposed LRDP would continue LBNL's policies of encouraging and accommodating alternative transportation. The proposed 2004 LRDP will describe alternative transportation modes and include policies to promote and expand their use; the LRDP EIR will analyze whether the implementation of the 2004 LRDP would conflict with applicable LRDP policies supporting alternative transportation.		
16. UTILITIES AND SERVICE SYSTEMS – Would the project:		
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	■	☐
The East Bay Municipal Utility District operates a wastewater treatment plant that serves the Berkeley area. The 2004 LRDP EIR will characterize the capacity of the EBMUD plant and analyze the impact of projected increases due to development under the 2004 LRDP.		
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	■	☐
With the exception of some process water treatment, water and wastewater treatment is conducted off-site by water and wastewater service providers. Growth under the 2004 LRDP could increase the quantity of wastewater discharged to wastewater treatment facilities. The LRDP EIR will evaluate the increased demand on wastewater treatment and conveyance facilities under the LRDP, and evaluate potential impacts associated with any new or expanded facilities, if any would be required to meet this demand.		
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	■	☐
Development under the 2004 LRDP could increase impervious surfaces, which could increase the volume of stormwater drainage. The LRDP EIR will characterize sitewide drainage, will evaluate the increased demand for stormwater drainage facilities under the 2004 LRDP, and will evaluate potential impacts associated with any new or altered drainage facilities, if any would be required to meet this demand.		
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
Implementation of the proposed 2004 LRDP would increase the amount of LBNL building space and population, which could result in an increase in water usage. The LRDP EIR will evaluate whether possible water demand increases would exceed available or planned entitlements or capacity; the environmental impacts of new, expanded, or altered facilities, if any are required to meet the increased demand, would also be evaluated in the EIR.		
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	■	☐
See above. The LRDP EIR will evaluate whether projected water demand increases associated with increased population would exceed available or planned entitlements or capacity. The LRDP EIR will also examine the environmental impacts of new, expanded, or altered facilities, if any are required to meet this increased demand.		
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	■	☐
LRDP-related on-site construction and personnel increases would be encouraged within existing developed areas, which may entail demolition of obsolete structures. This increased waste stream—from both increased operations and construction/demolition—would be partially offset by LBNL's aggressive approach to integrated recycling and reuse and overall solid waste stream reduction. Implementation of the proposed 2004 LRDP could result in an increase in LBNL's solid waste generation, including debris from construction activities. The LRDP EIR will evaluate whether existing landfill capacity is sufficient to accommodate growth under the 2004 LRDP.		
g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?	■	☐
The LRDP EIR will evaluate the impact of implementation of the 2004 LRDP on Berkeley Lab compliance with applicable statutes and regulations related to solid waste.		
17. MANDATORY FINDINGS OF SIGNIFICANCE --		
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	■	☐

	Will be Analyzed in EIR	No Additional Analysis Required
As indicated above, implementation of the 2004 LRDP has the potential to result in significant impacts that could degrade the quality of the environment. The LRDP EIR will evaluate the potential for the 2004 LRDP to result in significant impacts that could degrade the quality of the environment, reduce habitat for a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	■	☐
UC Berkeley is preparing a new LRDP to accommodate a projected enrollment increase. The City of Berkeley has updated its general plan and anticipates new growth and development. Those programs, among other programs and projects, and the proposed growth under a new 2004 LRDP could contribute to a range of cumulative impacts in the area. The LRDP EIR will evaluate whether impacts associated with growth under the 2004 LRDP, in combination with past, current, and reasonably foreseeable future projects, have the potential to be cumulatively considerable.		
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	■	☐
As discussed in the checklist sections above, the proposed 2004 LRDP will have the potential to result in significant impacts. The LRDP EIR will evaluate if these impacts have the potential to result in substantial adverse effects on human beings, either directly or indirectly.		

18. Fish and Game Determination

Based on the information above, there is no evidence that the Project has a potential for a change that would adversely affect wildlife resources or the habitat upon which the wildlife depends. The presumption of adverse effect set forth in 14 CCR 753.5 (d) has been rebutted by substantial evidence.

☐ Yes (Certificate of Fee Exemption)

■ No (Pay fee)

Ernest Orlando Lawrence
Berkeley National Laboratory

One Cyclotron Road, MS 90K
Berkeley, California 94720

October 31, 2003

State of California
Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814

ERRATA SHEET

For:

REVISED NOTICE OF PREPARATION
DRAFT ENVIRONMENTAL IMPACT REPORT

Project Title:	LBNL 2004 Long Range Development Plan
Project Location:	Lawrence Berkeley National Laboratory
County:	Alameda County, California
SCH#:	2000102046

On October 28, 2003, Lawrence Berkeley National Laboratory (LBNL) submitted to the State Clearinghouse a revised Notice of Preparation (NOP) for the above project. The NOP includes two numerical errors that overstate elements of the projected growth of LBNL under the proposed project. The following replacement text is provided to correct those errors or to otherwise clarify the text (text to be changed is underlined):

1. On Revised NOP page 7, the text currently reads:

This forecasted population would represent an increase of approximately 30% over the current LBNL population and approximately 25% over the 1987 LRDP population projection of 4,750.

This text is hereby amended to read:

This forecasted population would represent an increase of approximately 28% over the current LBNL population and approximately 16% over the 1987 LRDP population projection of 4,750.

2. On Revised NOP page 8, the text currently reads:

Implementation of the 2004 LRDP would increase the Lab's main Hill site total building area to 2,980,000 gsf.

This text is hereby amended to read:

Implementation of the 2004 LRDP would increase the Lab's main Hill site total building area to approximately 2,560,000 gsf.

LBNL appreciates your interest in this project and welcomes your comments on the NOP by November 26, 2003 to:

Jeff Philliber
Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 90K
Berkeley, CA 94720

Or by e-mail to: LRDP-EIR@lbl.gov

Sincerely,

Laura Chen, Chief
LBNL Facilities Planning

Responses to Notice of Preparation and
Transcript of November 17, 2003, Scoping Meeting

DEPARTMENT OF TRANSPORTATION
111 GRAND AVENUE
P. O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-5505
FAX (510) 286-5513
TTY (800) 735-2929

Flex your power!
Be energy efficient!

December 1, 2003

ALA013063
ALA-013-12.24
SCH2000102046

Mr. Jeff Philliber
Lawrence Berkeley National Laboratory
1 Cyclotron, MS 90K
Berkeley, CA 94720

Dear Mr. Philliber:

2004 LONG RANGE DEVELOPMENT PLAN – NOTICE OF PREPARATION

Thank you for including the California Department of Transportation (Department) in the early stages of the environmental review process for the 2004 Long Range Development Plan. The following comments are based on the Notice of Preparation.

Traffic Analysis
Please include the information detailed below in the Traffic Study to ensure that project-related impacts to State roadway facilities are thoroughly assessed. We encourage the University to coordinate preparation of the study with our office, and we would appreciate the opportunity to review the scope of work. The Department's *"Guide for the Preparation of Traffic Impact Studies"* should be reviewed prior to initiating any traffic analysis for the project; it is available at the following website:
http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf

The Traffic Study should include:

1. Site plan clearly showing project access in relation to nearby state roadways. Ingress and egress for all project components should be clearly identified.

2. Project-related trip generation, distribution, and assignment. The assumptions and methodologies used to develop this information should be detailed in the study, and should be supported with appropriate documentation.

3. Average Daily Traffic, AM and PM peak hour volumes and levels of service (LOS) on all significantly affected roadways, including crossroads and controlled intersections for existing, existing plus project, cumulative and cumulative plus project scenarios. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future, that would affect study area roadways and

intersections. *The analysis should clearly identify the project's contribution to area traffic and degradation to existing and cumulative levels of service. Lastly, the Department's LOS threshold, which is the transition between LOS C and D, and is explained in detail in the Guide for Traffic Studies, should be applied to all state facilities.*

4. Schematic illustration of traffic conditions including the project site and study area roadways, trip distribution percentages and volumes as well as intersection geometrics, i.e., lane configurations, for the scenarios described above.

5. The project site building potential as identified in the General Plan. The project's consistency with both the Circulation Element of the General Plan and the Alameda County Congestion Management Agency's Congestion Management Plan should be evaluated.

6. *Mitigation should be identified for any roadway mainline section or intersection with insufficient capacity to maintain an acceptable LOS with the addition of project-related and/or cumulative traffic.* The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should also be fully discussed for all proposed mitigation measures.

7. Special attention should be given to the following trip-reducing measures:
   - Coordinating with AC Transit and BART to increase transit/rail use by expanding routes and emphasizing express service to regional rail stations, and by providing bus shelters with seating at any future bus pullouts,
   - Providing transit information to all future project employees, and
   - Encouraging bicycle- and pedestrian-friendly design.

While the 2000 Highway Capacity Manual (HCM) may not be the preferred level of service methodology, it should be used for analyzing impacts to state facilities, particularly where previous analysis employing alternative methodologies has identified impacts. The residual level of service, assuming mitigation has been implemented, should also be analyzed with HCM 2000.

Please forward a copy of the 2004 Long Range Development Plan, along with the Traffic Study and Technical Appendices, the environmental document and staff report to the address below as soon as they are available.

Patricia Maurice, Associate Transportation Planner
Office of Transit and Community Planning, Mail Station 10D
California DOT, District 4
111 Grand Avenue
Oakland, CA 94612-3717

Please feel free to call or email Patricia Maurice of my staff at (510) 622-1644 or patricia_maurice@dot.ca.gov with any questions regarding this letter.

Sincerely,

Timothy C. Sable

TIMOTHY C. SABLE
District Branch Chief
IGR/CEQA

c: Mr. Scott Morgan, State Clearinghouse

Office of the City Manager

November 26, 2003

Jeff Philliber
Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 90K
Berkeley, CA 94720

Re: Revised Notice of Preparation of Draft Environmental Impact Report:
LBNL 2004 Long Range Development Plan

Dear Mr. Philliber:

This letter is the City of Berkeley's response to the Berkeley Lab's Revised Notice of Preparation ("NOP"), referenced above.

The City of Berkeley appreciates this opportunity to identify issues it believes should be analyzed in the Long Range Development Plan ("LRDP") environmental impact report ("EIR"). It submits these comments in the hope that they will help the Berkeley Lab design and carry out an environmental review process under the California Environmental Quality Act (CEQA) that identifies all relevant significant impacts, identifies and considers the full range of mitigation measures and a reasonable range of appropriate alternatives, and ensures that all mitigations are implemented and carefully monitored over the life of the LRDP.

The following comments on the Notice of Preparation are submitted in that spirit.

As we see it, the first step in the process is for the City to provide a full statement of its concerns and the issues it believes must be addressed in the LRDP EIR. We would be happy to meet with Berkeley Lab staff (and/or consultants) to elaborate on these comments or provide additional information, to the extent it is available. The next step would be for the City and the Berkeley Lab to agree (if possible) on specific alternatives and measures to be included in the draft EIR before it is released for review and comment. As the Berkeley Lab is aware, once a draft EIR is released for public review, it is much more difficult, both legally and practically, to add significant analyses to it, because of the risk that such analyses will trigger recirculation. We have therefore included in this letter proposed alternatives and mitigation measures we believe should be included in the draft EIR, and invite the Berkeley Lab to discuss these with City staff. In proposing mitigation measures, we have been careful to limit ourselves to measures the City would actually be likely to undertake; for instance, we have not suggested significantly widening

existing roads serving the Laboratory and its adjoining neighborhoods. Thus, this letter represents the City's formal statement of its willingness to work closely with the Berkeley Lab, through the environmental review process or otherwise, to devise an implementation plan and schedule for each proposed mitigation measure involving the City.

With respect to mitigation of impacts, we urge the Berkeley Lab to consider an approach the City recently used with Alta Bates Summit Medical Center. We recently recommended that UC Berkeley also employ this approach when formulating measures to mitigate the impacts of the proposed 2020 LRDP for the campus. Instead of devising specific actions for reducing predicted impacts, this alternative method requires the adoption of performance standards that the project sponsor commits to achieving over the long term. Both approaches require the EIR to analyze the likelihood and severity of specific impacts. But instead of relying on specific mitigation measures of uncertain feasibility and efficacy, the City's approach would require the Berkeley Lab to (1) state clearly the level of impacts it expects to result from the LRDP, (2) commit to ongoing monitoring, and (3) employ whatever mitigation measures are necessary at the time the acceptable impact level is exceeded, to reduce the impact to the level specified in the EIR. The benefits of this approach are that it does not rely on (necessarily inaccurate) predictions about impacts and mitigations 15 or 20 years hence. The City recognizes that this approach may not be appropriate for all types of impacts, but it is appropriate for operational impacts such as traffic, parking, noise, sewage collection, as well as measurable impacts on environmental conditions such as air and water quality.

Finally, we believe that the adequacy of the EIR will depend on the use of valid information about existing conditions and trends in the City and the affected area. In particular, the Berkeley Lab will need to obtain a significant amount of information concerning permitted and projected land uses (other than Berkeley Lab projects), infrastructure, and numerous other matters, from the City. Because of the range and complexity of the information required, the information gathering process could become burdensome for the Berkeley Lab. Accordingly, to facilitate this process and ensure that the information provided is valid, I have assigned Grace Maguire[1] to be the single point of contact for the Berkeley Lab for all information needs related to preparation of the EIR.

General Comments

We are disappointed to find that the NOP fails to explain why the LBNL is preparing a separate LRDP. An information sheet titled Berkeley Lab Long Range Development Plan (November 2003) states that the University of California, "not its Berkeley campus," manages the Lab under contract with the U.S. Department of Energy. This material describes the Lab and UC Berkeley as "neighbors" both residing on land owned by the Regents of the University of California. As the State agency governing both the Lab and the Berkeley campus, it is, however, the Board of Regents, not the UC Berkeley Campus or the Berkeley Lab, that is responsible for adopting both Long Range Development Plans.

[1] Ms. Maguire can be reached at gmaguire@ci.berkeley.ca.us or 981- 7008.

Moreover, given that the Berkeley Lab is a U.S. Department of Energy Facility, it is puzzling that the NOP makes no mention of any applicable requirements of the National Environmental Policy Act (42 U.S.C. Sec. 4321 et. seq.). CEQA provides for coordinated review when a project is subject to both Federal and State environmental review requirements. The NOP should, at a minimum, describe the circumstances under which projects being carried out under the Lab's LRDP will be subject to review under NEPA.

Please provide an opportunity for additional comment on a more detailed Project Description prior to release of the DEIR**.** The lack of detail in the description of the Long Range Development Plan makes it extremely difficult to make recommendations regarding the scope of CEQA analysis. The Project Description provided in the NOP (pp. 6-7) consists of three brief paragraphs including ten bullet points that supposedly set forth the LRDP's primary objectives. Except for the objective regarding relocation of off-site and UCB research activities to the main Hill site, the project description and objectives are neither quantified nor location specific. The NOP is similarly vague about the physical characteristics of future development. The document does not even identify the locations of the three major areas that define development intensity. (NOP, pp. 8-9.) Yet the locations and boundaries of these areas is key to analyzing most of the environmental impacts of the LRDP.

Please provide more detailed information when the LRDP alternatives are more developed, and offer an opportunity for additional comment before release of the draft EIR. Also, please explain the sequence and timing of major project milestones. The NOP does not make clear when an LRDP Project Description with enough detail to allow analysis of environmental impacts will be made public.

The EIR should establish a standard methodology and terminology for measuring the additional population resulting from Berkeley Lab projects. It appears from the NOP that the Berkeley Lab intends to count actual persons traveling to and from the site for purposes of traffic impacts. This is a good approach, which should be followed consistently.

A valid methodology and consistent terminology is especially critical in this EIR, because the LRDP does not propose specific construction projects, but overall population and square footage caps. Accordingly, the program analysis in the EIR will rely largely on a generic analysis of the impacts of numbers of people or square feet of building, rather than a specific number of people in specific buildings. Yet environmental documents on future projects will tier off this EIR. (NOP, p. 11.) Thus for the program analysis of the EIR to be meaningful, it must be commensurable with future project-specific analyses. For this reason the EIR must establish consistent methodology and terminology that will be used throughout the LRDP period.

According to the Notice of Preparation, the LRDP will guide future development of the Berkeley Lab. (NOP, pp. 3, 6-7.) The NOP also states that the LRDP will not be an implementation plan and will not constitute a commitment to any specific development projects, construction schedules, or funding priorities. To what extent will agencies and the public be able to rely on

the LRDP as an indication of the type, intensity, and location of LBNL future growth and development? The EIR must describe how the LRDP will be used. For instance, will it be a general guideline from which the Berkeley Lab may vary more or less at will, or will it be more comparable to binding regulations? Presumably, the correct answer is somewhere in between. How closely the Berkeley Lab will comply with the LRDP will also significantly affect the degree to which agencies and the public can rely on the EIR as a predictive document.[2]

The Berkeley Lab states that it is exempt from local land use plans and regulations. Although this may be true, it does not necessarily exempt the Berkeley Lab from analyzing its conformance or lack thereof with local policies under CEQA. Given the potential impacts the Berkeley Lab's LRDP may have on the City's ability to implement its General Plan and other relevant local land use policies, it is essential that the Berkeley Lab consider these impacts in its deliberations on the LRDP, regardless of whether it is subject to local land use plans and regulations. Local plans and regulations are in place for the health, safety and welfare of the community and for its orderly and rational development. They reflect the community's articulation of its perception of the general welfare. Moreover, Berkeley's General Plan and land use regulations will determine the type and intensity of development that surrounds the Lab. In order to adequately assess the impacts of the LRDP it is essential to understand the setting within which the LRDP will be carried out. For these reasons the Berkeley Lab's development plans must be analyzed in terms of the City's plans in order to accomplish the basic purposes of CEQA. To neglect this analysis would be to neglect significant environmental issues that are appropriately addressed in a program-level EIR.[3]

Finally, we urge the Berkeley Lab to allow 60 days for public review of the draft EIR, and to release the final EIR well before the Regents are scheduled to act on the LRDP. In the past, final EIRs on a number of projects have been released to the public and interested agencies only a very few days before the Regents were scheduled to (and did) act. While we acknowledge that CEQA does not require any particular period for public review of final EIRs, it seems unnecessary and contrary to the spirit of informed self-government to schedule the release of the final EIR in a manner that effectively denies citizens and other agencies the opportunity to communicate their concerns. This is especially so when the key issues relate to proposed mitigation programs.

Our specific section-by-section comments follow.

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[2] Related to this, the project objectives in the EIR should be meaningful and correspond with the policies and goals of the LRDP. This will help other agencies and the public evaluate the Berkeley Lab's compliance with the LRDP and the LRDP EIR over time. The ability to do so is particularly important given the LRDP's reliance on population and square footage caps.

[3] Moreover, if development under the LRDP will not conform to the City's land use regulations, the Berkeley Lab's reliance on the City's General Plan EIR is suspect, since that EIR assumes development consistent with the General Plan.

Project Description

The project objectives (NOP, pp. 6-7) are so general that they do not relate in any discernable way to the LRDP. Thus, to the reviewer, the proposed increases in average daily population (ADP) and gross square feet (GSF) appear entirely arbitrary and without justification. In order to allow meaningful review (by the Regents as well as the public) the EIR must clearly relate the project objectives to the proposed increases in ADP and GSF. The DEIR needs to provide some indication of the factors that drive these projections. Why, for example, does LBNL anticipate that the "adjusted daily population" at the Hill site will grow from 4,300 to 5,500, an increase of approximately 28 percent over the current population and approximately 16 percent over the population projections in the 1987 LRDP? Is this figure related to projected increases in UC enrollment, population growth in the Bay area, or anticipated increases in Federal government research activities?

From an environmental standpoint the even more important question that the EIR must answer is why the Board of Regents should authorize development of up to 800,000 gross square feet of new development in one of the most difficult-to-develop areas of Berkeley given the associated unavoidable environmental impacts. Among the most significant of these effects will be the effect of exposing up to 1,200 more individuals to the safety hazards presented by a steep and inaccessible site that is particularly susceptible to wildland fires and significant seismic hazards due to its steep slopes, geological conditions, and location within 300 feet of the Hayward Fault.

Population Growth and Space Needs Projections

The EIR needs to explain how and why the identified project objectives translate into more space per employees/guests, in one of the steepest and most inaccessible parts of Berkeley. There is nothing in the NOP that indicates that the Berkeley Lab is currently overcrowded. The current ratio of 409 square feet per person seems remarkably generous especially in light of a statement in the recent Building 49 DEIR that the LBNL target goal is 135 net square feet per person. (Building 49 Project DEIR, p. III-5).

According to Table 1 (NOP, p. 8), the ratio of on-hill built space (GSF) to ADP is expected to increase to 465 by 2025, again derived from the same table. Thus while ADP is projected to increase by 28 percent, on-hill space is projected to increase by 45 percent, and the ratio between the two increases 14 percent.

The discussion of growth and space needs projections is also confusing because the NOP appears to use some key terminology inconsistently. On page 4, the NOP states that the Berkeley Lab occupies approximately 400,000 GSF off of the Hill site, including 100,000 GSF on UC-owned land on the U.C. Berkeley campus and 295,000 gsf of commercial/industrial lease space elsewhere in Berkeley and at other locations. On page 6, however, the NOP states that the 100,000 gsf of "off-hill" space is "non-UC-owned land". Table 1 (NOP. p. 8) also refers to

100,000 gsf of existing "Off-Hill space at UCB" but specifically excludes "off-site lease space, which will change as needs and/or market conditions allow."
It is essential that the EIR use consistent terminology when describing existing and projected conditions and alternatives.

The EIR should include a clear definition of how "average daily population" is calculated and information regarding a potential maximum daily population that can be expected and how often such a maximum may be achieved over the course of a year. The EIR should describe how the ADP is divided among various categories of workers and visitors, including researchers, administration, visiting scholars, etc. As discussed further below, the ADP should identify any workers who are likely to overlap with campus researchers and visitors.

The NOP (p. 8) states that although the Berkeley Lab does not expect to increase space at the U.C. Berkeley campus, the mix of uses in that space may change. The EIR should discuss the relative impacts (population, traffic, parking, etc.) of different mixes of uses. Moreover, the EIR needs to include specific information describing the nature and location of off-site (i.e. space that is not on the UC Campus) because of the potential effects of such uses on public facilities and services provided by the City of Berkeley. The NOP indicates that the Lab currently occupies about 295,000 square feet of commercial/industrial lease space in Berkeley, Oakland, Walnut Creek, and Washington, D.C. (NOP, p. 4-5) The EIR should discuss the likely amount and location of "off-site lease space" (NOP, p. 8), and the number of employees associated with that space. While the amount of such space may well fluctuate over time, the EIR must still give at least a reasonable worst-case estimate of the amount of space needed and the impacts associated with its use. In any event, the EIR should discuss the likely location of such space.

We note that the 1987 LRDP includes specific information regarding a number of off-site activities including warehousing and receiving support functions occupying 61,000 gsf and 28,000 gsf of space in Emeryville and Berkeley, respectively, and LBL's Printing Plant, which was relocated to 4500 gsf of space in an industrial park in West Berkeley in 1979 as a near-term solution to a space shortage. The 1987 LRDP also described facilities at UCB's Richmond Field Station (RFS) being used for the Earth Science Division's research programs in waste isolation and the Applied Science Division's indoor environment program. The EIR for the 2004 LRDP should update and augment this information as needed.

The 1987 LRDP also states that the Laboratory provides research facilities for more than 200 UC Berkeley faculty and approximately 600 graduate students who work in facilities including the Light Source, Bevalac, SuperHILAC, 88-Inch Cyclotron, and National Center for Electron Microscopy. If these figures are still accurate, these faculty and students represent close to 20 percent of the 4,300 average daily population identified in the NOP (Table 1). What proportion of the projected ADP do you expect will be UC faculty and students? The EIR should discuss this relationship under Cumulative Impacts.

Land Use

The CEQA Guidelines require the NOP to "provide the responsible agencies with sufficient information describing the project and the potential environmental effects to enable the Responsible Agencies to make a meaningful response." (14 Cal. Code Regs. 15082, (a) (1).) This information must include the location of the project. At a minimum, the NOP should have identified the location and boundaries of the three "areas" mentioned on pages 8 and 9.

The proposed Land Use Plan with its three Land Use categories is apparently central to the proposed LRDP, but the nature and intended use of this Plan is not at all clear. There is no map showing the location of the Land Use Categories and the total acreage in each category (even if approximate at this stage) is not stated. This is a major inadequacy of the NOP that makes it very difficult to respond with relevant comment.

In particular, more information is needed to understand the description of the Facilities Development Area (NOP page 8). The NOP indicates the "Final building locations and massing would not be dictated by the land use plan but would be the result of a comprehensive planning process." If the land use plan does not include objectives, policies, and standards that dictate the nature and location of development, what is its purpose? More importantly, what is the process by which these decisions will be made? What is the comprehensive planning process that the NOP says will identify all the final building locations and massing within the Facilities Development Area? What would the scope of this "comprehensive planning process" include? Based on this brief description, it appears that the intent is to plan and evaluate future development incrementally. This piecemeal approach seems contrary to the intent of preparing a Long Range Development and to CEQA's intent and requirements and would make it impossible to adequately assess the potential impacts of future development at this sensitive site.

As described, the Land Use Plan does not seem to address the relationship between LBNL operations and the neighboring lands. Because of the site's location on the edge of Berkeley's developed area, conveyance of people and material to and from the site is a primary concern of the City of Berkeley. This subject should be thoroughly covered within the scope of the LRDP and the EIR.

We also note that approximately 66 acres of Regents'-owned land formerly managed by UC Berkeley for vegetation and fire management purposes have been added to LBNL's management area (NOP, p. 9). Does the UC Berkeley LRDP use the same definitions for its land use designations? If not, what potentially significant environmental impacts might be associated with this transfer? Who is responsible for authorizing such transfers? Such actions raise additional questions about the appropriateness of the decision to separately prepare and assess the environmental impacts of the LRDPs for the Berkeley Lab and the UC Berkeley campus.

Proposed Major Planning Policies

As explained above, because the NOP fails to explain how and why the identified project objectives translate into specific development objectives, especially in light of the site's physical characteristics, the relationship between the Lab's mission, the population and space needs, and

the proposed major planning policies is completely unclear. Underlying all of the proposed major policies is the unstated and possibly unsupportable premise that there should be more development on the main Hill site. Because this premise appears to be the basic policy driving the LRDP, we are puzzled by its omission from the statement of major planning policies.

If the LRDP is formulated to implement a policy that provides for continued development of the Hill site regardless of the unavoidable significant environmental impacts, the Board of Regents will have to adopt a statement of overriding considerations. Such a decision would, however, require the Board of Regents to find that there is no feasible alternative to continued development of the Hill site. We find nothing in the NOP to support such a conclusion.

Under the sub-title Environmental Character, the NOP (p. 9) identifies a draft policy "to integrate natural and man-made environments." Integrate means "to join into a whole or unite." This may be interpreted as making the man-made environment more like the natural, and the natural environments more like the man-made. This is very different from the more typical goal, to strive for compatible relationships between natural and man-made environments, respecting the unique values and character of each. The meaning of the NOP in using the word "integrate" is confusing.

In addition to previously mentioned concerns regarding the basis for the population and space needs identified above, we have questions regarding some of the other draft policies for Growth and Development. What is the meaning of the policy "Balance approach to new development?" What is to be balanced? More information is also needed regarding "Promote opportunities for third-party development." This statement suggests that LBNL has a strategic plan, parallel to the UC Academic Strategic Plan, that foresees a significant role for third-party developers. If the LRDP is "informed" by other LBNL guiding documents, please reference those documents. Please clarify what "Third Party Development" means in this context.

Construction Program

The NOP (p. 11) indicates the EIR will analyze construction as an on-going activity based upon expected annual averages. The City appreciates the intention to address the combined impacts of ongoing construction under the LRDP. However, if the effects of simultaneous construction projects result in greater-than-average impacts, the EIR must address how these impacts will be mitigated over and above the mitigation needed for an "average" year.

Alternatives

The NOP lists and provides a very brief description of five "likely" alternatives stating that the final list of alternatives will be developed in conjunction with the environmental analyses. Without a clearly written statement of objectives, however, it will be impossible to select or evaluate a range of reasonable alternatives that could feasibly accomplish most of the basic objectives of the project while avoiding or substantially reducing one or more of its significant effects.

The NOP fails to disclose the University's preliminary thinking about which impacts are likely to be the most severe. In an inexplicable departure from the format of most Environmental Initial Studies, the Initial Study for the LBNL LRDP only identifies which potential effects will be analyzed in the EIR. It fails to indicate which are the most likely to be amenable to avoidance or mitigation by alternatives. Under the section regarding Mandatory Findings of Significance, the NOP does acknowledge that implementation of the 2004 LRDP has the potential to result in sufficiently significant impacts on the environment to warrant the mandatory determination. The Initial Study provides few clues, however, regarding the specific project details or specific impacts that lead to this conclusion.

The NOP's brief description of alternatives does not explain the thinking behind the choice of alternatives. Given the very general description of project objectives, it is impossible for a reviewer to determine whether the range of alternatives is reasonable. More importantly, it is questionable how LBNL can formulate alternatives without explaining the Laboratory's approach to evaluating the feasibility of alternatives (i.e., why some are considered reasonable enough to be included in the EIR and why others are apparently not). We raise this important issue because, as we have noted above, it is quite difficult to supplement an EIR's analysis of alternatives in any meaningful way once the draft EIR is released for public comment.

We appreciate the inclusion of a Reduced or No New On-site Parking alternative but question the rationale for a Reduced On-Site Population Growth alternative as described. CEQA requires an EIR to describe a range of alternatives that would feasibly attain most of the basic objectives of the project but avoid or substantially lessen any of its significant effects. (CEQA Guidelines, Section 15126.6) Given that many of the project's potentially significant impacts are associated with the physical characteristics of the site, it is unclear how this alternative would avoid or substantially lessen the project's significant effects. Moreover, even though we question the basis for the population growth projections set forth in the NOP, the rationale for an alternative that increases building space up to 800,000 gsf without any attendant increase in population is at best questionable.

Finally, we note that the NOP for the UC LRDP EIR proposes an alternative called "Increased Research in Hill Campus." The UC NOP briefly describes this alternative as "Growth in enrollment and research as estimated, but with a greater percentage of future research growth accommodated in the Hill Campus than assumed in the 2020 LRDP." Given that the description of possible alternatives in the UC NOP is similarly unspecific, it is impossible to ascertain whether this alternative is at all relevant to the LBNL's long-range plans.

Initial Study

As a threshold matter, the "initial study" form used in the NOP appears inconsistent with State requirements and obscures more than it discloses. CEQA Guidelines Section 15063 makes clear that the purpose of an initial study is "to determine if the project may have a significant effect on

the environment" and, if an EIR is required, to assist the preparation of the EIR by "[f]ocusing the EIR on the effects determined to be significant. The Guidelines specifically require an initial study to include "an identification of environmental effects" and "discussion of ways to mitigate the significant effects identified, if any". (Section 15063(d))

The NOP for the LBNL LRDP employs a form that fails to specify which environmental impacts are potentially significant and includes no information regarding ways to mitigate such impacts. We can infer that the Berkeley Lab believes that the impacts listed under the "No Additional Analysis Required" column have no potential to be significant. However the "Will Be Analyzed in EIR" column includes impacts that obviously may be significant (e.g., transportation/traffic) as well as impacts that the narrative suggests are trivial (e.g., some public services, recreation).[4] This does not provide the interested public with enough information to submit complete comments with respect to the scope of the EIR or to suggest appropriate mitigation measures.

The following sections of this letter address specific topic areas in the "initial study".

Aesthetics

The NOP identifies a few of the locations from which project-related development "may be noticeable". The EIR needs to consider the effect of proposed development on the specific view corridors identified in the City's General Plan and associated documents.

The Initial Study states that due to distance, elevation, intervening terrain and vegetation, new development would not be expected to be highly visible from most off-site viewpoints. The LBNL site is very visible from many parts of Berkeley, and especially from the local freeways, due to its location high on the Berkeley hills. Many of the existing buildings are highly visible. It is hard to imagine that new buildings will not also be highly visible. The EIR should thoroughly analyze the impact that up to 800,000 square feet of new development could have on the existing visual character of the site, its visual quality and its surroundings.

The Initial Study states that the LRDP would "likely" include aesthetic design guidelines to be incorporated into any development projects. If such guidelines are intended to mitigate potentially significant effects on scenic vistas and the visual character of the Berkeley hills, the design principles, objectives, and review criteria should be set forth in the LRDP. The EIR must assess the impacts of those guidelines, including simulations of the effect of their application. Without such specific information it will not be possible to determine whether the guidelines would, in fact, be sufficient to mitigate the project's significant aesthetic impacts.

[4] As another example, the "Initial Study" states that possible flood hazards do not require further analysis in the EIR because the site is not within a flood hazard area (Checklist, p. 13, 8.g & 8.h), but then states that the EIR will analyze risks from flooding and inundation, for the same reason. (Id., 8.i & 8.j.) This is confusing and not informative.

Finally, because of the lack of specificity regarding the location of possible development, it is unclear whether the LRDP could adversely affect Strawberry Canyon, an open space resource that has habitat value and that is an important scenic resource for both Berkeley and Oakland residents. At its meeting of November 25, 2003, the Berkeley City Council approved a recommendation requesting the LBNL to protect and preserve the Hill site as an open space resource by emphasizing infill development and by not increasing the ratio of developed land per employee without an explicit finding that such an increase is justified. (See attached recommendation.)

Air Quality

While the NOP recognizes that the Bay Area is designated as a non-attainment zone with respect to certain particulate matter (PM3) and ozone levels, it does not indicate how it will address the problem given that the Bay Area Air Quality Management District does not have adequate air pollution data for Berkeley. We suggest that the following be considered in the EIR's analysis of environmental impacts due to traffic:

- Ambient data in areas of heavy development to be measured in advance of project development. In this manner, the University can determine whether impacts will exceed significance standards;
- Cumulative impacts of traffic on air quality
- Detailed information on number of proposed and current zero or near zero emission vehicles.

According to the Building 49 Project DEIR, approximately 2,170 truck loads would be needed to transport the approximately 26,000 cubic yards of soil that 65,000 square foot project would generate. An LRDP that proposes up to 800,000 square feet of new construction could conceivably generate more than 12 times the amount of excavation and require almost 27,000 truck loads during the time period covered by the plan. The DEIR needs to consider the significant effect that this level of construction could have on air quality and propose alternatives and mitigation measures to deal with this impact.

Biological Resources

The EIR should address impacts on biological resources in a comprehensive manner. Incremental elimination or degradation of the unique habitats of the upper Berkeley hills should be addressed as a potential cumulative impact in the EIR. Potential mitigation of impacts should consider establishing a Habitat Conservation Plan, Natural Communities Conservation Plan, or other more comprehensive approach to mitigation, if such mechanisms are warranted to achieve appropriate levels of protection

As discussed elsewhere, although the Laboratory is not necessarily subject to City of Berkeley ordinances, the EIR should evaluate the project's conformance with local ordinances. For example, the City of Berkeley currently prohibits removal of oak trees over a minimum size.

The EIR should classify any impacts that exceed the thresholds or standards specified in these ordinances as potentially significant.
The NOP states that no "blue-line streams" exist on the site (NOP, p. 5). However the area does include several creeks subject to protection under the City's creek ordinance. (BMC Chapter 17.08. The EIR should analyze the consistency of development anticipated under the LRDP with the City's ordinance.

Finally, it seems anomalous that "lands currently designated as "Ecological Study Area" would be designated "managed areas" instead of a "Special Habitat Protection Area". (NOP, p. 9.) The EIR should disclose the impacts of treating the Ecological Study Area in this manner, as well as the alternative of treating it as a Special Habitat Protection Area.

Geology, Seismicity and Soils

Additional population (both daytime and resident) in proximity to the Hayward Fault and the wildlands of the East Bay Hills pose increased exposure of people and property to seismic and geological hazards. These issues are identified in the NOP. The City emphasizes that mitigation should describe how the Berkeley Lab intends to assist the City in providing the services and infrastructure needed to reduce hazard exposure to a less-than-significant level and to be able to respond adequately in the event of geologic hazard event. The NOP fails to mention that large portions of the project area are not only within the Alquist-Priolo Fault Rupture Hazard Zone for the Hayward Fault, but are also within areas that the State has designated as a Seismic Hazard Zone for earthquake-induced landslides as shown on maps issued in February 2003 under the State Seismic Hazards Act. The Building 49 Project EIR states that fault investigations have identified two active traces of the Hayward Fault in the area of that project. (Building 49 DEIR, p. IV.E-15)

The unique character of the seismic and other geologic hazards in the Berkeley area warrants special consideration. The Berkeley Lab site is exposed to a level of seismic, geologic and fire hazards characterized by experts as California's most vulnerable in an urban area. Mitigating this type of risk through performance-based construction and risk-sensitive land use would lessen the threat to people and facilities on site and in the immediate environs. The EIR should evaluate such mitigation measures. As noted below, because of the heightened risk associated with the site's physical condition, the EIR also needs to discuss coordination with the City 's evacuation and emergency response systems.

Hazards and Hazardous Materials

The City of Berkeley's Toxics Management Division (TMD) is the Certified Unified Program Agency (Chapter 6.11, Division 20, Cal. HSC). At this time, the TMD has no outstanding issues with the operations of the facility regarding CUPA activities. We expect that LBNL will continue to implement all aspects of the City's hazardous materials and hazardous waste laws, even those codes that are more restrictive than state codes, as allowed in the State HSC. In

addition, our understanding is that the San Francisco Bay Regional Water Quality Control Board (RWQCB) for surface and subsurface water quality issues will regulate LBL.

The Department of Toxic Substances Control (DTSC) will continue to require any soils clean-ups under their authority. We have some concerns, however, regarding potential conflict with the standards for soils and groundwater clean-up that may be required by DTSC or RWQCB. Should the Department of Energy (DoE) reduce its budget for clean-up at LBNL, the facility will not meet any restrictive clean up goals. Mitigation measures should be expressed as measures required to comply with the most restrictive applicable standards to ensure implementation of such requirements regardless of changes in Federal funding for remediation.

It is essential that the DEIR not only assess the impact of development on the Hill site but also the potentially significant environmental effects of activities that take place within the facility. At its meeting of November 25, 2003, the Berkeley City Council approved a recommendation requesting the LBNL to analyze and mitigate the environmental and health effects of nano-science research activities undertaken at the Berkeley Lab site as follows: (The complete Council item is attached as Attachment 1.)

1. The EIR should review the potential environmental and health impacts of research activities that are carried out at the LBNL site in the sub-fields of nano-science:
2. Before being allowed to proceed, all nano-science and technology research projects at LBNL should undergo an independent evaluation process to assess health and safety impacts. This evaluation should be conducted by an independent Health and Safety Review Committee of knowledgeable experts approved by the City of Berkeley.
3. The LBNL shall provide to the City and to the public in a timely fashion the results of the initial startup health and safety and environmental reviews of all proposed nano-science research projects including those to be conducted at the Molecular Foundry as well as annual health and safety reviews of all continuing research projects.
4. The LBNL shall help to facilitate an independent bi-annual health and safety review by the Health and Safety Review Committee of all nano-science research being conducted at the LBNL.

A mitigation measure based on the pre-cautionary principle would require the LBNL to demonstrate that any research activity undertaken by LBNL will not have a detrimental effect on human health or the natural environment. Please provide information, as well, about projected increases in animal experimentation and animal experimentation facilities for LBNL.

As noted above, the proposed increase in population at the Hill site will expose structures and people a variety of fire and seismic-related hazards. Mitigation of these impacts will require close coordination the City's evacuation and emergency response planning efforts including measures to improve emergency access to and from this part of the Berkeley Hills. Because LBNL has few points of egress, any evacuation that may be required could significantly affect the City's ability to respond in the event of an emergency.

Hydrology and Water Quality

The LBNL is located in the Blackberry and Strawberry Canyon drainage areas of the Strawberry Creek watershed, including about a dozen tributary creeks. As noted in the Building 49 Project EIR, within the LBNL, the potential sources of storm water pollutants include chemicals used in scientific experiments and industrial support operations. Increased pollutants would also result from any increase in the number of vehicles on the site, especially as a result of drainage from access roads and parking areas.

Surface flows from are discharged into San Francisco Bay after flowing through the City but impacts on water quality in Strawberry Creek could also affect City property downstream, such as parks. While the Regional Water Quality Control Board enforces water quality standards, development near creeks may also be subject to regulation by the U.S. Army Corps of Engineers and/or the State Department of Fish and Game.

Mitigation measures should be crafted to ensure that there will be no impact on water quality in Strawberry Creek. Given the lack of specificity regarding the location of projects, the most appropriate form of mitigation may be a comprehensive management plan for the Strawberry Creek watershed that includes measures to maintain or improve water quality. At its meeting of November 25, 2003, the City Council adopted a recommendation requesting that the LRDP include such a management plan. The plan should be developed and implemented in conjunction with the University of California and the City of Berkeley. It must be noted, however, that unless such a plan is specifically required to achieve specific water quality standards, it would not meet the legal requirements for mitigation measures. The Council recommendation also requested that to mitigate any impacts on water quality, any remediation of contaminated soils be designed to meet standards to allow for the most sensitive future land uses. (See attached recommendation.)

This section and other use some terms that are not generally understood. For example, this section of the Initial Study states that airborne radionuclides emitted from the Berkeley Lab could degrade water quality. What are radionuclides? Are there accepted standards for radionuclide safety?

Additional issues regarding potential significant impacts on water quality are discussed below under “Utilities and Service Systems.”

Land Use

In response to the question whether the project conflicts “with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project… adopted for the purpose of avoiding or mitigating an environmental effect?” the “Initial Study” states that the “LBNL site is

not subject to local… land use planning…" (Checklist, p. 14, 9.b.) However this does not mean that the Berkeley Lab can ignore City land use policies and regulations to the extent of not considering them in the EIR. Local plans will inform the policies of the LRDP. Environmental impacts that may be mitigated or avoided should be considered even though the Berkeley Lab is exempt from City land use controls.

Because future development in the City should be consistent with the General Plan, the extent to which the LRDP is inconsistent with the City's General Plan must be considered a potentially significant environmental impact despite the fact that the City has very limited, if any, jurisdiction over the project itself. For this reason, the City requests that the section of the EIR addressing consistency with local plans address consistency with the General Plan and any applicable policies in detail, and propose mitigations to ensure that conflicts are avoided or minimized through appropriate mitigation measures. Mitigations proposed by the Berkeley Lab can be consistent with and contribute to the implementation of the General Plan.

Noise

The City requests that the analysis of noise impacts characterize the types of noise and the potential disruption of daily activities. Proposed mitigation should address both the qualitative and the quantitative impacts of noise. It is possible that noise mitigation will require extensive monitoring and enforcement, which should be funded by the Berkeley Lab. If the Berkeley Lab does not have any adopted standards that can serve as a basis for evaluating noise impacts, it would be appropriate to use the standards specified in the City's Community Noise Ordinance (BMC Chapter 13.40). These standards can be used to evaluate the significance of noise impacts and to establish performance-based mitigation measures especially during the construction period.

LBNL should be responsible for monitoring noise levels with a noise meter to ensure compliance with the Community Noise Ordinance. The maximum noise level allowed in the surrounding residentially zoned area is 60 /55dBA day or night. We suggest that some sort of mechanism for complaint resolution should be in place to accommodate residents around the construction areas especially in light of the extended construction process. Contractors should be required to post the name and phone number for a person who is authorized to resolve noise and other complaints about construction activity. Posted notices should specify the beginning and approximate completion dates of specific projects. LBNL can also use community meetings, flyers and the Internet to notify nearby residents. Other mitigation measures may include use of state of the art construction equipment that generates less noise and can be shielded or muffled to reduce noise levels and traffic control measures to ensure that noise from construction traffic doesn't affect the neighborhoods through which trucks travel. The EIR should recognize that violations might be subject to administrative citation under the Municipal Code.

Population and Housing

The EIR should consider not only the direct impacts of Berkeley Lab employment and residential growth, but also the indirect impacts. Certain types of employment growth, such as Berkeley Lab employment, have especially strong "multiplier" effects within the economy and generate additional jobs (usually service jobs). Similarly, housing growth has indirect impacts on schools and services that should be considered.

The "Initial Study" states that "by raising LBNL population ceiling by approximately 750," (Checklist, p. 16, 12.a) the proposed LRDP would probably have a slight impact on cumulative housing demand. However the relevant population increase is not between the current LRDP ceiling and the proposed LRDP ceiling, but between the current actual ADP and the proposed LRDP ceiling. This is a significantly greater incremental increase. The EIR should analyze the true incremental population increase, and should quantify the resulting impact on Berkeley's housing demand over the 21-year planning horizon.

Public Services

Even though the Berkeley Lab provides some facilities and services to accommodate the demand generated by its activities in Berkeley, any increase in development and associated growth in Lab population will have an impact on City facilities and services. The Lab should be mitigating these impacts by making direct financial payments to the City. Because of the uncertainty regarding the extent to which the LBNL may continue to occupy off-Hill leased space, it is particularly difficult to quantify these effects. The loss of tax revenues associated with off-campus and off-Hill activities combined with an increased need to provide police and fire protection and maintain the infrastructure that provides access, drainage, water, and wastewater services to the Hill site is a losing proposition for the City and its residents and business owners who may experience a deterioration of public services. The City will seek discussion with the LBNL staff about appropriate fiscal compensation for development and service activities. The following sections include more specific information regarding impacts on City facilities and services.

Fire Protection

The NOP states that the LBNL has "considerable on-site fire suppression capabilities" and will have three 200,000-gallon emergency water tanks on-site. The EIR must, however, also address the need for services that will have to be provided by the City of Berkeley Fire Department (BFD) as a result of additional development at the Hill site. The party responsible for preparing this section of the EIR should also obtain information from the BFD regarding additional measures that are recommended to improve capacity to deal with the additional risk posed by increasing development in this part of the City and the resulting increase in population at a site that is particularly susceptible to wildland fires.

The EIR should describe the potential increases in demand caused by increasing the number of buildings, the projected increases in population at the Hill site and in the City as a whole, and any changes in lab activities that may result in hazardous material spill or release. Though the

Lab has its own fire response capability provided through contract with Alameda County, the City of Berkeley Fire Department (BFD) responds to all structural fire calls on lab property. Additionally BFD provides back-up assistance for Hazardous Material calls. Any brush or grass fire on lab property will require a BFD response as part of the Lab Fire response. The Automatic Aid Agreement for the exchange of fire services between the Lab and the City of Berkeley describes the conditions under which BFD responds to the Lab. The EIR should address any potential impacts from development that might affect the agreement or that might lead to an increase in BFD emergency response under terms of the agreement.

The NOP states that under the LRDP there may be a 28 percent increase in the number of persons at the Hill site above the actual existing population. This increase will likely lead to a corresponding increase in calls for emergency medical service. Lab Fire provides first responder emergency medical service but the BFD is primary provider of ambulance service for the Lab. The EIR should address potential impact on BFD for ambulance service including any deterioration of existing service levels or increases in response time.

The EIR must also address site access issues associated with additional development including emergency access for fire response as well as provision for emergency evacuation of lab personnel. The "Initial Study" states that the Berkeley Lab's "on-site fire response equipment, water storage or distribution, and fire department may be expanded as needed to address any increases in demand." (Revised Initial Study, p. 16, 13.a., emphasis added). What does this mean? The EIR should include mitigation measures that either require the on-site capacity to be increased as necessary (which seems unlikely given the Berkeley Lab's recent history of cutbacks), or identify mitigation measures that would ensure that the City has adequate capacity to provide the needed fire response services. The party responsible for preparing the EIR should contact the BFD to determine if the provision of three 200,000-gallon emergency water tanks is sufficient given the type, location, and extent of new development proposed by the LRDP. In addition, new construction projects require evaluation of water supply and addition or relocation of hydrants. As the State-mandated authority for water supply for fire suppression, the Fire Department must be included in this review process to ensure appropriate fire protection is provided.

Without more specific information regarding the type and location of future development, it will be difficult to determine how implementation of the LRDP will affect the City's ability to provide fire services. The increased building sizes, complex building systems (fire protection and detection equipment) and building uses will lead to an increased volume of fire incidents. Additional factors resulting from proposed designs will require specialized equipment for the Fire Department in order to maintain the current level of fire protection. Such factors include, but are not limited to: building height, underground and below grade construction; new processes and operations; the conversion of private property to University property; and modifications of access to and on the campus.

Especially in light of the Hill site terrain, the Fire Department will be challenged by even mid-rise structures due to equipment restrictions. A number of the projects include new underground

or subterranean levels. Below grade construction, such the proposed Building 49, creates special problems for firefighters and requires specialized equipment and training. Building uses and operations associated with unfamiliar and potentially hazardous technologies will require constant training and equipment upgrades for the Fire Department. Without these upgrades the Fire Department will not be able to provide the desired level of fire protection safely.
At the present time, Fire Department access to the Hill site is a challenge. Additional development on this steep and remote site makes the maintenance of required fire access a major concern for the City. It is essential that the fire department be involved in the planning process for all construction projects to ensure that emergency access is maintained on the Hill site. Additionally, any road design changes or modifications that would affect emergency or fire vehicle access, (i.e. additions of traffic calming devices, barricades, detours, etc.) must include the Fire Department to ensure timely access and response onto the campus. The LRDP's proposal to create "Hill Town Research Clusters" is particularly troubling because of the particularly hazardous conditions associated with this hillside area. This proposal has the potential to compromise the Fire Department's response times and ability to provide fire services not only to the new Lab development, but also to the UC Campus and to the rest of the City of Berkeley. Mitigation measure must be designed to ensure no diminution in existing service levels.

The LRDP calls for a significant amount of new development, all of which will require fire protection services from the City. The normal development review process includes an opportunity for the City's Fire Department to review and approve plans, to ensure that adequate provision is made for fire safety. The development review process used by the Laboratory to date does not provide such an opportunity. As a result, the City's ability to provide adequate fire protection services can be compromised.

Accordingly, the City requests that the Lab formalize in its development review process for all developments under the LRDP to provide an opportunity for Fire Department review and input to address:

1. Fire Department access (i.e. road width, entry points to buildings, knox box locations and keys, etc.);
2. Water supply: We appreciate the current positive working relation between the Fire Department, the University, and the Berkeley Lab on fire access and water supply issues for existing and new facilities. This cooperation should continue.
3. The Lab should continue to provide fire protection systems in all facilities. Specifically, the Fire Department requests the installation of fire sprinkler systems in all new facilities, as well as a program to retrofit all existing campus facilities with fire sprinkler systems;
4. Location of Fire Department connections (to include 5" stortz fittings);
5. Provision of site plans for inclusion in the UC Map Books carried on all apparatus;
6. Prior to occupancy of the building, provide a detailed list of the building use and location of hazardous materials;

7. Location and design of Fire Control rooms;
8. The Lab should provide pre-planning, training, and tours for Fire Department personnel, to familiarize them with the campus and off campus buildings. This should include fire protection equipment, chemical processes, storage and other life safety hazards;
9. The University invested in improvements of equipment and training for the Fire Department under the last Long Range Development Plan. The Fire Department would like to develop a new investment plan with the University and the Berkeley Lab that will allow the Department to meet the level of service the University and Lab wish to maintain. Only a fully funded investment program in equipment, special services and training for the Fire Department will maintain the desired level of service to the university.

Finally, because the types of buildings and uses at the Hill site will likely demand different or additional services and equipment than most other development in the City, there should be a process for determining future impacts of development under the LRDP on fire protection and disaster response services and a means to mitigate those impacts.

Police Protection

As it does with respect to fire protection, the "Initial Study" states that the on-site security forces "likely would be expanded as needed…" (Checklist, p. 16, 13.a.) Again, the EIR needs to clearly identify the appropriate mitigation measure, and the Berkeley Lab needs to commit itself to that measure. Contingent statements that the Berkeley Lab "may" or "likely would" increase its capacity to deal with emergencies are not adequate.

Schools

The impact of additional staff and guests on schools should be quantified and measures devised to mitigate it. The reference to an analysis of "both on- and off-site security and police protection providers" in the discussion of school impacts appears to be a word processing error.

Similarly, the additional staff and guests that the LRDP calls for will place additional demand on the City's public library system. This impact should be quantified and measures devised to mitigate it. We would be happy to make staff from the Library available to discuss possible mitigations.

Parks/Recreation

An increase in staff and guests is likely to increase the use and maintenance requirements of the City parks and recreational facilities. The resulting physical impacts on these parks, as well as mitigation measures for those impacts, should be fully considered in the EIR. It is not sufficient to state, "new or expanded recreational facilities are not expected to be a result… of the proposed project." (Checklist, p. 17, 14(b).) That is not responsive to the question of whether the project

will necessitate new or expanded recreational facilities. Impacts of concern include increased use of existing recreational opportunities, accelerated wear on facilities that will increase both capital and maintenance expenditures, displacement of recreation facility users to other sites, and loss of open space.

Transportation and Traffic

The "Initial Study" appears to rely on appropriate design of new roads to mitigate both safety impacts (Checklist, p. 18, 15.d) and impacts on emergency access. (Id., 15.e.)
Given the difficult topography, and the Berkeley Lab's failure to identify where new buildings might be located, the EIR cannot assume that it will be possible to design all new roads appropriately. The best indication of this is the existing road network that serves the Berkeley Lab. Moreover, while appropriate design might mitigate safety concerns under normal circumstances, it does not necessarily ensure adequate emergency access.

The NOP states that the Hill site generates "several thousand" one-way vehicle trips on a typical workday. Unless there has been a substantial reduction in the number of employees who commute by personal automobile, this figure may be substantially understated. According to the 1987 LRDP, as of that year the ADT number was close to 7,000 and projected to increase to almost 10,000 trips a day. The NOP does not indicate what proportion of the LBNL population takes advantage of the shuttle service but with almost two parking spaces per person, there would appear to be little incentive for reducing drive-alone trips.

Although the NOP contains no information on the number of new parking spaces that the LBNL expects to provide over the course of the LRDP, the NOP refers to a projected parking objective of 1.7 employees per parking space, a slightly different measure than the 1.7 "population" per parking space figure cited in the 1987 LRDP. Based on the projected population, more than 1,000 additional parking spaces would be required to maintain the 1.7 persons/parking space objective. The EIR needs to thoroughly evaluate the range of environmental impacts associated with the application of this "policy" or of whatever number of additional parking spaces will be provided. The EIR should also propose mitigation measures based on quantifiable objectives for reducing drive-alone trips. The City Council recommendation on November 25, 2003 requests that the LRDP provide for a reduced parking ratio in order to encourage transportation alternatives.

We note that although the first proposed Circulation and Transportation policy is to "promote alternative forms of transportation" that laudable policy is followed with "provide parking to support a campus-like setting and increased population". In other words, the proposed policies not only omit any performance standard to support increased use of alternative forms of transportation but also fail to indicate any willingness to maintain or improve the 1.7 employees per parking space objective as stated on p. 5. The LRDP and EIR need to clarify this ambiguity in the LRDP policies and describe the Lab's linkage (or absence) of transportation-related performance standards to the LRDP's "zone-based" approach to land use planning so that meaningful impact analysis can proceed.

As a threshold matter, basic analytical assumptions about such matters as parking turnover, vehicle occupancy and the relationship between parking supply/occupancy and traffic generation are fundamental to the EIR's analysis of impacts and identification of mitigation measures. We request an opportunity for City staff to meet with LBNL staff to discuss, and hopefully agree upon, these assumptions.

The "baseline" condition should be current conditions, as opposed to current conditions plus approved projects that have not yet been built or completed. The baseline condition can be measured, while "baseline plus assumed impacts" will necessarily be inaccurate.

The NOP states that the EIR will analyze the impact of increased vehicular traffic on "local streets and the adjacent regional highway system" (Checklist, p. 18) but provides no further detail about which roads, streets, and intersections will be studied. The EIR needs to examine impacts on traffic corridors that accommodate the majority of trips to and from the Hill site including Grizzly Peak Boulevard/Claremont; Gayley Road/Centennial Drive; Tunnel Road/Claremont/Derby/Warring/ Piedmont Corridor; College to Oakland; Shattuck to Oakland; Hearst/Oxford/Shattuck/University. Telegraph Avenue, of course, is also critical.[5] The NOP also fails to mention the AC Transit BRT EIR, especially in Section 12(f) of the Initial Study, which mentions commute patterns of Lab employees. (Checklist, p. 16.) The EIR's analysis should satisfy the above analytical criteria.

Specific consideration must be given to the effect that additional development will have on access to and from the Panoramic Hill area, which encompasses portions of Oakland as well as Berkeley. The intersection of Panoramic Way and Canyon Road is the only point of access to this neighborhood. Any increase in traffic to Canyon Road will exacerbate existing access problems for emergency vehicles and must be considered a potentially significant impact in light of the threat to public safety. To the extent that increased enrollment exceeds the supply of student housing, implementation of the LRDP may also increase the total student population in this area, which includes many group living accommodations. Improvement to emergency access along the lines that are suggested in the previous discussion of Fire Protection could help to mitigate projected increases in both traffic and the Panoramic Hill population.

Off-Hill facilities appear to have been excluded from the NOP. However, there could be a direct correlation between increased development at the Hill site and activity at off-site locations such as warehousing and receiving facilities located in Emeryville and Berkeley, the Printing Plant in West Berkeley, and the Richmond Field Station and traffic activity to and from the main campus.

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[5] Similarly, the EIR should review pedestrian routes and crossing locations at points a healthy distance from the Hill site, with explicit reference to the City's approved Bike Plan. The Checklist states that the EIR will evaluate increase hazards to pedestrians and bicyclists but does not provide any detail as to this issue. We offer this suggestion as part of the City's effort to ensure that all issues of concern are adequately addressed in the draft EIR.

The EIR should fully analyze the traffic impacts of the use of these facilities, and in particular traffic between these locations and facilities at the Hill site.

With respect to mitigation measures, the EIR should include: the possibility of integrating with the AC Transit BRT EIR on Telegraph Avenue; a detailed analysis of possible TDM strategies and programs; potential integration of shuttle bus services near the campus; promotion and design of facilities for Segway HT–type alternatives; and increased parking enforcement in the adjacent neighborhoods, such as RPP enforcement. To the extent mitigation measures (such as increased parking enforcement) involve or require City participation, City staff would be pleased to discuss specific options with the University prior to or during preparation of the draft EIR.

The EIR should generally address mitigation of the impacts of additional vehicle trips through Berkeley to campus or off-campus parking locations. As noted elsewhere in the City's comments, the Alta Bates Summit Medical Center project offers a local model for mitigation and monitoring. Specifically, the EIR should address the strategies in the 2001 "Southside/ Downtown Transportation Demand Management Study" (pages 10-1 through 10-41) as possible mitigation for expansion proposed in the LRDP.

Additional mitigation measures the EIR should analyze are:

- Encouraging carpooling.
- Increasing the supply of secure parking for bicycles on campus. Bicycle parking is inadequate and bicycle theft is a big problem that discourages bicycle commuting by students and staff.
- Designating more convenient bicycle lanes in the no-riding areas of campus.

With respect to construction/demolition traffic impacts, the EIR must include both specific and generic construction mitigation strategies, which the Berkeley Lab will undertake to minimize construction impacts within the adjacent neighborhoods. Mitigation measures and development alternatives that minimize the need for excavation and hauling fill from the site could substantially reduce the impacts associated with construction-period truck traffic. Some other mitigation measures include:

- Construction should not begin before 8:00 a.m., and should stop by 5:00 p.m., on weekdays at any sites that are adjacent to residential uses. There should be no construction work on Sundays or holidays. Related to this, there should be a concerted effort to reduce construction-related noise.
- The Berkeley Lab should commit to early stage notification of nearby residents and interested parties and should consult before finalizing plans and designs for development of specific projects on sites on and off campus. In addition, the Berkeley Lab should establish a regular, effective and timely process for acting on specific resident questions and complaints regarding construction impacts.

Utilities and Service Systems

The NOP largely ignores potential impacts to the City's sanitary sewer (wastewater) collection system, instead referring mainly to the capacity of the EBMUD wastewater treatment plant. (See, Checklist, pp. 19-20.) The NOP makes an abbreviated reference to "wastewater… conveyance facilities," but does not elaborate on the type or level of analysis of impacts on these facilities that the EIR will include. In view of existing capacity limitations and infiltration and inflow (I/I) of storm water into existing sanitary sewers, the EIR should address peak sanitary sewer flows from Berkeley Lab property during the wet weather season. Peak sewer flows during wet weather are dependent on the severity of the storm event (i.e., 5-year storms and greater) and could vary as high as 6 to 10 times dry weather sewer flows in the affected City facilities. The EIR should also identify effective mitigation measures for the additional demand the LRDP will place on the existing sanitary sewer system.

The City is currently under a 1986 Cease and Desist Order (CDO) from the Regional Water Quality Control Board to eliminate all sewer overflows from the city's wastewater collection system.[6] Under the CDO-mandated compliance plan, approximately 50% of the sanitary sewer system (49 out of 81 sub-basins, serving approximately 60% of the City's geographic area) must be replaced or rehabilitated, to reduce the I/I flows to the collection system and EBMUD treatment plant.

The NOP recognizes that the East Bay Municipal Utility district operates the wastewater treatment plan that serves the City of Berkeley but fails to acknowledge the City's responsibility for maintaining the sanitary sewer collection system that transports wastewater to the EBMUD plant. The EIR needs to identify the existing and projected peak wastewater flows from the Lab facilities to the City collection system during dry and wet weather seasons, infiltration and inflow flows into the City's sewer collection system. The City sewer collection system is subject to high I/I flows during wet weather flows and could vary as high as 6 to 10 times dry weather sewer flows. The EIR should address locations and monitoring of wastewater flows where the Lab discharges into the City sewer system and compliance with EBMUD industrial discharge concentration limitations. The EIR should also propose mitigation measures to reduce I/I into the wastewater collection including condition assessment of any existing sewer lines that may be inadequate to handle increased flows.

Any new development at the Berkeley Lab will have a significant impact on the downstream City sewer mains on Prospect Street and Dwight Way, which presently do not have peak sewer flow capacities for additional development. These impacts, and mitigations for them, should be fully analyzed in the EIR. In addition, cumulative wastewater contributions from both the Berkeley Lab and U.C. LRDPs should be addressed. The storm water pollution prevention

[6] Moreover, it appears that upon renewal the City's NPDES permit for wastewater discharge will prohibit any sewer overflows, regardless of the severity of the storm event.

requirements specified in BMC Sec. 17.20 should be used as a basis for designing a storm water management plan.

In sum, the EIR should address the impacts of the development under the LRDP (as well as cumulative U.C. and Berkeley Lab development) on the City's sanitary sewer system and the City's ability to comply with the CDO and its NPDES permit, and water quality. The EIR should also state the Berkeley Lab's plans in this regard with respect to the sub-basins for which it is responsible (i.e., what it intends to do to reduce peak wet weather sewer flows into the City sanitary sewer system on Berkeley Lab property). Specifically, the Berkeley Lab will need to replace aged sewers and reduce I/I flows during peak winter flows from its facilities into the city collection system. Finally, the EIR should identify effective mitigation measures for these impacts. As the Berkeley Lab is aware, the City has a long-term maintenance/replacement program. Contributions to that program would clearly constitute mitigation measures. We would be pleased to discuss the specifics of these programs in greater detail during preparation of the EIR.

Cumulative Impacts

We are pleased to see that the EIR will consider the cumulative impacts of the Berkeley Lab LRDP in combination with UC Berkeley LRDP and the growth and development that the City anticipates under the revised General Plan. (NOP, p. 11) We assume that this means that the EIRs for each of the LRDPs will include the other LRDP as a project contributing to cumulative impacts and that both EIRs will use the same data and assumptions about baseline conditions. Both EIRs should employ a common list of other past, present, and probable future projects that will be used as a basis for the respective analyses of cumulative impacts to ensure that analyses of impacts and mitigation measures are directly comparable. In addition, both EIRs should use the same terminology and methodology for the same kinds of impacts.

Since both projects are under the jurisdiction of the Regents, we would expect that the analysis each EIR includes of ways to mitigate cumulative impacts resulting from the other LRDP would be correspondingly more detailed. Moreover, given that both LRDPs are projects being undertaken by the Regents, we expect that mitigation of all impacts that result from the cumulative impact of the two LRDPs will be considered feasible because they are within the jurisdiction of the same agency.

We have discussed key points relevant to the EIR's analysis of cumulative impacts in a number of contexts in the preceding parts of this letter. We will add only that, in addition to its use of projections, the EIR should be as specific as possible about individual projects that will contribute to cumulative impacts, if they are known or reasonably foreseeable. Because both the LBNL and the UC Berkeley NOPs are extremely vague regarding the nature and location of projects that may be undertaken under these plans, we will be paying close attention to the adequacy of this section of the EIR.

In closing, I would like to reiterate the City's appreciation of this opportunity to provide early and meaningful comments on the scope and contents of the upcoming EIR, and the invitation to work closely with the City in drafting an EIR that will fully address both our agencies' needs.

Sincerely,

Phil Kamlarz
Acting City Manager

Attachment

cc: Mayor Tom Bates and Members of the City Council
Arrietta Chakos, Assistant City Manager
Grace Maguire, Assistant to the City Manager
Senior Leadership Collaborative
City of Berkeley Commission Secretaries
Ed Denton, Vice Chancellor, UCB
Horace Mitchell, Vice Chancellor, UCB
Tom Lollini, Assistant Vice Chancellor, UCB
Irene Hegarty, Director, UCB
Kerry O'Banion, Principal Planner, UCB
Jennifer Lawrence, Senior Planner, UCB

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#24

To Honorable Mayor and Members of the City Council

Subject: Lawrence Berkeley National Laboratory (LBNL) Notice of Preparation for Long Range Development Plan

RECOMMENDATION: that the City Council request that

1. As part of the 2004 Long Range Development (LRDP) Environmental Impact Report (EIR), LBNL review the potential environmental & health impacts of the sub fields of nanoscience in which research activities will be carried out at the LBNL site.
2. All nano-science and technology research projects at LBNL undergo an independent evaluation process to access health and safety issues before being allowed to proceed. This evaluation process will be done by an independent Health and Safety Review Committee of knowledgeable experts and shall be approved by the City of Berkeley.
3. LBNL agrees to provide the results of the initial startup health and safety and environmental reviews of all proposed nanoscience research projects including those to be conducted at the Molecular Foundry, and the annual health and safety reviews of all continuing research projects to the City and the public in a timely fashion.
4. LBNL agrees to help facilitate an independent biannual health and safety review of all of the nanoscience research carried out at LBNL. This would be conducted by the Health and Safety Review Committee (See#2).

From CEAC to contribute to the public record, to recommend to LBNL, and to recommend to City Council to direct City Manager to send a letter to LBNL, requesting that the LBNL include a comprehensive analysis of the following as part of the LBNL LRDP EIR current under preparation:

1. A comprehensive Watershed Management Plan
2. The need to protect and preserve open space such as by using infill developments.
3. Do not increase square footage of developed land per employee unless explicitly and publicly justified.
4. Plan fewer parking places per employee than is current practice with the encouragement of alternative transportation.
5. Cleanup of soils and groundwater should be to the highest possible standards, which allows for the most sensitive future land uses.

BACKGROUND

Lawrence Berkeley National Laboratory has been conducting research in nanoscience for over ten years and has extensive experience in assessing any associated hazards.

Extensive safety programs are in place to protect the health and safety of its staff, the public and the environment. New construction projects and facilities modifications are

reviewed for hazards and risks, and to ensure that appropriate Environmental Safety & Health (ES&H) features are integral to the planned project or facility. ES&H requirements identified through this process are incorporated into the project's design.

As part of the planning process, principal investigators, managers, and supervisors are required to consider what ES&H hazards, risks, and concerns are present, and to implement appropriate controls. Depending on the hazard, the principal investigator, supervisor, or manager must document the work and associated hazards, describe administrative and engineering controls, and document training or certification for the participants. The various processes ensure that experts with appropriate certifications or background are brought into the process for review or approval.

MOLECULAR FOUNDRY PROJECT

An assessment of hazards has been carried out in a Preliminary Safety Analysis Report (SAR):

1. Lead scientists were interviewed for each of the six research areas to determine the spectrum of hazards, materials, and equipment proposed for his/her Foundry research.
2. Preliminary information indicated that no radioactive materials or biohazards were planned to be used at the Molecular Foundry. Potential chemical inventories were obtained from the lead scientists and compared to standards with established threshold limits, including the California Building Code occupancy requirements, the San Francisco Bay Area Air Quality Management District, Threshold Quantities contained in the Clear Air Act, and OSHA regulations for Process Safety Management of Highly Hazardous Chemicals.

Building Safety Design Standards

All laboratories in the Molecular Foundry will meet the California Building code H-8 occupancy standards, which is a classification for "laboratories and similar areas used for scientific experimentation or research". Laboratories that meet these safety standards are certified to handle or store limited amounts of hazardous materials.

Existing LBNL Environment Safety & Health Reviews

1. All activities and projects are reviewed through various annual and tri-annual assessments, including the division self-assessment, EH&S inspections, the IFA, the SRC Management of Environment, Safety and Health (MESH) review.
2. DOE Berkeley Site Office conducts continuous reviews of the EH&S program and summarizes its findings in an annual report.
3. DOE Headquarters (both the Office of Independent Oversight and the Office of ES&H) conduct reviews of elements of LBNL's ES&H program.
4. UC President's Council, ES&H Panel conducts an annual on-site review. Their overall charter is to evaluate the EH&S systems in place

DRAFT #24

at LBNL. Normally, two or three facilities or programs are selected at each on-site visit for a more in-depth evaluation of ISM (Integrated Safety Management) implementation. In the past, that has included the NTLF, ALS, the Hazardous Waste Handling Facility, and the new Genomics building. Results of the Panel's work are contained in public reports available from UCOP, Vice President of Lab Management. The Panel is staffed with faculty from UC and other Universities, professionals from various EH&S disciplines including Health Physics, Industrial Hygiene, Occupational Medicine, Safety Engineering, and Environmental Programs, and one attorney.

EH&S Peer Reviews are conducted once each three years (triennially) with the last one having been completed in early 2001. Peer reviews are typically staffed with EH&S Professionals from other Office of Science Laboratories, academia, and the private sector. EH&S Peer Reviews do not include other UC or DOE employees.

BERKELEY

Office of the City Manager

December 2, 2003

Jeff Philliber
Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 90K
Berkeley, CA 94720

Re: Supplemental Comments to City of Berkeley Response to Preparation of Draft Environmental Impact Report: LBNL 2004 Long Range Development Plan

Dear Mr. Philliber:

The attached comments from the Public Works Department's Engineering Division were mistakenly omitted from our letter of November 26, 2003. Although November 26 was the deadline for submitting comments on the Notice of Preparation, we felt it was important that the Berkeley Lab be aware of these issues as it prepares the Draft EIR.

Please don't hesitate to contact Grace Maguire should you need any clarification of the information in the memo.

Sincerely,

PHIL KAMLARZ
Acting City Manager

cc: Arrietta Chakos, Assistant City Manager
Grace Maguire, Assistant to the City Manager
Rene Cardinaux, Director of Public Works
Jeff Egeberg, Manager of Engineering
Lorin Jensen, Supervising Civil Engineer
Irene Hegarty, Director, UCB
Kerry O'Banion, Principal Planner, UCB
Jennifer Lawrence, Senior Planner, UCB

2180 Milvia Street, Berkeley, CA 94704 Tel: 510.981.7000 TDD: 510.981.6903 Fax: 510.981.7099
E-mail: manager@ci.berkeley.ca.us

Department of Public Works
Engineering Division

MEMORANDUM

DATE: November 14, 2003

TO: Jeffrey Egeberg, Manager of Engineering

COPY: Lorin Jensen, Supervising Civil Engineer

FROM: Danny Akagi, Assistant Civil Engineer

SUBJECT: Notice of Preparation, Draft Environmental Impact Report, LBNL 2004 Long Range Development Plan, Storm Water Comments

I reviewed the Notice of Preparation, Draft EIR (NOP) for the LBNL 2004 Long Range Development Plan; with the intent of providing comments related to the storm water elements of the project. Following are my comments.

INSUFFICIENT DETAIL TO IDENTIFY IMPACTS

The overall project does not contain sufficient detail to provide comments on storm water impacts. Most discharges will enter the Strawberry Creek watershed, however, the site is so large, it can potential discharge to the Schoolhouse Creek watershed as well. Further, in the Strawberry drainage, the natural and manmade storm drain system/facilities are further divided into two distinct drainage systems, until they come together at Browning and Addison Streets in West Berkeley. The portion of the creek that generally follows along Allston Way contains two open channel sections.

From the information in the NOP, it appears that the potential increase in runoff from impermeable building area (without parking lots) in the Year 2025 condition compared to the current level is 45% (1.76 million sq ft today, 2.56 million sq ft in 2025). This is a significant discharge, especially if it is concentrated into only one of the drainage systems, and more significantly if it is discharged to the portion of the creek with vulnerable, private property open channels.

OPEN CHANNEL IMPACTS

The open channel sections are located at Strawberry Creek and between Acton Street and Allston Way. The City is required to exercise Section C3 of our recently renewed storm water discharge NPDES permit. Provision C3 includes exemptions for street pavement work and single-family residences. Neither of these applies to LBNL (industrial) facilities. Hydromodification (increases to runoff,

primarily from impervious area) from the site must be controlled and water quality control best management practices (BMPs) must be implemented.

Much of the open channel sections lie on private property, with the built out condition in Berkeley having reached the flow capacity of these sections. Though the area of buildings might be small in comparison to the overall canyons, the time of concentration (time required for the flow to leave the site and corresponding peak flow) and peak flow behavior of impervious area can adversely affect the open channel sections of the creek.

ENVIRONMENTAL CHECKLIST, 8a

The checklist indicates that the "... EIR will evaluate impacts to water quality from runoff and....". For runoff, the City's permit requires BMPs be incorporated into designs where practicable, and the use of structural and cultural BMPs or devices when BMPs are not designed into the project. Evaluating the impacts is not the test for determining if a violation occurs; the NPDES permit already requires implementation of BMPs to the extent practicable. The NOP should indicate that the University would comply with requirements of the City's NPDES permit.

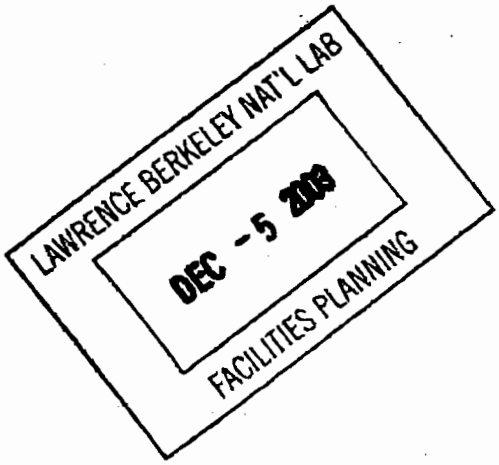
ENVIRONMENTAL CHECKLIST, 8i

The potential increase in flow (45%, see above) can significantly alter flow patterns. Individual projects must be examined for impacts to the drainage systems in order to avoid overloading existing systems or creating damage to privately owned properties off site. This checklist item must be coordinated with checklist item 16c.

ENVIRONMENTAL CHECKLIST, 15c

There is a significant potential for increasing runoff from the site. The increased flow will require additional downstream facilities to convey the flows to the Bay. Further, constructing such facilities will severely drain the City's funding capabilities to perform capital improvements for other new and rehabilitation/replacement projects.

EAST BAY
MUNICIPAL UTILITY DISTRICT



November 26, 2003

Jeff Philliber
Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 90K
Berkeley, CA 94720

Dear Mr. Philliber:

Re: Revised Notice of Preparation for a Draft Environmental Impact Report (EIR) – Lawrence Berkeley National Laboratory 2004 Long Range Development Plan, Alameda County - SCH 2000102046

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to review the Revised Notice of Preparation for a Draft Environmental Impact Report for Lawrence Berkeley National Laboratory (LBNL) 2004 Long Range Development Plan in Alameda County.

WATER SERVICE

Pursuant to Sections 10910-10915 of the California Water Code, the proposed project meets the threshold requirements for an assessment of water supply because the entire scope of this project would demand an amount of water greater than the amount of water required by an increase of approximately 800,000 gross square feet and the population growth of about 30 percent. The project sponsor should contact EBMUD and request a Water Supply Assessment (WSA). Please be aware that the WSA can take up to 90 days to complete from the day on which the request is received.

The LBNL site area is served by EBMUD's Shasta Pressure Zone (PZ), that provides water service to customers within an elevation range of 900 to 1,050 feet, and the Berkeley View PZ that provides water service to customers within an elevation range of 1,050 to 1,250 feet. The LBNL site receives its water supply via a 12-inch meter in Campus Drive in the Shasta PZ and via a 6-inch meter in Summit Road from the Berkeley View PZ. The Draft EIR should identify the projected water demands due to the projected growth. Further, the Draft EIR should address any potential impacts to the source water and facilities in these pressure zones serving the LBNL area.

WATER CONSERVATION

The LBNL 2004 Long Range Development Plan presents an opportunity to incorporate many water conservation measures. LBNL should include in its conditions of approval for the implementation of the 2004 Long Range Development Plan amendments that the project complies with EBMUD water service regulations and obligations to efficiently manage water supply. EBMUD staff would appreciate the opportunity to meet with LBNL staff to discuss water conservation programs and best management practices applicable to the project area. A key objective of this discussion will be to explore timely opportunities to expand conservation via early consideration of EBMUD's conservation programs and best management practices applicable to the project.

WASTEWATER PLANNING

EBMUD's Main Wastewater Treatment Plant is anticipated to have adequate dry weather capacity to treat the proposed wastewater flow from this project, provided this wastewater meets the standards of the EBMUD's Source Control Division. However, the City of Berkeley's (City) Infiltration/Inflow (I/I) Correction Program set a maximum allowable peak wastewater flow from each subbasin within the City. EBMUD agreed to design and construct wet weather conveyance and treatment facilities to accommodate these flows. EBMUD prohibits discharge of wastewater flows above the allocated peak flow for a subbasin because conveyance and treatment capacity for wet weather flows may be adversely impacted by flows above this agreed limit. LBNL needs to confirm with the City of Berkeley Public Works Department that there is available capacity within the subbasin flow allocation and that it has not been allocated to other developments. The projected peak wet weather wastewater flows from this project need to be determined to assess the available capacity within the subbasin and confirmation included in the EIR. Suggested language to include in the EIR is as follows: "The City of Berkeley Public Works Department has confirmed that there is available wastewater capacity within Subbasin *(insert subbasin number here)* for this project."

In general, the project should address the replacement or rehabilitation of the existing sanitary sewer collection system to prevent an increase in I/I. Please include a provision to control or reduce the amount of I/I in the environmental documentation for this project. The main concern is the increase in total wet weather flows, which could have an adverse impact if the flows are greater than the maximum allowable flows from this subbasin.

WATER RECYCLING

LBNL has been identified as a potential customer for a Satellite Recycled Water Treatment Facility. A Satellite Recycled Water Treatment Facility Feasibility Study is currently underway. This study will evaluate the feasibility of constructing a small Satellite Recycled Water Treatment Facility to serve a large customer within the EBMUD wastewater service area. EBMUD staff will continue to work with LBNL to investigate the possibility of serving the campus with recycled water from a Satellite Recycled Water Treatment Facility.

If you have any questions concerning this response, please contact Marie A. Valmores, Senior Civil Engineer, Water Service Planning, at (510) 287-1084.

Sincerely,

William R. Kirkpatrick
Manager of Water Distribution Planning

WRK:NJR:sb
sb03_325.doc

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

November 14, 2003

Jeff Philliber
Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 90K
Berkeley, CA 94720

Subject: Lawrence Berkeley National Laboratory 2004 Long Range Development Plan

Dear Mr. Philliber:

The Bay Area Air Quality Management District (District) staff have received your agency's Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Lawrence Berkeley National Laboratory (LBNL) 2004 Long Range Development Plan (LRDP). The 2004 LRDP will provide a physical development framework for LBNL through the year 2025. Implementation of the plan would increase the total building area in the Lab's main Berkeley Hill site by 800,000 gross square feet.

We agree with the NOP's conclusion that the DEIR should analyze the LRDP's potential impacts upon air quality. The Bay Area is currently a non-attainment area for federal and state ambient air quality standards for ground level ozone, and state standards for particulate matter. The air quality standards are set at levels to protect public health and welfare. The major source of air pollution in the Bay Area is motor vehicles. Toxic air contaminants are also an area of serious concern in the Bay Area. Any project with the potential to expose sensitive receptors or the general public to substantial levels of toxic air contaminants would be deemed to have a significant impact. As general background for readers, the DEIR should discuss the health effects of air pollution, the region's attainment status with regard to ambient air quality standards and the contribution of mobile and stationary sources to air pollution emissions.

The DEIR should analyze the potential impacts on air quality from project construction and project operation at buildout. If significant air quality impacts are identified, the DEIR must include all feasible mitigation measures to reduce the air quality impacts. We suggest that the University do as much as possible to reduce vehicle trips associated with the project. Motor vehicles constitute the largest source of air pollution in the Bay Area; therefore, we have a strong interest in promoting alternative modes of transportation. The LBNL Hill site is currently served by a campus shuttle but because of its hilly location is often difficult for pedestrians and bicycles to conveniently access. The DEIR should identify strategies to strengthen linkages between the project site and nearby mass transit facilities.

We encourage the University to consider the "Reduced or No New On-site parking growth" alternative described in the Initial Study. Under this alternative, projected growth in LBNL population and space would not result in new parking spaces and alternative modes of transportation would be more greatly emphasized. An over-supply of parking is one of the reasons why people do not consider alternatives to the single-occupant vehicle. We recommend that the University reduce the number of additional parking spaces being proposed in the LRDP and to implement a parking cash-out program. Parking cash-out requires employers to provide transit and/or ridesharing subsidies to non-driver employees in amounts equivalent to the value of the subsidized parking, thereby encouraging those who would normally drive alone to consider a commute alternative.

In addition, the University can further reduce vehicle trips by incorporating as many appropriate transportation demand management (TDM) measures as possible, including: transit subsidies such as the Commuter Check program for LBNL staff and employees; guaranteed ride home program; flexible work schedules; bicycle and pedestrian incentive programs; and others listed in our guidance document, *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans (1999)*, mentioned below.

The DEIR should also evaluate potential nuisance impacts, such as exposure to odors and dust that could result from project implementation. Odors and dust may not necessarily cause physical harm, but can still be unpleasant and can motivate citizen complaints. Air quality problems arise when sources of air pollution and sensitive receptors are located near one another. Particulate matter (PM) is a pollutant of concern for both nuisance and health-related reasons. PM larger than ten microns is more likely to be a public nuisance than a serious health hazard. On the other hand, research has demonstrated a correlation between high levels of fine PM and increased mortality rates and high incidences of chronic respiratory illness. The DEIR should evaluate potential impacts and propose appropriate mitigation measures.

Some equipment at the Lawrence Berkeley National Laboratory may be subject to District regulations and permit requirements. Please note that the District has regulations regarding power generation (including back-up generators) and has recently strengthened our regulations concerning various solvent cleaning processes. We recommend that whenever new facilities are proposed, LBNL contact our Permit Services Division at (415) 749-4990 for information regarding District regulations and permit requirements.

For more details on our agency's guidance regarding environmental review, we recommend that the College refer to the *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans (1999)*. The document provides information on best practices for assessing and mitigating air quality impacts related to projects and plans, including construction emissions, land use/design measures, project operations, motor vehicles, nuisance impacts and more. If you do not already have a copy of our guidelines, we recommend that you obtain a copy by calling our Public Information Division at (415) 749-4900 or downloading the online version from the District's web site at http://www.baaqmd.gov/pln/CEQA/ceqaguide.asp.

If you have any questions regarding these comments, please contact Suzanne Bourguignon, Environmental Planner, at (415) 749-5093.

Sincerely,

William C. Norton
Executive Officer/APCO

WN:SB

cc: BAAQMD Director Roberta Cooper
BAAQMD Director Scott Haggerty
BAAQMD Director Nate Miley
BAAQMD Director Shelia Young

SIERRA CLUB
FOUNDED 1892

Northern Alameda County Regional Group
(Alameda-Albany-Berkeley-Emeryville-Oakland-Piedmont-San Leandro)
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510-848-0800 (voice) · 510-848-3383 (fax)

January 16, 2007

Jeff Philliber
Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory
One Cyclotron Road MS 90K
Berkeley, CA 94720
Via email: LRDP-EIR@lbl.gov

Dear Mr. Philliber:

Please find following the Sierra Club's comments on the Notice of Preparation for the Lawrence Berkeley National Laboratory Long Range Development Plan. We look forward to being involved in the remainder of this process. Unless I hear otherwise from you, I will assume I don't need to send you a fax or hard copy of these comments. Please contact me at 510-663-6200 if there are any questions.

Thank you.

Sincerely,

/s/

Steve Bloom, Group Chair

A. Parking/Circulation, TDM Alternative, and Air Quality

1. Impacts to Address Regarding Circulation/Parking and Air Quality:

The EIR should address impacts on Level of Service and air pollution on all streets within a five block radius of any entrance to the lab, and access roads including College, Parker, Piedmont, Hearst, Shattuck, University up to a mile from the edge of campus.

The EIR should consider that it likely that Telegraph Avenue will have one lane of traffic for single occupant automobiles, with the other lane for bus rapid transit, and with the possibility of carpools. AC Transit and the Cities of Oakland and Berkeley expect Telegraph to be a more transit-oriented street, and this project will have cumulative impacts as part of Telegraph BRT. The cumulative impacts analysis and the assessment of TDM measures should address Telegraph-Downtown Berkeley as a Bus Rapid Transit Corridor.

2. Land Use

The EIR should review the city of Berkeley General Plan for policies concerning new office space and preservation of open space.

3. Alternatives List Inadequate – Needs TDM Evaluation

The alternatives presented in the NOP are inadequate without evaluation of Transportation Demand Management to hold auto trips at the same levels. The Sierra Club recommends a full analysis of Transportation Demand Management (TDM), including Eco Pass, as an alternative to parking.

Significant adverse impacts will likely occur if there is an increase in vehicle trips. This alternative would call for implementation of TDM policies, including but not limited to Eco Pass, designed to improve mode split by encouraging alternatives to driving alone to campus. There would be a goal of no additional single-occupancy-vehicle trips to the lab, and a mitigation monitoring plan would survey staff, and conduct counts as appropriate, to monitor the mode split.

This alternative would mitigate the undesirable detrimental impacts of increased traffic pollution generated by a small increase in traffic resulting from increased headcount. Concerns might still be present if the level of parking impacts the environment beyond the mitigations of TDM. TDM may not be just an alternative, but should be part of the preferred alternative and part of the LRDP policies. It is essential that there be environmental analysis of a TDM/reduced demand for parking option.

Figures 9.3, 9.4 and 9.5 from the Joint UC/City of Berkeley TDM Study show how improved mode split for students, faculty and staff could eliminate the need for more parking. The figures also show that even if

mode split does not improve, the amount of extra parking needed by 2010/2011 is much less than the amount UC is proposing.

TDM programs have also been successful at Stanford and UCLA. Stanford already has a University Pass/Eco Pass program along with a "Clean Air Cash" program where employees get cash rewards for doing without a parking permit and using alternative modes. The University of Colorado at Boulder also has a successful Eco Pass program.

The EIR should also address pricing alternatives as part of TDM. Professor Donald Shoup at UCLA found that free parking discourages transit use; the more parking costs, the more likely you are to use transit. Financial considerations are a factor in mode choice, so UC should analyze its ability to mitigate environmental conditions using pricing. Even a small percentage in mode shift to transit would result in a significant improvement over the base case.

B: Open Space, Wildlife, Water Quality, Hydrology

The NOP indicates that there are likely to be numerous significant impacts to biological resources such as open space and wildlife, as well as to water quality and hydrology. In particular, the inclusion of the Hill Campus area as a zone in which extensive development is proposed presents real concerns with respect to significant environmental impacts.

The additional development on the hill raises concerns about the ecosystem and preservation of open space. This additional development will be located in current open space areas, and thus will extensively impact the associated biological resources. In addition, numerous traffic, aesthetic, air quality, and other significant impacts (discussed in other sections of these comments) are nearly certain to occur under the proposed development scenario from construction on through the long term.

Moreover, the development proposed will affect that zone as far as significant environmental impacts, through inevitable increases in pollution, impermeable surfaces (leading to more runoff), groundwater and surface water contamination, etc.

Finally, the cumulative impacts of the proposed development in the Hill Campus area -- particularly in light of concurrent projects such as the extensive new development proposed for UC Berkeley LRDP -- suggest that the overall magnitude of the impacts of the LRDP proposal may simply be too great for the City of Berkeley to absorb, and may be inappropriate for this area altogether. The EIR should consider location of some facilities in other areas as needed to reduce environmental impacts in and around LBNL.

Specifically, the proposed development presents the following concerns regarding biological and natural resources that the Sierra Club asks be fully studied and addressed in the EIR:

1) Habitat and Open Space Impacts

The proposed Hill Campus development will almost certainly result in a loss of open space, and of associated habitat and vegetation. The EIR should fully address this issue, including the potential impacts to Coast Live Oak woodlands and trees, which are specifically protected under the City of Berkeley zoning.

As with Coast Live Oaks, Strawberry Creek itself is protected under City of Berkeley ordinance (Chapter 17.08 Preservation and Restoration of Natural Watercourses). Any proposed development along the Strawberry Creek corridor should be analyzed primarily for ecological consequences but also to avoid conflict with related City of Berkeley ordinances. These ordinances reflect the desire of Berkeley citizens to protect the local and regional environments.

2) Sensitive and Endangered Species

The area is potential habitat for both Alameda Whipsnake and Red-Legged Frog (both endangered species), and the adjacent UC Berkeley Hill Campus zone falls within designated critical habitat for the Whipsnake. We ask that as part of the EIR full surveys be conducted across all seasons to ascertain the potential presence of sensitive species such as the Alameda Whipsnake and the Red-Legged Frog, in addition to any other potentially affected sensitive bird and plant species.

There are also regular, documented sightings of mountain lions -- a protected species in California -- within Strawberry Canyon and on Lawrence Berkeley National Laboratory property, not to mention their obvious (and documented) presence in the adjacent Tilden Park wildlife corridor. Again, we ask that the EIR fully address potential impacts to this species, and particularly the ramifications of the extensive research facilities proposed for the open space area.

3) Native Species and Other Habitat

Much of the land on lab property contains extensive communities of native vegetation, as well as important introduced species that are part of Berkeley's landscape design heritage. Remnant populations are often critical to the continued survival of species as a whole, while altered habitats can often provide essential refuge, foraging opportunities, and nesting habitat for a wide variety of species in urban areas which have no other habitat choices.

We ask that the EIR fully identify and analyze impacts to *all* open space and vegetated areas across the university lands in light of their potential importance as habitat, whether or not they are currently known to provide habitat for sensitive species. Certainly, any native species should be considered of vital importance to the long-term ecological health of the university lands, as should all vegetation along the Strawberry Creek riparian corridor.

4) Surface and Groundwater Integrity and Flows

The extent of development proposed suggests extensive significant impacts to surface water and groundwater quality both in the development zone itself, and downstream throughout the city of Berkeley, due to increased sedimentation, non-point source pollution, and possible toxics. Moreover, increases in impermeable surfaces due to intensification of development are likely to result in increased runoff and flooding, which will impact the entire watershed below.

The EIR must address the full range of water quality impacts listed above, including a full assessment of the feasibility of any proposed mitigation measures. This is particularly important in the case of non-point source pollution -- now noted as one of the biggest contributors to water quality impacts in the region -- because of the difficulty in identifying sources of such pollution in the first place. Moreover, given that the City of Berkeley's stormwater runoff infrastructure is already over-taxed, any additional strain on this system due to new development *must* be considered a significant impact and fully mitigated for by appropriate infrastructure enhancements based on a complete analysis.

The water quality and flow impacts must be analyzed in light of the upcoming, more stringent Regional Water Quality Control Board runoff control requirements, impacts to habitat (e.g., fisheries), and thresholds for regulated contaminants (e.g., diazinon). Moreover, all impacts must be analyzed with respect to the full range of other state and federal regulatory requirements.

The EIR must consider these impacts across the full timeframe of the proposed development, including the extensive impacts associated with the construction phases of projects, which can lead to massive sediment deposition in surface waterways. These impacts must be considered as well in light of the extensive cumulative impacts that will emanate from the combination of the LRDP with the extensive development concurrently proposed at UC Berkeley and that can be anticipated under the City of Berkeley's General Plan and Southside Plan.

5) Protection, Restoration, and Enhancement of Open Space, Habitat and Natural Resources

The LRDP completely fails to identify or discuss any possible opportunities for the protection, restoration, and enhancements of the significant natural resources present across the University-owned lands. It is unfortunate -- and disturbing -- that such a commitment is so noticeably absent in the University's long-range planning scheme. This suggests that environmental protection and restoration are an insignificant aspect of the University's planning approach. That absence simply flies in the face of the long history of concern for environmental protection expressed by the University itself, the Berkeley community and the San Francisco Bay area as a whole, and is a poor reflection of the educational values that LBNL seeks to promulgate.

Environmental protection and restoration are absolutely part of long term planning, and yet ot appears that the LRDP will virtually ignore this vital concern. We hope LBNL will rise to the occasion and recognize

that environmental protection and stewardship must be given equal if not greater priority than research capacity and technological advancement.

C. Safety of Nano-technology

The Sierra Club would like to raise the following concerns and proposed mitigation measures relating to nano-technology:

1. LBNL should include a review of the potential environmental impacts of nano-technology as part of the EIR.

2. The LRDP should provide for an annual, independent, scientific review of the safety of the nano-technology research in an urban environment; the results of each such study should be made immediately available to the public.

3. All nano-technology research projects should undergo an independent process to assess health and safety issues before being allowed to proceed.

4. As a mitigation measure, if nano-technology is found to be at all unsafe or hazardous to the public, projects must be discontinued. Using all available precautions, nano-technology research must be designed to not impact air quality, water quality, or any other environmental resource.

Such mitigation measures are necessary for the EIR to adequately take into account potentially unsafe aspects of nano-technology. Care must of course be exercised in the application of any technology, but it is the Club's strongly held view that the Precautionary Principle must be adhered to with regard to new and potentially hazardous technologies such as nano-technology.

From: City Council member Dona Spring
981-7140 dspring@ci.berkeley.ca.us
2180 Milvia, Berkeley 94704

Comments on Lawrence Berkeley National Laboratories 's LRDP environmental review:

1. The project is ill defined except in square footage and locations, and therefore it is impossible to adequately assess the environmental impacts.

2. The previous LBNL LRDP was exceeded in square footage and project/building development. The new environmental review should give an accounting of all the ways that the previous LRPD was exceeded.

3. The city is not obligated nor can it afford to provide LBNL with free infrastructure support. The city needs to be adequately compensated for previous development before LBNL chooses to add any further development. Cambridge University pays the City of Boston in lieu payments of $20 million annually. The City of Berkeley deserves no less. The LBNL as well at the University of California must pay for pay its share of the infrastructure costs including sewers, storm drains, sidewalks and street construction and maintenance, street lighting, and landscaping maintenance. If the LBNL and the University of California had been adequately compensating the city in the past decade, the city would not have such a heavy back up of a billion dollars of deferred maintenance on sewers, storm drains, sidewalks and street construction. The billions of dollars of deferred maintenance jeopardizes the future sustainability the residents and businesses currently paying taxes. The environmental review should look as fiscal impacts of current and proposed new development for city services, including compensation for police services.

4. LBNL and the University of California must not remove through either rental or purchase any more properties from the tax rolls in Berkeley, which will further diminish the city's ability to generate revenue to provide basic services.

5) The LB NL proposal to develop 800 parking spaces is not environmentally sustainable Any additional growth by LBNL should be accomplished without increasing employee parking.

6). Give detailed information about the projected increases in animal experimentation and animal experimentation facilities for all of LBNL past and present.

7. LBNL needs to look at alternatives to expansion in Berkeley. The alternatives presented in the initial EIR are not realistic. There is a failure to adequately provide for alternatives.

8) LBNL needs to provide more open space for the community in compensation for its intense development.

9. LBNL should follow the standard set by other governmental institutions by compensating the City of Berkeley 10 percent of the cost of each project in addition to annual in lieu payments.

10. The LBNL currently contributes to significant traffic congestion on most of the major transportation arteries in the city of Berkeley. The university needs to reduce the automobile trips its employees and student generate before adding new development that will exceed the traffic capacity of the cities streets.

11. Expansion into Strawberry Canyon is an ecological disaster waiting to happen. This is on an earthquake fault in a high fire hazard area. Covering more of the soil will create run-off problems. This area is a riparian habitat area with oaks, creeks and the endangered whip snake. What will be the cumulative effect of all development in this area on wildlife habitat?

12. Lawrence Berkeley National Laboratories has failed to adequately consider the cumulative impacts of its development with UCB projected new development.

Endorse the comments of Janice Thomas, President of the Panoramic Neighborhood Association:

Subject:
proposed scope of analysis for LRDP's EIR
From:
JThomas621@aol.com
Date:
Tue, 25 Nov 2003 02:26:16 -0500 (EST)
To:
lrdp-eir@lbl.gov

J a n i c e T h o m a s
37 Mosswood Road
Berkeley, CA 94704

November 23, 2003

Jeff Philliber
Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory
One Cyclotron Road, MS 90K
Berkeley, CA 94720

Re: Proposed scope of analysis for LBNL's 2004 LRDP EIR

Dear Mr. Philliber,

I would like to add these comments to those I already made during the public scoping session. Thank you for the opportunity, as I was not notified of the 1987 LRDP scoping process or EIR.

First, I am writing to request increased specificity of the project location in the EIR analysis. The photographs that were displayed in the Scoping Session are a good start. But even so, no project location would be complete without providing actual measurements of aerial distance from the Laboratory boundaries to residential neighborhoods, student housing, intercollegiate athletic fields, the Strawberry Canyon Recreation Area, and the UC Botanical Gardens. This would be an improvement over the consistently vague and frequently misleading descriptions of project locations that have characterized past environmental review documents.

I am also writing to request an estimate of the amount of light generated at night by the proposed and existing buildings. There might be impacts to wildlife and a reduced ability to star gaze depending on the amount of light that is generated.

I appreciate the data already provided in terms of the number of gross square feet (gsf) that will be built. For example, I

understand that the Berkeley Lab currently occupies 1,760,000 gsf in the Hill Area and that space demands will increase by up to 800,000 gsf. However, in terms of evaluating the impacts to the area, it would be helpful to know the percentage of the entire site that this figure represents. Asked another way, how much land remains undeveloped? And of this land, how much will provide suitable habitat for wildlife?

In a similar vein, what are the project goals for cleanup of soil and water? What percentage of the contamination will be cleaned and to what standard will the contaminated soil and groundwater be cleaned? These are basic and fundamental questions that need to be addressed in order to evaluate whether or not the LBNL is inappropriately building out in the perimeter of the site when in-fill development would be more appropriate.

The Hill Area Campus of the LBNL is prime real estate. The value of the real estate is not only the view, and the lush canyon environment, but also the proximity to the UC Berkeley Central Campus. The scope of the EIR analysis should include alternative locations for the research laboratories in order to preserve the Hill Area Campus for other uses and for which there may be no viable substitutes. Since the Lab's research does not reportedly cause human disease and since it is not classified, there would appear to be no reason to remain in the Hill Area. It could be anywhere assuming real estate is available. The scope of the EIR should therefore identify existing off-site locations, e.g. Emeryville, and systematically evaluate the costs and benefits of building new facilities in areas other than the Hill. Since student housing might be a better use of the land, the alternative site issue should be studied carefully. Otherwise it would appear that the Lawrence Berkeley National Laboratory operates at its current location for its view and out of tradition rather than rethinking the appropriateness of pursuing the Lab's mission at this location until the year 2025.

The LBNL has been irresponsible in the past for not developing a Watershed Management Plan. The Central Campus of UC Berkeley has had a Watershed Management Plan, but the Lab and UCB have failed to develop a plan for the headwaters. This is all the more troubling because of the Lab's hillside location, and the fundamental principle of water flowing downstream and seeking its lowest level. The tritium-contaminated groundwater, which was recently reported to the public by the Department of Toxic Substances Control, is an example of the Lab's historic failure in this regard. The faults and landslides combined with tritium-contaminated groundwater raise serious concerns that have not been heretofore addressed. The fact that the Lab's site is only 200 acres of the whole area and that UCB has joint custody, so to speak, is not an excuse. The Lab has arguably generated far more pollutants than UCB in the Hill Area and will undoubtedly continue to generate far more pollutants than UCB in the Hill

Area and therefore should assume some leadership and moral authority in this regard. Please let this LRDP be the catalyst for doing so now.

Recreational impacts should be considered in this EIR. If the Lab is not conducting classified research and if there are no negative health impacts, then the Campus should be more available to the public for walking and hiking. This is especially true since UCB's fire trails are open to the public. The reasons for excluding the public from LBNL's fire trails should be provided.

Noise impacts were inadequately estimated in the Molecular Foundry Initial Study. A sample of three different houses was used to generalize to the noise effects on all the houses on the Strawberry Canyon side of Panoramic Hill. The topography of the hill and the singular location of each home make generalizations faulty when based on just a few houses. The canyon acoustics do not allow noise to dissipate, and instead, the hillside catches the sound. As an example of this phenomenon, I can testify to hearing trains' whistles despite being miles away. In the LRDP, the canyon acoustics need to be factored into the noise analysis, and the methodology for predicting noise impacts needs to be valid. Data derived from flat terrain is useless as a predictor of noise impacts in the canyon.

The aesthetic impacts concern me greatly. As it is at present, the LBNL site is mostly out of site in Strawberry Canyon except from the perspective or Panoramic Hill residents such as myself. The verdant area of Strawberry Canyon is one of the characteristics of Berkeley and defines the Berkeley Hills compared to other hill towns. This area should be preserved for its distinctive aesthetic features that moreover have cultural significance and meaning not the least of which is Frederick Law Olmstead's vision to keep the canyon as open space. The canyon has significance as a cultural amenity that has not been adequately identified as such.

Yours sincerely,

Janice Thomas

Committee to Minimize Toxic Waste

Jeff Philliber
Environmental Planning Coordinator
Lawrence Berkeley National Laboratory
MS 90K - One Cyclotron Road
Berkeley, CA 94720

November 25, 2003

Re: Comments on the Revised Notice Of Preparation (NOP) for the Draft Environmental Impact Report (DEIR), LBNL 2004 Long Range Development Plan (LRDP)

Dear Mr. Philliber,

The City of Berkeley had requested a 14 day extension to the comment period for the above mentioned LBNL 2004 LRDP NOP for these reasons: "Given the existence in the project area of locations identified as Hazardous Waste and Substances sites, the proximity of the facility to a major fault line, and its location in an area that is susceptible to wildland fires and seismic-induced landslides, it is particularly important that the City and other agencies have adequate time to list issues that must be addressed in the Draft EIR." (Attachment 1)

The Laboratory has refused to grant the City's request.

This is the first time in 15 years that the community has an opportunity to comment on the Department of Energy's (DOE) oldest nuclear industrial complex LBNL's Long Range Development Plan through the year 2025. Clearly more time should have been granted for this enormous task of compiling a comprehensive list of issues related to LBNL's proposed land use plans that need to be addressed in a clear, truthful, detailed manner in the upcoming DEIR.

Due to the lack of time, we are enclosing comments on specific issues that we have raised during this year with respect to several LBNL related projects such as the Molecular Foundry, Building 49, RCRA Corrective Action Process and DOE's proposed risk based "cleanup" of its sites. All these issues are relevant to the LBNL 2004 LRDP EIR process, and must be addressed in a comprehensive way.

The enormity of LBNL's expansion is defined on page 8 of the NOP, which states that "LBNL occupies 1,760,00 gsf at the main Hill site" and that the "implementation of the 2004 LRDP would increase the Lab's main Hill site building area to 2,980,000 gsf", i.e. an increase of 1,220, 000 gsf building area in the already fragile natural area of the Strawberry Creek Watershed.

One and a quarter million square feet translates to 70% increase in the Lab's Hill site building area and corresponds to approximately 18 or 19 six story buildings, the size of the proposed Building 49, a project, which review was rushed through just weeks before the Lab's announcement for the LRDP EIR process.

A similar rush-through occurred just some 6 months earlier with the ever controversial Molecular Foundry project, this time without an EIR, skirting the public process. (Attachment 2)

We had asked in our comment letter of October 31, 2003, that the Lab postpone the B49 EIR until the LBNL 2004 LRDP EIR is finalized, so that the project impacts can be adequately addressed and mitigated, not based on a 15 year old EIR, but one currently in preparation reflecting the present and future development at the site. (Attachment 3)

To continue in that spirit we are asking that LBNL include a <u>project level environmental analysis</u> of the Molecular Foundry as part of the LBNL 2004 LRDP EIR, as the University of California Berkeley (UCB) has done with the Chang-Lin Tien Center under the UCB LRDP ! Specific concern here are the impacts of construction to the Chicken Creek sub-watershed which includes No Name and Chicken Creeks and a historical spring, as well as the impacts of the operations of the Molecular Foundry, namely nonopollution, i.e. ultra fine particle emissions on human health and the environment.

Attached is the recommendation by Berkeley's Environmental Commission on November 6, 2003 addressing these very issues, which we ask you to consider in the LRDP EIR. (Attachment 4)

In addition to the attachments above we are enclosing the following documents (and their relevant attachments) for you review and consider and <u>respond to</u> in the LBNL 2004 LRDP EIR:

1. February 4, 2003 comments re: Molecular Foundry (which include comments to DOE re: Risk Based Cleanup, dated January 30, 2003) (Attachment 5)

2. April 17, 2003 Molecular Foundry comments addressed to the UC Regents (Attachment 6)

3. Urban Creeks Council of California comments on the Molecular Foundry, dated May 15, 2003 and addressed to the UC Regents (Attachment 7)

4. CMTW's questions to LBNL re: Molecular Foundry (Attachment 8) dated May 8, 2003

5. June 20, 2003 letter addressed to the Department of Toxic Substances Control re: RCRA Corrective Action process at LBNL (Attachment 9) Also attached is a June 24, 2003 request for RCRA related LBNL documents and contour map of LBNL with specific GIS layers

6. Comments on B49, dated July 17, 2003, September 3, 2003 and October 31, 2003 (Attachment 10)

7. October 9, 2003 comments on UCB's LRDP including a letter dated 3/13/03 re: LBNL (Attachment 11)

In summary we are asking that the LBNL 2004 LRDP address in a comprehensive way all the issues raised in the above referenced documents i.e.

1. Geologic hazards, modelling of all known faults (active and inactive) and their splays at LBNL and in the Strawberry Canyon area

2. Soil liquefaction potential along creeks

3. Historical landslides and soil failings at LBNL and in the vicinity in the Strawberry Canyon

4. Comprehensive watershed analysis including study of the Lennert Aquifer (a water bank)

5. Comprehensive watershed management plan, which would correctly characterize the tributaries of Strawberry Creek as Mediterranean Streams with their own specific habitats (Attachment 12)

6. Provide comprehensive surface and subsurface geologic information for the entire LBNL site in order to model groundwater transport relative to contaminant and water quality concerns

7. Provide a long term clean up plan for all toxic contaminants

8. Provide a long term decommissioning plan for the many lab buildings currently vacant or extremely unused, due to existing contamination

9. Comprehensive analysis of a new threat, nanopollution (Attachment 13)

10. Comprehensive analysis of the impacts of the Advanced Light Source, used in connection with the Molecular Foundry projects, as to increased risks from gamma and neutron radiation on the residential neighborhoods of the Panoramic Hill's north side

11. Comprehensive analysis of fire risks, due to the Lab's location in a high risk critical fire zone

12. Comprehensive evacuation plans for the residents surrounding the Lab to the north and south, site maps should show all the surrounding neighborhoods at least to the distance of 2 miles in <u>all</u> directions

In conclusion, there is a lot of mistrust in the community regarding LBNL's willingness and ability to manage and control toxic, radioactive pollution from the existing facilities. The evidence is in the multiple contaminated groundwater plumes, in the radioactive vegetation, tritium contaminated Eucalyptus grove offsite next to the Lawrence Hall of Science, a children's museum and school. (Attachments 14 and 15)

In newspapers we see articles with headlines such as: "Berkeley lab found research fabricated (SF Chronicle, 7/13/'02), LBNL finds accounting to be sloppy (Berkeley Voice, 10/3/'03), Berkeley Lab poses health risk, fire could release dangerous radioactivity (SF Chronicle 2/6/'01) which do <u>not</u> increase the community's confidence in the Lab's management practices, especially in the areas of Environment, Health and Safety, for which there should be a comprehensive, independent audit.(Attachment 16)

We believe that the only acceptable alternative for the Lab is to stop growth in the Strawberry Creek Watershed and start satellite/second campus development offsite in order to protect and preserve the last pristine areas of the Strawberry Canyon for future generations .

Sincerely,

Pamela Sihvola
P.O. Box 9646
Berkeley, CA 94709

PS. Enclosed also please find the Berkeley City Council's unanimous Resolution, passed on Tuesday, November 25, 2003 re: LBNL's LRDP (Attachment 17). Also 4 articles in the Daily Planet (Attachment 18)

November 25, 2003

Mr. Jeff Philliber, Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory,
One Cyclotron Road, MS 90K, Berkeley, CA 94720.

Dear Mr. Philliber, RE: Proposed Scope of Analysis for LBNL's 2004 LRDP EIR

After reading the Proposed Scope of Analysis for LBNL's 2004 LRDP EIR stage of the plan making process which anticipates development for the next 20 years at the Lawrence Berkeley Lab, I have a number of questions and comments I think should be included in the 2004 SCOPE documentation to serve as a baseline for 20 years hence.

I. I was unable to find a solid reference to the 1987 Plan (plus add-ons) with respect to building on the strengths, filling gaps, and otherwise improving upon that Plan's weaknesses. This raises the question of what does the current planning community mean by "SCOPE" in 2003, and how has that changed from 1987? Did the Scoping in the 1987 LRDP included fewer characteristics to evaluate than LRDP Scoping does in 2003?

One could argue that in 2003 there is increasing environmental awareness as well as awareness of environmental illness such as radiation sickness and lead poisoning. One could argue that there is increasing awareness of infrastructure weaknesses such as seismically damaged sanitary sewer and storm drain utilities underground of the Lab that we know are leaking toxins into the groundwater and likely will end up in Strawberry Creek and its tribulets. One could argue we are more aware of the preservation of natural habitats in the wild lands the Lab rents from UC than before, which would likely be damaged by even more development of any sort.

II. Perhaps, it would be wiser "to clean house", fix up the infrastructure and reallocate existing facilities of unused space before sprawling into outlying areas of pristine land? Can you clarify the mixed signals we have received this month in the Scoping phase of the planning, with respect to current planning state-of-the-art-thinking on urban sprawl construction into outlying pristine environmental land, versus the alternative of infill planned construction in the heart of the built clusters at LBNL?

III. And in the face of the Bay Area region's projected growth, at this time of budget shortfalls, wouldn't it be smart to use a sustainable development model for planning facilities in careful detail with respect to costs and benefits by revitalizing existing buildings which already have stable soil sites and even have utility hookups?

IV. In the case that the Lab will no longer occupy the Berkeley sites, one could imagine those facilities prepared for potential educational use within the University's mission of education, research, and community service.

Isn't scoping about applying currently adopted policy under law--a set of principles that evolves over time? Therefore, if the time line is until 2020, then current planning must evaluate the flow that goes back--as well as forward, rather than be stuck in a static land use notion that appears to be one of urban sprawl taking of more and more pristine land in outlying areas that could instead be protected to sustain our lives with cleaner air, water and soils?

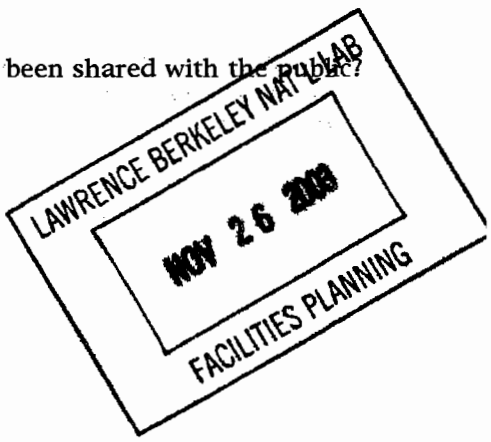
I would plan differently. Perhaps you have another two plans that have not been shared with the public?

I would imagine:

Plan A for Future Development as one imagines the Lab Stays forever

Plan B if the lab goes--then convert to educational facilities

Plan C if the lab stays for only the next contract period



As I understand it, the LBL is portrayed as the brainchild of the 3 Labs under the University of California contract with DOE. The Lab conducts threshold research where theoretical one-off design models are invented and then go to industry for the appropriate applied testing. Now, the future of the location of the Lab is in question. At the May 15, 2003 Board of U C Regents Meeting former President Atkinnson and Ambassador Linton Brooks (the current Director of the National Nuclear Safety Administration), brought into the open that the DOE is requesting the University administration to competitively bid on the next contract. The discussion covered the possibility of the Lab leaving Berkeley and going to the University of Texas or elsewhere. Either the contract will be renewed or the contract will be cancelled. The continuation of the DOE Lawrence Berkeley National Laboratory under the present arrangement at the Berkeley/Oakland site on University land will be no more.

In national politics dominated by a Republican administration, Republican Senate and House majorities in Washington DC, there is less support for the dominantly Democratic Party San Francisco Bay Area economy, and the University of California Systemwide. Contrast this with much support to contract with research centers and universities in Texas. Such a shaky future bears enormous implications, not only for the University's budget, but also for the entire Bay Area economy.

V. Pivotal questions that are being discussed far and wide are not at all addressed in the LRDP 2004 initial study. In my experience working for a County Supervisor in the 1970's, these questions would normally fall within the scope of modern planning. To begin, a few are:

What projects would leave with the Lab contract?

What scientists and support staff would leave?

What offices and building would be vacated? What is the projected number of gross square feet (gsf)?

What percentage of the average daily population would no longer be driving to the Lab?

Would the bus service leave and no longer transport faculty and staff to the present stops?

Would the Lab take moral authority and complete the designated clean up of the toxic 'stains' from chemical and radioactive waste in the groundwater, soils, creeks, and vegetation before it closed down?

Or, would the University be left with the toxins problem that has been accumulating for 60 years?

To what degree would that cleanup extend: to a zero tolerance of a full clean up level as requested by the City of Berkeley?

Or, would the clean up be ignored, as is the tendency on many former military bases?

Or as knowledgeable community members fear, will we be mind-boggled with the public relations outbursts to control public outrage?

VI. A CONPREHENSIVE ALTERNATIVE ANALYSIS to revisit the two planned projects, Building 49 and the Molecular Foundry of 2003 that somehow escaped the current planning that you opened in 2000.

One could argue that the concept and plan for the Molecular Foundry is not unique, it is DUPLICATIVE of other MF' under DOE in other parts of the country and therefore is an "extra"one. Those other sites have buffer zone perimeters, which safeguard the laboratories, while this proposed building site in the Strawberry Canyon Watershed does not. To my knowledge those other foundries do not have to consider firestorms, earthquakes, and landslides and are not located in an area at high risk for terrorism under the Homeland Security designation. A full EIR with public imput would have given you details on these issues to answer to. Please revisit these considerations; these projects belong to the land base and therefore are within the scope.

VII. What follows is taken from a letter that I sent to Senators Boxer and Feinstein in October 2003 expressing my opposition to the Nanotechnology Molecular Foundry appropriation for LBL's Berkeley Campus after the project was certified by the Regents.

"On the Energy and Water Bill conferencing, please consider eliminating the funding for MOLECULAR FOUNDRY for the Lawrence Berkeley National Laboratory and setting a MORATORIUM on the project until we have a thorough discussion about the health and environmental implications of molecular nanotechnology. We should also have a firm and grounded understanding of any associated hazards, likelihood of accidents, and whether it should be sited in a secure area away from densely populated areas...

Nowhere is this facility PROPOSED AS EDUCATIONAL for a university community...

The scientific community knows very little about the health and environmental impacts of molecular nanotechnology.

On July 8, 2003, the US EPA, through its National Center of Environmental Research, released a Request for Applications entitled "Impacts of Manufactured Nanomaterials on Human Health and the Environment" in which it states "There is a serious lack of information about the human health and environmental implications of manufactured nanomaterials, e.g., nanoparticles, nanotubes, nanowires, fullerene derivatives, and other nanoscale materials.

Table 1 provides an outline of nanostructures, their size, and material into which they may be formed, indicating the type of application in which they may be used. Environmental and other safety concerns about nanotechnology have been raised (Dagani, 2003; Masciangoli and Zhang, 2003; Service, 2003). As part of EPA's mission to protect human health and the environment, this solicitation requests research proposals which address potential health and environmental concerns of nanomaterials." See, http://es.epa.gov/ncer/rfa/current/2003_nano.html for the full document.

Given our lack of knowledge about the potential health and environmental effects of this new and untested technology, should we not ensure that it would do no harm? Should we not wait until we, the public, are satisfied that scientific due diligence has been conducted and no harm to life and the environment is shown before this technology is released upon the world?

Here are other reasons that funding and building the Berkeley/Oakland facility is inappropriate:

> The proposed Foundry is duplicative—the National Nanotechnology Initiative lists several other Foundries with the very much the same research plans.
>
> All of those foundries are at SECURE sites; LBNL has no buffer security perimeter to protect nearby classrooms and homes
>
> Nowhere is this facility PROPOSED AS EDUCATIONAL for a university community...
>
> It is advertised as a user facility where "...what could you make if you could build things atom-by atom?"
>
> And "...to develop and study both "soft" (biological and polymer) and "hard" (inorganic and fabricated) nanostructures and how they can be assembled."*

Any facility that creates experimental human, animal, and plant life forms (biological life) then destroys that life in thousands of trials, raises again the issue of when does life originate and who has the right to destroy each life? This is troubling for theological thinkers. Just imagine the implication of this?

Thank you for your kind attention,

Very truly yours,

Jennifer Mary Pearson

Jennifer Mary Pearson, Ph.D.,
Berkeley, Ca 94709

* From: "Berkeley Lab A Place of Wonder"

November 23, 2003

Dear Mr. Phillibar,

We are writing you regarding our concern for the massive expansion/development of the Lawrence Berkeley Nat'l Laboratory in Strawberry Canyon. As very frequent users of the fire trail which winds its way from the "trail head" off Centennial Drive to the gate at Grizzely Peak Road its become increasingly distressing to watch large areas of the hillside vegetation being transformed into high tech research facilities and paved roads/parking lots In addition healthy trees are continuing to be cut down, or arbitrarily "pruned" drastically alon the fire trail.

For those of us who live here in town Strawberry Canyon (there probably is a formal name for this trail) is an irreplaceable resource that needs to be protected and preserved for ourselves + future generations. In such a densely populated urban setting the LBNL might do well to consider addressing its Hazard Ranking Score of 50.35, qualifying a a Superfund site... unfortunately there is no longer any funds for such clean-ups so local expertise might want to turn their focus there for awhil

In developing "your" 20 year development plan plea recognize you're apart of this community, and consequently should be respectful of what a tremendous jewel this canyon is to us, as well as the numerous wild life which inhabit the scant remaining area that continues undisturbed.

Please keep us informed as to LBNL's plans for work in the community, and Strawberry Canyo specifically.

Sincerely,

Jim Mullins & Joan E Baylie

Jim Mullins Joan E. Baylie

1478 Rose Street, Berkeley 94702

(1)

from TOM ATLEE, COINTELLIGENCE INSTITUTE - address at end

Below is a third article from Rachel's Environment and Health News describing the problems of nanotechnology. This one covers an aspect I didn't even know about -- nanotechnology's direct threat to individual health.

I have spoken with Senator Wyden's office. I was told that the Senate nanotechnology bill S.189 has not yet gotten out to a vote -- but will soon. I was told that Senator Wyden (it's chief sponsor) is trying to get language in the bill that advocates citizen deliberation about nanotechnology. The staffer said what they most need is not phone calls but letters they can show to the other Senators demanding citizen deliberation be in the bill. Due to security-based mail slow-downs in Washington DC, she said that emails would be most useful.

So I urge you to write to Oregon's Senator Ron Wyden and then send a copy to your own Representative and/or Senators, since they'll be involved in voting on the final legislation. I've enclosed my own letter below for your info. As I wrote in my last email on this subject, "Tell them you want strong language in that bill MANDATING frequent citizen panels and consensus conferences, in which randomly selected citizens learn about nanotechnology and interview experts, deliberate and then let businesses, government, media and the public know what research and development they think is safe, wise and desirable to pursue -- and what research and development they want to hold off on. Tell them that none of us want the fiascos of nuclear technology and biotechnology where development raced ahead of what was wise, so that now businesses, governments and citizens face some real messes. If they want to create sustainable jobs with nanotechnology, make sure those jobs are doing things that well-informed people want to have done. Senator Wyden has a good track record on listening to the people's voice. He needs to apply that to nanotechnology."

If you are an American citizen, you can email your representatives via <http://www.congress.org>. Just type in your zip code and the site will take you to a link to your representatives' email. Most members of Congress will only receive email correspondence submitted through a web form, rather than directly, and Congress.org delivers the forms you need. In your letter to your Senator, you may want to include more information on nanotechnology than I put in my letter to Wyden, since, as the originator of the nanotechnology bill, Senator George Allen (R-VA), said, "no more than 5% of senators or their staffs [even] know what nanotechnology is." http://www.aip.org/enews/fyi/2003/038.html

I had an interesting insight while thinking about my own letter: I realized that these issues become clearer when seen through the lens of cost/benefit dynamics.
* Exploitation can be viewed as "I get the benefits and you get the costs" or "We get the benefits and we ignore the cost to others."
* Debate can be seen as each side promoting the benefits of their views while stressing the costs of their opponents' views -- whereas

* deliberation can be viewed a full exploration of costs and benefits with an effort to find options that have the most benefits and least costs for all involved.
* We'd have a more wise and prudent culture if we empowered dialogue and deliberation among diverse views so that costs and benefits associated with social issues were always being well explored so that more wholly benefical options could be routinely chosen.

As you'll see in my letter to Wyden, this lens also provides an interesting view of our corporate system.

So I invite you to join this effort by writing a letter or two. As a popular folk song goes, "Inch by inch, row by row, we're gonna make this garden grow."

Tom _ _ _ _ _

My letter to Senator Wyden (sent also to my other Senator and Congressman)

****

Dear Senator Wyden,

It is very important that the Senate nanotechnology bill S. 189 have strong language mandating -- or at the very least strongly endorsing -- official citizen deliberation (such as citizen panels and consensus conferences) to evaluate nanotechnology on a frequent basis. Given the speed of nanotechnology's development, it would be both wise and practical to hold official citizen deliberations at the national level every 6-12 months. Please ensure that language to this effect exists before the bill is brought to a vote.

You know the advantages of nanotech -- the medical miracles, the pollution solutions, the jobs. That's why you sponsored this bill. But nanotech has potential downsides, as well, ranging from increased respiratory disease to vast environmental destruction.* It would be imprudent, to say the least, to pursue the benefits without attending to the risks and costs.

In our political-economic system mass media, collective decision-making and jobs are all tied to the corporate bottom line. This system naturally produces more profits than prudence. Pursuit of profit causes advertising to trumpet the benefits of products while downplaying their costs and risks. And many industries are powerful enough to get government to help them "externalize" their costs and risks so that taxpayers, other countries, nature, or future generations pay the costs.

A free market can only remain free and safe if it is supervised. Without democratic oversight of corporate activity, we cannot safely pursue the benefits of technology development. Past failures of democratic oversight are already leading us into what has been rightly called an Age of Consequences.

You, as representative of the common interests, need to ensure that new developments in profitable technologies are monitored by comparably powerful democratic oversight. This includes review by Congress and independent experts. But most importantly it must includes review by randomly selected citizens who can be educated about the risks and possible benefits of a technology and then deliberate to render trustworthy public judgment.* This capacity of ordinary citizens has been proven by decades of experience with consensus councils and other citizen panels.*

Our nation didn't take this path when it launched the development of nuclear technology and biotechnology. The glowing promises of these technologies were foisted upon the American public without adequate public deliberation. Now we are faced in both industries with unprofitable messes, mired in public backlash, expensive subsidies and waste storage problems, and the threat of accidents and misuse by terrorists.. Nanotechnology will end up similarly problematic if it flashes ahead without due deliberation by a public more interested in prudence than profit.

You have a record of supporting the public good, a healthy environment, the welfare of future generations, and public participation. Please apply these criteria to this extremely delicate issue. Give We the People a chance to judge for ourselves and our society whether the benefits offered us by nanotechnology outweigh its risks and costs. Anything less is not truly democratic.

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* REFERENCES:

Re nanotechnology see http://www.rachel.org
Re citizen deliberation see http://www.co-intelligence.org/CIPol_publicjudgment.html
Re consensus councils and citizen panels see http://www.co-intelligence.org/P-CDCs.html

For further information on these and other issues related to enhancing our democracy see the Co-Intelligence Institute's websites: co-intelligence.org, democracyinnovations.org and taoofdemocracy.org
And here's the Rachel's article

==========Electronic Edition==========

RACHEL'S ENVIRONMENT & HEALTH NEWS #774
---July 24, 2003---
(Published September 4, 2003)
HEADLINES:
THE REVOLUTION, PT. 3: ULTRAFINES

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THE REVOLUTION, PT. 3: ULTRAFINES

A revolution is sweeping through science and technology, blending cognitive science (how the brain works), biotechnology (manipulation of genes), information technology, and nanotechnology, or nanotech for short. The engineers who are masterminding this revolution explain that it is "essential to the future of humanity"[1, pg. 22] because it holds the promise of "world peace, universal prosperity, and evolution to a higher level of compassion and accomplishment."[1, pg. 6] They say it may be "a watershed in history to rank with the invention of agriculture and the Industrial Revolution."[1, pg. 20] The ultimate aim of the revolution is not so new: the "conquest of nature." [1, pg. 80]

The revolution is driven by the convergence of four technologies (nano, bio, info, cogno), but here we focus again on only one of the four -- nanotech -- because it is becoming the foundation stone of bio and info sciences,[1, pg. 71] because it has been largely ignored by the media, and because it is galloping forward at breakneck speed. It is no exaggeration to say that the field of nanotech is gripped by a "gold rush" mentality. Any day of the week, take a look at http://nanotech-now.com/ to catch a glimpse of the gold rush in action.

Nanotech is named for the nanometer, a unit of measure, a billionth of a meter, one one-thousandth of a micrometer. The Oxford English Dictionary defines nanotechnology as "the branch of technology that deals with dimensions and tolerances of less than 100 nanometres, esp. the manipulation of individual atoms and molecules."

In 2000, President Clinton created the National Nanotech Initiative, which is now funded at the level of $700 million per year -- the third largest public research program in the U.S., after the war on cancer and the star wars missile defense program. (See Rachel's #772 and #773.) In every state in the U.S., nanotech proponents are commandeering tax dollars to subsidize "the next big thing." Many states are hoping to establish their own "Nano Valley" as an entrepreneurial wild west modeled on Silicon Valley before the bubble burst.

In March of this year, Small Times magazine said the states with the greatest nanotech potential are California, Massachusetts, New Mexico, Arizona, Texas, Maryland, New York, Illinois, Michigan and Pennsylvania, with Colorado, New Jersey, North Carolina, Ohio, Virginia, and Washington state close behind.[2] The National Science Foundation predicts that nanotech will be a trillion-dollar industry by 2015, just 12 years from now.[2] Nanotech is advancing upon us at warp speed.

This week we will focus on only one aspect of nanotech: the environmental and human health effects of nano particles, which are particles 100 nanometers (0.1 micrometers) or less in diameter. As we saw in Rachel's #772, the intentional manufacture of nano particles is already under way, and this new industry is gearing up worldwide. Nano particles go by different names, such as nanodots, nanotubes, buckyballs, and buckminsterfullerenes, among others.

According to the Etc Group, which follows nanotech developments carefully, an estimated 140 companies are now producing nano particles in powders, sprays, and coatings that are being used in a variety of products, including sunscreens, automobile parts, tennis rackets, scratch-proof eye glasses, stain-repellent fabrics, self-cleaning windows, and more.[3, pg. 2] Mitsubishi Chemical in Japan has reportedly begun construction of a plant to manufacture nanotubes at the rate of 120 tons per year, with plans to increase output to 1500 tons per year by 2007.[4] The U.S. government's space agency, NASA, plans to spend the next five years scaling up the production of nanotubes. [1, pg. 50]

One of the most important characteristics of nano particles is their huge surface-to-volume ratio. The smaller something is, the larger its surface area is, in comparison to its volume. Because nano particles are so small, they have an enormous

surface area, relative to their volume. Drug companies are planning to take advantage of those large surfaces -- for example, covering nano particles with drugs for targeted delivery into the interiors of our cells. The smaller the size of the particle, the larger the load of drugs it can carry (larger, relative to the particle's volume).

Unfortunately, the large surface area of tiny particles also makes them dangerous for at least two reasons: first, the large surfaces alone promote the reaction of oxygen with human (or animal) tissue, creating free radicals.

"Free radicals are atoms or groups of atoms with an odd (unpaired) number of electrons and can be formed when oxygen interacts with certain molecules. Once formed these highly reactive radicals can start a chain reaction, like dominoes. Their chief danger comes from the damage they can do when they react with important cellular components such as DNA, or the cell membrane [the cell's outer casing]. Cells may function poorly or die if this occurs," explains Dr. Mark Jenkins at Rice University. [5]

In sum, the large surface of nano particles offers an ideal place which oxygen reactions can occur in the airways and lungs, resulting in the formation of free radicals with subsequent cell damage or cell death, followed by inflammation.

The second danger from nano particles arises when they float freely in the air, where their large surface area provides a sticky place where metals and hydrocarbons attach themselves. The smaller the size of the particle, the larger the load of metals and hydrocarbons it can carry (larger, relative to the particle's volume).

What do we know about health effects of nano particles?

It turns out that we already have a fair amount of data on the dangers of airborne nano particles -- but researchers don't call them nano particles. They call them ultrafines. Nano particles and ultrafines are the same thing -- particles with an average diameter of 100 nanometers (0.1 micrometers) or less.

Scientists have known for more than a decade that fine and ultrafine particles in the air create haze and kill large numbers of humans. Fines and ultrafines are produced by fossil-fuel power plants, incinerators, cement kilns, and diesel engines, among other sources. As early as 1991, Dr. Joel Schwartz of U.S. Environmental Protection Agency (now at

Harvard) estimated that fine particles were killing 60,000 people each year in the U.S. That shocking estimate has since been confirmed and reconfirmed and is now widely accepted.[6] Fine particles are defined as those with a diameter of 10,000 nanometers (10 micrometers) or less. Ultrafines are 100 times smaller than fines.[6]

Today, researchers are examining the properties of ultrafines and there seems to be little doubt that they are the major killers in haze. Studies in Los Angeles, California reveal that ultrafines are 10 to 50 times as damaging to lung tissue, compared to larger fine particles.[7]

Since 1991, scientists have been wondering whether fine and ultrafine particles cause harm because of their size alone, or because they carry metals and hydrocarbons deep into the lung. Researchers today believe that, in the case of ultrafines, the answer is both.

U.S. Environmental Protection Agency refers to fines as PM 10 (short for "particulate matter 10 micrometers or less in diameter"). By 1996, EPA became convinced that PM 2.5 (particles with diameters of 2.5 micrometers [2500 nanometers] or less) were far more dangerous than PM 10, and the agency proposed rules to control PM 2.5 air pollution. Corporations immediately sued in court to "get government off our backs" and to fulfill their fiduciary duty to shareholders by every legal means, even though that duty in this instance entails killing tens of thousands of anonymous citizens each year. In 2001, after a 5-year court battle, EPA won in the U.S. Supreme Court, but the agency, chastened by corporate encounters, has shelved its plan for controlling PM 2.5 air pollution.[8]

Meanwhile, new studies are piling up showing that nano particles (ultrafines, which in EPA terminology would be PM 0.1) are by far the most dangerous of all.

EPA does not collect data on nano particles in any systematic way, and has announced no plans to control them. Meanwhile the nano particle corporations and NASA are ramping up industrial operations to manufacture ultrafines in ton quantities. It appears that the stage is being set for major new trouble and an escalation of the killing.

The picture continues to develop, but current research shows that nano particles in the lung cause the formation of free

radicals, which in turn, cause lung disease, and cardiovascular disease. Furthermore, nano particles carry metals and carcinogenic hydrocarbons deep into the lung, where they exacerbate asthma and other serious breathing problems. In addition, nano particles combined with metals can pass directly into the brain where they promote the formation of waxy amyloid plaques, which are the signature feature of Alzheimer's disease.

In Fresno, Calif., Kent E. Pinkerton at Univ. of Calif. Davis found from autopsies that "outwardly robust people routinely harbor damage in their lungs' small airways, setting the stage for respiratory and cardiovascular disease." The bronchioles were scarred with fibrosis and an abnormal thickening, apparently caused by "the ravages of free radicals." [6,9]

Subsequent exposure of rats to ultrafine particles at levels found in Fresno on a bad day revealed many dead cells in the rats' lungs, large numbers of inflammatory cells (neutrophils), and destruction of macrophages -- which are cells that promote health by actively removing foreign material from the lungs.[10] In other words, ultrafines kill off the lung's natural defenses, then create their own unique form of damage, promoting free radicals, cell death, inflammation and eventually cardiovascular disease.

Pinkerton's findings were confirmed by a study of the lungs of non-smoking women in Mexico City and in Vancouver, British Columbia, which revealed extensive lung damage from exposure to dirty Mexico City air, but not clean Vancouver air. [4] The small airways of the Mexican women "were very abnormal," with fibrosis and thickening.

Researcher Ken Donaldson at the University of Edinborough in Scotland has studied particles of pure titanium dioxide and pure carbon. At 10 micrometers diameter, they cause no damage to rat lungs. But when they are crushed into ultrafines "they become highly inflammogenic to the lungs," he told Science News.[6, 12, 13] In other words, carbon nano particles, without any pollutants attached (no metals, no hydrocarbons), cause lung damage by themselves. Their size alone is harmful.

Donaldson conducted similar experiments on ultrafine particles of pure styrene, with similar results, showing that nano size alone is a danger. This clearly indicates that the manufacture of nano particles will be a threat to workers, and any

particles released into outside air will be a public health menace. It is worth pointing out the obvious: The smaller particles become, the harder they are to control and contain.

Nano particles floating in the air will not remain pure for long. Metals and hydrocarbons (from combustion sources like incinerators, cement kilns, fossil-fuel power plants, and diesel engines) will quickly coat their large surfaces.

It is now known that the deadly effects of fine and ultrafine particles aren't restricted to the lung, but occur in the cardiovascular system and brain. Renaud Vincent and colleagues at Health Canada (the Canadian equivalent of the U.S. National Institutes of Health) clarified the mechanism of cardiovascular damage by exposing healthy volunteers to high levels of fine particles -- the levels you might find in a city with dirty air.[14, 15, 6]

Vincent found that exposure to ultrafine particles doubles the concentration of a small protein (called endothelin) in the blood stream. Endothelin increases blood pressure. The spike in endothelin levels can be tolerated by a healthy subject, but may kill a person who is already suffering from atherosclerosis (hardening of the arteries).[6]

Importantly, the spike in endothelin concentration only occurs when subjects are exposed to fine and ultrafine particles that have metals or hydrocarbons attached to them. If the particles are purified before the humans are exposed to them, they have no effect on endothelin levels. Thus it seems to be the combination of ultrafine particles and metals and/or hydrocarbons that increases endothelin.

Other researchers have also been examining the effects of fine and ultrafine particles on cardiovascular health. Scientists at the Harvard School of Public Health exposed dogs to fine and ultrafine particles, then simulated heart attacks in the dogs by using a surgically-implanted balloon to temporarily shut off a coronary artery. Dogs that had been breathing ultrafines could not compensate for the blocked artery -- which may help explain why humans who have heart attacks on a bad-air day are more likely to die than people having heart attacks where the air is cleaner.[16]

Cardiovascular disease and heart attacks are not the only concern arising from exposure to fine and ultrafine particles

in the air. A University of North Carolina research team working with dogs living in Mexico City has shown that exposure to ultrafine air pollution causes brain damage. Lilian Calderon-Garcideunas found that ultrafine particles carry metals such as vanadium and nickel into the dogs' brains through their noses. The fine particles break down the barriers that normally prevent contaminants passing into the brain.[6, 17]

Dogs are often used as models for the study of cognitive impairments that accompany old age in humans. Some dogs aged 10 and over develop the waxy plaques that are characteristic of Alzheimer's disease. Calderon-Garcideunas's study of 200 dogs in Mexico City reveals that the animals breathing ultrafine particles develop waxy beta-amyloid plaques in the brain before they are a year old.[6, 17]

Calderon-Garcideunas told science writer Janet Raloff that her findings are "definitely worrisome" because she has examined the noses of humans in Mexico City and found evidence of a breakdown of nasal tissue, similar to that found in dogs.[6]

U.S. EPA researchers and colleagues in Germany have found that metals attached to fine and ultrafine particles greatly exacerbate asthma. First they examined children in a German city where the air is contaminated with fine and ultrafine particles mixed with metals. Compared to children living in a rural German town where the air is relatively clean, the urban children showed strongly allergic reactions. The researchers then exposed mice to the two kinds of air that the children were breathing. They reported that mice exposed to metal-contaminated ultrafine particles developed strong allergic and asthmatic reactions in their airways.[18]

Using isolated lung cells, researchers found that ultrafine particles from Los Angeles air (a) carry far more toxic combustion byproducts per unit weight than do larger particles (no surprise because of surface-to-volume ratio); and (b) enter cells and settle in the mitochondria, which are the cells' source of power. Ultrafine particles turn the mitochondria into "functionless bags," researcher Andre Nel told Science News, killing the cells they were powering.[7, 6]

In sum the nanotech industry and the U.S. government are rapidly ramping up a new industrial capacity to manufacture ton quantities of ultrafine particles, very similar to particles already known to be killing tens of thousands of people in the

U.S. each year. The complete catalog of harm from these particles remains to be written, but we already know that they cause or aggravate asthma and cardiovascular disease, damage the small airways of animals, adults, and children, carry metals and cancer-causing combustion byproducts deep into the lungs and even into the brain where they promote the growth of amyloid plaques associated with Alzheimer's disease.

We also know that the current regulatory system has proven to be incapable of bringing particulate pollution under control because of relentless opposition from corporations. As a matter of law, corporations are required to put profits before public health, so we can never expect them to do any better than they are doing today, until we change the law.[19]

Clearly, in the case of nano particles, we have reasonable suspicion of harm, and we have some remaining scientific uncertainty. Therefore we have an ethical duty to take preventive (precautionary) action. If there ever was a proper time to invoke the precautionary principle, this is it.[20]
=====

[1] Mihail C. Roco and William Sims Bainbridge, editors, Converging Technologies for Improving Human Performance (Washington, D.C.: National Science Foundation, June, 2002. Available at http://rachel.org/library/getfile.cfm?ID=208 but the file is 3.7 megabytes.

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Tom Atlee * The Co-Intelligence Institute * PO Box 493 * Eugene, OR 97440
http://www.co-intelligence.org * http://www.democracyinnovations.org
Read THE TAO OF DEMOCRACY * http://www.taoofdemocracy.com

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11/24/03

Jeff Phillibar, E.P. Coördinator
LBNL
1 Cyclotron Rd. MS 90K0198
Berkeley, CA. 94720


LBNL Intium stack

Dear Mr. Phillibar,

LBNL's LRDP EIR must include a review of the environmental effects and health + safety of the construction of the Molecular Foundry and the Nanotechnology experiments to be performed at LBNL. The 1997 SEIR Addendum reported the Bay Area Air Basin was in non-attainment of state standards for concentrations of particulate matter less than 10 microns in diameter (PM-10). With Nanotechnology we're talking about particulate pollution that is 1/100 that size or smaller (PM-0.1) I know of no filter that will prevent these microscopic particulates from escaping into the Air Basin. The EPA won a U.S. Supreme Court case allowing it to control pollution caused by particulate matter with diameters of 2.5 micrometers or less (PM 2.5). Nanoparticles are 1/25 that size and smaller. According to Kevin Smith, in Environmental Health Perspective 6/03, ultrafines, or nanoparticles, kill off the lungs' natural defenses, promote free radicals, cell death, inflammation and eventually cardiovascular disease. Please include with my letter the enclosed 13 pages from Tom Atlee with info. from Rachel's Environment + Health News. Thank you.

Gene Bernardi 9 Arden Rd. Berkeley, CA 94704

Subject:
LRDP
From:
"Namkung, Poki" <PNamkung@ci.berkeley.ca.us>
Date:
Wed, 26 Nov 2003 17:17:07 -0800
To:
"'JGPhilliber@lbl.gov'" <JGPhilliber@lbl.gov>

As a private citizen and as a physician, I would like to add my support for the City Council's recommendations that LBNL review and assess what is known about the potential environmental and health effects of the development and application of nanoscience utilizing independent expertise in an open, timely, and public manner. I think that this is a frontier science and am most concerned about the potential effects on air and water quality and the generation of potentially hazardous toxins or materials. I am sending you this comment as a private citizen and not in my role as the City's Health Officer. Thank you.

Poki Stewart Namkung, M.D., M.P.H.
Health Officer/Director of Public Health
Berkeley City Health Department
2344 6th Street
Berkeley CA 94710
Tel: 510-981-5339
FAX: 510-981-5345
mailto:pnamkung@ci.berkeley.ca.us
mailto:5105153676@my2way.com

Subject:
Proposed Scope of Analysis for LBNLs 2004 LRDP EI
From:
Jennifer Pearson <jennifermaryphd@hotmail.com>
Date:
Wed, 26 Nov 2003 16:57:23 -0800
To:
lrdp-eir@lbl.gov
CC:
JGPhilliber@lbl.gov

Jeff Philliber, Environmental Planning Group Coordinator
Lawrence Berkeley National Laboratory, One Cyclotron Road, MS 90K, Berkeley, CA 94720.

Dear Mr. Philliber, RE: Proposed Scope of Analysis for LBNL's 2004 LRDP EIR

After reading the Proposed Scope of Analysis for LBNL's 2004 LRDP EIR stage of the plan making process which anticipates development for the next 20 years at the Lawrence Berkeley Lab, I have a number of questions and comments I think should be included in the 2004 SCOPE documentation to serve as a baseline for 20 years hence.

I. I was unable to find a solid reference to the 1987 Plan (plus add-ons) with respect to building on the strengths, filling gaps, and otherwise improving upon that Plan's weaknesses. This raises the question of what does the current planning community mean by "SCOPE" in 2003, and how has that changed from 1987? Did the Scoping in the 1987 LRDP included fewer characteristics to evaluate than LRDP Scoping does in 2003?

One could argue that in 2003 there is increasing environmental awareness as well as awareness of environmental illness such as radiation sickness and lead poisoning. One could argue that there is increasing awareness of infrastructure weaknesses such as seismically damaged sanitary sewer and storm drain utilities underground of the Lab that we know are leaking toxins into the groundwater and likely will end up in Strawberry Creek and its tribulets. One could argue we are more aware of the preservation of natural habitats in the wild lands the Lab rents from UC than before, which would likely be damaged by even more development of any sort.

II. Perhaps, it would be wiser "to clean house", fix up the infrastructure and reallocate existing facilities of unused space before sprawling into outlying areas of pristine land? Can you clarify the mixed signals we have received this month in the Scoping phase of the planning, with respect to current planning state-of-the-art-thinking on urban sprawl construction into outlying pristine environmental land, versus the alternative of infill planned construction in the heart of the built clusters at LBNL?

III. And in the face of the Bay Area region's projected growth, at this time of budget shortfalls, wouldn't it be smart to use a sustainable development model for planning facilities in careful detail with respect to costs and benefits by revitalizing existing buildings which already have stable soil sites and even have utility hookups?

IV. In the case that the Lab will no longer occupy the Berkeley sites, one could imagine those facilities prepared for potential educational use in the University's mission of education, research, and community service.

Isn't scoping as a set of applying currently adopted policy under law a set of principles that evolves over time? Therefore if the time line is until 2020 then current planning must evaluate the flow that goes back--as well as forward, rather than be stuck in a static land use notion that appears to be one of urban sprawl taking of more and more pristine land in outlying areas that could instead be protected to sustain our lives with our cleaner air, water and soils?

I would plan differently. Perhaps you have another two plans that have not been shared with the public?

I would imagine:

Plan A for Future Development as one imagines the Lab Stays forever

Plan B if the lab goes--then convert to educational facilities

Plan C if the lab stays for only the next contract period

As I understand it, the LBL is portrayed as the brainchild of the 3 Labs under the University of California contract with DOE. The Lab conducts threshold research where theoretical one-off design models are invented and then go to industry for the appropriate applied testing. Now, that the future of the location of the Lab is in question. At the May 15, 2003 Board of U C Regents Meeting former President Atkinnson and Ambassador Linton Brooks (the current Director of the National Nuclear Safety Administration), brought into the open that the DOE is requesting the University administration to competitively bid on the next contract. The discussion covered the possibility of the Lab leaving Berkeley and going to the University of Texas or elsewhere. Either the contract will be renewed or the contract will be cancelled. The continuation of the DOE Lawrence Berkeley National Laboratory under the present arrangement at the Berkeley/Oakland site on University land will be no more.

In national politics dominated by a Republican administration, Republican Senate and House majorities in Washington DC, there is less support for the dominantly Democratic Party San Francisco Bay Area economy and the University of California Systemwide. Contrast this with much support to contract with research centers and universities in Texas.
Such a shaky future bears enormous implications, not only for the University's budget, but also for the entire Bay Area economy.

V. Pivotal questions that are being discussed far and wide are not at all addressed in the LRDP 2004 initial study. In my experience working for a County Supervisor in the 1970's, these questions would normally fall within the scope of modern planning. To begin, a few are:

What projects would leave with the Lab contract?

What scientists and support staff would leave?

What offices and building would be vacated? What is the projected number of gross square feet (gsf)?

What percentage of the average daily population would no longer be driving to the Lab?

Would the bus service leave and no longer transport faculty and staff to the present stops?

Would the Lab take moral authority and complete the designated clean up of the toxic ‘stains’ from chemical and radioactive waste in the groundwater, soils, creeks, and vegetation before it closed down?

Or, would the University be left with the toxins problem that has been accumulating for 60 years?

To what degree would that cleanup extend: to a zero tolerance of a full clean up level as requested by the City of Berkeley?

Or, would the clean up be ignored, as is the tendency on many former military bases?

Or as knowledgeable community members fear, will we be mind-boggled with the public relations outbursts to control public outrage?

VI. A CONPREHENSIVE ALTERNATIVE ANALYSIS to revisit the two planned projects, Building 49 and the Molecular Foundry of 2003 that somehow escaped the current planning that you opened in 2000.

One could argue that the concept and plan for the Molecular Foundry is not unique, it is DUPLICATIVE of other MF’ under DOE in other parts of the country and therefore is an "extra"one. Those other sites have buffer zone perimeter, which safeguard the laboratories while this proposed building site in the Strawberry Canyon Watershed does not. To my knowledge those other foundries do not have to consider firestorms, earthquakes, and landslides and are not located in an area at high risk for terrorism under the Homeland Security designation. A full EIR with public imput would have given you details on these issues to answer to. Please revisit these considerations; these projects belong to the land base and therefore are within the scope.

VII. What follows is taken from a letter that I sent to Senators Boxer and Feinstein in October 2003 expressing my opposition to the Nanotechnology Molecular Foundry appropriation for LBL’s Berkeley Campus after the project was certified by the Regents.

"On the Energy and Water Bill conferencing, please consider eliminating the funding for MOLECULAR FOUNDRY for the Lawrence Berkeley National Laboratory and setting a MORATORIUM on the project until we have a thorough discussion about the health and environmental implications of molecular nanotechnology. We should also have a firm and grounded understanding of any associated hazards, likelihood of accidents, and whether it should be sited in a secure area away from densely populated areas…

Nowhere is this facility PROPOSED AS EDUCATIONAL for a university community…

The scientific community knows very little about the health and environmental impacts of molecular nanotechnology.

On July 8, 2003, the US EPA, through its National Center of Environmental Research, released a Request for Applications entitled "Impacts of Manufactured Nanomaterials on Human Health and the Environment" in which it states "There is a serious lack of information about the human health and environmental implications of manufactured nanomaterials, e.g., nanoparticles, nanotubes, nanowires, fullerene derivatives, and other nanoscale materials.
Table 1 provides an outline of nanostructures, their size, and material into which they may be formed, indicating the type of application in which they may be used. Environmental and other safety concerns about nanotechnology have been raised (Dagani, 2003; Masciangoli and Zhang, 2003; Service, 2003). As part of EPA's mission
to protect human health and the environment, this solicitation requests research proposals which address potential health and environmental concerns of nanomaterials." See, http://es.epa.gov/ncer/rfa/current/2003_nano.html for the full document.

Given our lack of knowledge about the potential health and environmental effects of this new and untested technology, should we not ensure that it would do no harm? Should we not wait until we, the public, are satisfied that scientific due diligence has been conducted and no harm to life and the environment is shown before this technology is released upon the world?

Here are other reasons that funding and building the Berkeley facility is inappropriate:

The proposed Foundry is duplicative—the National Nanotechnology Initiative lists several other Foundries with the very much the same research plans.

All of those foundries are at SECURE sites; LBNL has no buffer security perimeter to protect nearby classrooms and homes

It is advertised as a user facility where "…what could you make if you could build things atom-by atom?"

and"…to develop and study both "soft" (biological and polymer) and "hard" (inorganic and fabricated) nanostructures and how they can be assembled."*

Any facility that creates experimental human, animal, and plant life forms (biological life) then destroys that life in thousands of trials, raises again the issue of when does life originate and who has the right to destroy each life? This is troubling for theological thinkers. Just imagine the implication of this?

Thank you for your kind attention,

Very truly yours, Jennifer Mary Pearson, Ph.D., Berkeley, Ca 94709

* From: "Berkeley Lab A Place of Wonder"

Subject:
Scope of DEIR should include serious examination of other technology-rich, depressed Bay Area communities such as Pleasanton, Hayward, Fremont, Oakland, and Richmond as possible nano-tech sites.
From:
David Tam <tamnacexcom2@yahoo.com>
Date:
Wed, 26 Nov 2003 16:38:52 -0800 (PST)
To:
lrdp-eir@lbl.gov
CC:
andykatz@uclink.berkeley.edu, chpederson@yahoo.com, elbmarin@aol.com, hankr@earthlink.net, helenburke@earthlink.net, hmclean@uclink.berkeley.edu, jlamont@creekcats.com, joanne@sfbaysc.org, jonna@sfbaysc.org, joyceroy@earthlink.net, kirk.abbott@angelfire.com, lvurek@igc.org, mdaley@sfbaysc.org, mike.daley@sierraclub.org, mmacris@aol.com, n.laforce@comcast.net, piperrr@alum.mit.edu, pwebsky@earthlink.net, richs59354@aol.com, spbloom@earthlink.net, tamnacexcom2@yahoo.com, wjasmith@aol.com, yodeler@sierraclub.org

TO: Jeff Philliber
FROM: David Tam (tamnacexcom2@yahoo.com; PO Box 601, Berkeley CA 94701-0601; 1-510-472-5723)

The Scope of the DEIR on the LBNL LRDP should include serious serious examination of other technology-rich, depressed Bay Area communities such as Pleasanton, Fremont, Oakland, and Richmond as possible sites for the new nano-technology facility. All are BART-accessible.

Subject:
Comments on proposed LRDP-EIR
From:
Robert Clear <RDClear@lbl.gov>
Date:
Tue, 25 Nov 2003 15:28:26 -0800
To:
lrdp-eir@lbl.gov

To Jeff Philliber
LRDP-EIR@lbl.gov
Comments on Draft EIR for LBNL Long Range Development Plan
November 25, 2003

1) Transportation:
The LRDP EIR says that it will analyze the impact of increased traffic (checklist, page 18). Although the plan says that it will "promote alternate forms of transportation" (page 10), it also says that it will provide parking to support an increased population. On page 5 of the report it states that the "current objective" for LBNL's parking is 1.7 employees per parking space (0.59 spaces/employee). Based on the figures provided on page 5 the current ratio is 0.53 spaces/employee (2200 spaces for a daily population of 4300), thus the current objective is to increase not just the absolute amount of vehicular traffic, but the relative amount as well. This is not consistent with the goal to promote alternate forms of transportation.

The current level of vehicular traffic already contributes to significant congestion. Increased traffic will not only add to congestion, but will also make alternate modes such as walking and bicycling less safe, and less attractive. The EIR will need estimates of the current mode split, plus estimates of future mode splits. Any estimates of future bicycle or pedestrian access must account for the detrimental effects of increased vehicular traffic.

The lab currently encourages alternate transportation through a lab shuttle. The EIR will need estimates of the degree of mode shifting that can be expected from increased incentives. The EIR should examine monetary incentives such as subsidized transit, or direct pay-out, time incentives such as increased frequency of shuttle service, satellite parking with shuttle access, more shuttle routes and extended service in mornings or evenings, and increased ease of access via better bicycle lanes, more point of use bicycle parking, and possibly an exterior escalator or moving walkway for improved pedestrian access.

Bicycle and pedestrian access via Strawberry gate is influenced by the condition of Centennial road. Currently, pedestrian access is unsafe due to slip hazards adjacent to the fence of the Botanical garden. Night time bicycle egress is unsafe because of insufficient street lighting and a road geometry that aims vehicular lights directly into opposing traffic. The EIR needs to address the possibility of cooperative agreements with other entities in the upgrading and maintenance of access routes to the lab.

2) Space use efficiency
Page 10 states that a draft policy of the LRDP is to “replace old low density with new space efficient facilities”. Pages 7 and 8 show that current space use is 409 square feet per employee, and that the planned expansion is 667 square feet per employee. The issue of what constitutes space efficiency in a modern setting needs to be explored more fully.

Most of the current lab buildings appear to be from 1 to 4 floors high. The planned molecular factory is 6 stories. The EIR needs to distinguish between gross square feet and the added footprint of planned construction. Impermeable surface area should be listed as building, parking lot, and road or other surface. The impact of new buildings needs to include any added lots or access roads.

Currently, there appear to be no parking structures on the hill. Planned expansions which only include parking lots will have a much larger impact on the built footprint in the lab area than would equivalent construction with parking structures. In addition, existing parking lots could be converted to parking structures to either provide parking for new construction, or to allow conversion of other lots back to open land as a mitigation measure.

3) Page 10 states that a draft policy of the LRDP is to “Promote infill development sites reinforcing the cluster concept”, and also states that a goal is “Site development adjacent to existing development and utilities”. The latter goal is sufficiently vague that it could apply to essentially any site along the current road system, as well as a number of sites off of it. The two current construction plans, the molecular foundry and building 49 are both examples of development adjacent to existing development. Currently the Bevatron and old-town areas of the hill have undergone some degree of decommissioning and dismantling, and are not being intensively used. In terms of the first goal, these appear to be prime areas for planned expansions. However, these are also sites which have been contaminated by past activities. If they are not cleaned up in a timely fashion, they will not be available for future expansion. The draft EIR needs to address the questions of funds, the degree of clean up required to reclaim these sites for potential use, and the timing issues involved. If these sites cannot be reclaimed during the LRDP period then there is much more limited possibility for infill development, and there should be a serious question as to whether further growth on the hill is acceptable during this period.

4) The proposed plan is to add up to 1200 new staff. This presupposes growth in research needs in the national laboratories plus some allocation of that growth to LBNL. The EIR should address the planned or estimated overall expansion of research in the national laboratories, and the degree of coordination between the labs in handling this growth. Some of the labs have may more room for growth than some of the others, and there may also be a potential for the development of new national laboratories. It should not be presumed that growth is either desirable or necessary for this site.

A major advantage of the LBNL site is its proximity to UC Berkeley. Currently LBNL has about 5% of its space off-site on the UC campus, and has another 15% in lease space. The proposed LRDP appears to assume no

or even negative growth in these off-hill sites. In addition, the proposed plan emphasizes research clusters, which would presumably be incompatible with off-site space. The plan does not address the counterbalancing potential benefits of off-site space: better access to and increased collaboration with UC Berkeley, and a wider access to buildable sites, with better transit access and less environmental impact. These issues need to be evaluated in the EIR.

Robert Clear
rdclear@lbl.gov

Subject:
Comments of Long Range Plan
From:
Howard Matis
Date:
Wed, 19 Nov 2003 20:59:38 -0800
To:
TPowell@lbl.gov

Terry,

I could not attend the Long Range Planning Meeting. Please forward these comments to the Long Range Process.

I understand that many residents want Lab Employees to take public transportation. It certainly laudable and better for the environment if everyone takes public transportation. However, the facts of life in our area is that for many people public transportation is not practical and the LBNL long range plan must take into account that many employees must drive to work. There is no evidence that public transportation will get better. Planning must reflect that fact. Restricting car access to the laboratory will not reduce the number of cars. It will just make the current situation worse.

Here is a recent example of the problem with public transportation. I built my house in a place that had public transportation. Recently, AC Transit proposed to remove our bus service and to others who live in hill areas. As Berkeley residents in general did not support restoring the service to the Hills, many hills residents have lost public transportation. There is no suitable public transportation in my neighborhood.

Many laboratory employees have no access to public transportation. They must drive their cars or not go to work. The current political climate does not support public transportation in all areas, therefore the LBNL plan must include the fact as there will be a segment of employees who must drive to work.

It is clear driving to work causes congestion in Berkeley. The longer cars are tied up in traffic, the more pollution. Therefore, the laboratory should explore ways to improve the traffic flow. (Discouraging traffic is ineffective and leads to more congestion).

The following ways should be explored to speed up traffic:

1) Stop signs should be replaced by traffic lights wherever possible - especially upon approaches to the laboratory.
2) On streets with congestion near the University, there should be no parking during commute hours.
3) The intersection near I-House is a major problem and should improved. For instance, the "no standing" sign near I-House should be enforced. The University should ban commercial deliveries during commute hours.
4) Gayley Road is a transportation nightmare. The possibility of lowering the road and adding pedestrian overpasses should be explored.

The lack of employee parking causes extra travel time as employees take a long time to find an available spot.

1) Extra parking places need to be created to eliminate this extra driving time. With less driving time there will be less air pollution.
2)The laboratory should explore ways of concentrating parking areas near employees work locations. Making a more efficient allocation of parking rather than increasing the number.

Howard Matis
LBNL Employee

Therese Powell <TPowell@lbl.gov>
Community Relations Officer
Lawrence Berkeley National Laboratory
One Cyclotron Rd, MS 65A0101, Berkeley, CA 94720 tel: 510-486-4387

Add to Personal Address Book

Subject:
late night thoughts after the public scoping meeting
From:
JThomas621@aol.com
Date:
Tue, 18 Nov 2003 01:31:13 -0500 (EST)
To:
lrdp-eir@lbl.gov

Dear Jeff,

I would like to add this comment to my comments made earlier tonight. Please include in the EIR an estimate of the % of the LBNL Hill Area land that will be built out at the completion of the LRDP in 2025. In other words, what percentage of the total land mass will be buildings and what percentage of the total
land mass will be parking lots , etc.

The visual rendering in one of the posters tonight was misleading because the LBNL borders were not well-marked. By including UCB land, the relative building density looks more spacious than it probably is. By reporting the percentages, it should clear up any confusion that the interested public might have.

Thanks.

Janice Thomas

From:
carole schemmerling <caroleschem@hotmail.com>
Date:
Thu, 06 Nov 2003 17:49:22 -0800
To:
JGPhilliber@lbl.gov, caroleschem@hotmail.com

Jeff Philliber
Environmenal Planning Coordinator
Lawrence Berkeley National Laboratory
One Cyclotron Road
Berkeley, CA 94720

Dear Mr. Philliber;
The Urban Creeks Council of California is very concerned about the proposed development, both short term and long term at LBNL. The impacts of the proposed projects to the ground water, the streams, vegetation and both human and animal health and safety are potentially quite dangerous. Therefore we make the following five recommendations:

*That a moratorium be placed on any new construction at LBNL until it is decided whether the DOE projects will be moved to Texas, and

*That the DOE be required to clean and detoxify all the existing buildings and land that they have vacated and promised to remediate and have not, and

*That there be no new buildings or facilities constructed on any land that is now open space, and

*That whoever manages this site develops a master plan for the cleanup, ecological restoration and maintenance of the headwater streams of the USA.

*That if the funding for the Nanotechnology Molecular Foundry does make it through Conference that a full, independent Environmental Report be carried out with public input and public review for the foundry and all other new development.

Carole Schemmerling
V. Chair, Board of Directors

Transcript of November 17, 2003, Scoping Meeting

LBNL 2004 LONG RANGE DEVELOPMENT

AND

ENVIRONMENTAL IMPACT REPORT

November 17, 2003

North Berkeley Senior Center

1901 Hearst Avenue

Berkeley

REPORTER'S TRANSCRIPT OF PROCEEDINGS

BY: STACY L.D. RODRIGUEZ, SHORTHAND REPORTER

CLARK REPORTING

2161 SHATTUCK AVENUE, SUITE 201

BERKELEY, CALIFORNIA 94704

(510) 486-0700

PROCEEDINGS

---oOo---

(ON THE RECORD, 7:10 PM)

MS. POWELL: If everyone would like to take their seats, we're ready to begin.

Actually, for most of this you can still look at the posters if you're interested, but I would like to welcome you tonight. My name is Terry Powell. I'm the Community Relations Officer.

Just some general information about the building and the meeting tonight. As you know, the bathrooms are out the door and to the right, both men and women's.

Our meeting is scheduled for two hours, because we didn't start right on time. We have salmon-colored comment cards for you. They're available with sign-in sheets and the handouts in the back of the room. We have a court reporter present now, and she will prepare a transcript of this meeting which will be then posted on the Lab's website when it becomes available. Other records of this or other meetings are not in the official Laboratory record. This meeting provides you with the opportunity to make comments on the long range development plan's EIR. Please give your full name for the record. You'll be given three minutes, so try to keep your comments or questions to that time. You may step forward to the microphone at the podium to make your comment. You may

also write your comments on the salmon-colored cards, and give them to Beverly Harris or Ms. Stuart in the back or Angel Williams in the back of the room.

If there is time available after everyone has had a chance to speak, and you would like to make additional comments or questions, please do so. Responses to your comments will not be given tonight with some minor exceptions that Jeff will outline. Responses will be prepared in written form and placed in the record of the Environmental Impact Report. Please feel free to write your comments and hand them in tonight, or send them directly to the Laboratory.

A portable audio system is being used, so let us know if you cannot hear something. If you would like to receive future notices, please fill in the requested information in the sign-in sheet. The environmental documents for this project are and will be available on the Lab's website at www.LBL.gov/LRDP. They're also available in the Berkeley Public Library, second central -- second floor reference desk area.

For those of you who don't have the agenda, tonight we're briefly going to go through an overview and outline of the long range plan. Then, of course, most importantly, your comments.

Now I'd like to introduce Ally Benson, our Laboratory Deputy Director, who will give you a brief

overview.

MS. BENSON: Good evening. I'd like to welcome you all to the scoping meeting or the EIR, for the long range development plan. We're looking forward to your input, and appreciate that you took the time to come and give us your input this evening. So long range planning is critical to Berkeley Lab's ability to meet its mission. We need to provide a site that is satisfactory in terms of meeting all of those needs, and what I'd like to do -- probably -- I'd like to just briefly go over what our mission is because that really provides the context.

So the first of our missions are really to address the fundamental questions about the nature of the universe, what it's made up of, where did it begin, how did it begin, and how is it going to evolve over time.

The second major area of investigation is into an area of trying to develop solutions to some of the most pressing energy and environmental concerns facing the globe. Things like global climate change, things like environmental contamination.

We also have a mission to develop new materials that will improve the quality of life for everyone in the environment, and also for human health.

Finally, we have a mission -- a broad mission to ensure that the United States remains competitive with regard

to scientific research in a whole spectrum of areas that underpins the economic health of this country.

So, this is our broad mandate. So the question is then, is what kind of attributes do we need to have at our site so that we can fulfill this mission?

The first of these is to create an environment to enable disciplinary research. What we mean by that is the research not where one individual works by themselves, but where teams of scientists covering a broad range of skill can come together to be -- so we need to create common places where people can come together to enjoy the time thinking about these challenging issues together.

We also need to create an environment and a place that can house national user facilities all over the world to one-of-a-kind unique kind of abilities where they can do their own individual research, but at facilities that are developed by the Department of Energy. Examples of these: National Energy Research Supercomputer Center, one of the largest non-classified computer centers in the world, things like the Joint Genome Institute -- all different kinds of forms of life and places like the Molecular Foundry, where people begin to design new kinds of materials and add them at the time with very special properties. So we also need to find a place -- create a place that's appealing to students and faculty, to create a good learning environment, that is an attractive

place and desirable place, where people come to be part of our environment and our staff. It's also very important for all of us to be good stewards of the environment, both the national environment that we live in, as well as good citizens and neighbors to our community. And finally, we want a place that welcomes and encourages knowledge and exchanges the technology transfer with industry and universities alike. So these are some of the attributes as we begin to think about the LRDP, that we want to create an environment that would achieve these goals.

So, I'd like to say a little about -- about how we go about carrying about our missions. I've talked a little bit about what it is, but I'll get a feel for the kind of science that we do.

I'll start with energy in the environment. Many of you may know that the environmental energy technologies division in the Laboratory is really leading the world in terms of new energy-efficient technologies. Examples include lighting, window coatings they have developed, appliance standards for many of the appliances. When you go to the store and buy a refrigerator, those energy requirements have been developed by scientists at our laboratory. So it's really made a huge impact, and billions of dollars of savings in energy alone. So this is a very important area.

We are also very interested in solving the climate

change problem. There's a poster over there. There's some testimony that I provided looking at technologies that can mitigate CO2 emissions to the atmosphere and basically avoid ground water clean up, soil clean up, and so forth. So, that's one big area.

We also work in the area of bioscience and health. We have a large number of researchers trying to understand and develop techniques for preventing cancer, and they start with the very basic building blocks of life looking at genetic material, looking at proteins all the way through cells, and there's got the beginnings of an integrated program that allows us to unite at all these levels.

We're also working in the area of nanoscience. This is a comparatively new area. Material sciences in particular, are working to develop tailored materials that have just the perfect set of properties to deliver a particular function and Paul Acedo, the leader of that program, has also made some real advances -- solar cells as an example. They're also trying to develop much stronger materials. In particular, bones and so forth, is what can we learn from nature about these incredible materials that ever withstood the test of time.

There are also important issues that how could we store hydrogen. That would be a big bridge towards creating the hydrogen economy of the future. So, nanoscience nanotypes

are being studied to do this kind of thing.

At the heart of our science is really probing the fundamental nature of matter and energy. There have been very exciting discoveries in the past several years. The fact that the universe is mostly made up of dark energy, dark matter -- things that we can't see, but they know they exist. Because the earth is accelerating, and the universe is accelerating at an even greater pace. So, we have people who are working that will put a satellite up at Supernova, and understands use and understands this is the very beginning of the universe, and how it will evolve.

And finally, computing is a big part of the fabric of our laboratory. Simulation of very, very complex problems is cutting edge. Science has many, many areas, and the examples we're working on stimulation of global climate change. Combustion of fossil fuels and simulations for example, of groundwater contamination. So, these are the kind of science that we do now, and that we envision as being a very important part of your long-range development.

So, now coming back to the to the long-range development plan and the Environmental Impact Report, these really go hand-in-hand. The long-range development plan describes the physical attributes that would be needed to accomplish our mission and the Environmental Impact Report is a companion document that provides an opportunity for input to

dialogue with your neighboring communities. It helps address how the Lab's development will act in accordance in our neighborhood community, and finally, it helps us bring environmental consideration into focus as we examine how to develop the site.

So with that, I'd like to move on to the main part of the program, today, but first, let me thank you again for your attendance tonight. I really appreciate it, and we look forward to hearing from you. Thank you.

So, I'd now like to introduce Rich McClure from our planning department, who will talk more about the long-range development plan.

MR. MC CLURE: I'm going to speak for a few minutes here about the long-range development plan. It will be a turn from 2004 to 2025. And there's the acronym, LRDP, and you see that around the room that what it means, long-range development plan. Our approach to the LRDP is to relate the science which is otherwise not related to the physical setting and to establish a framework for the physical development of the Laboratory through 2025, and our LRDP is being prepared concurrently with an EIR. The scope of the LRDP covers a few items that are not typically covered in the general plan or other thing. Let me run through what those are. We have a community and environmental setting. Land use development framework the design framework population and

space those are projection as you see in a moment. I'll go through each of these very quickly here. The community and environmental setting is a very important one to us. We've been working with members of the community for quite awhile, and we have a particular note here to the management program, the wildland fire risk reduce, and there are other factors here who does our stream programs and other things up here as well.

In land use, we're looking at three different land use designations on the site. One of them is the developed area, and that's areas where there are buildings, roads, parking lots, corridors and such.

The second one is vegetation and fire risk management areas, and there are a number of those around the site. Those have an additional attribute of being areas that they're not developing in, or it would be completely in some cases grasslands, but in addition to the trees and the other investigations on the main site, it's in the developed area -- there's this ring almost around the Lab there. And then we have areas that we will very much limit for management and in many ways entry, and these are areas, for instance, some -- there's one that has been identified as a potential habitat -- viable habitat for the Alameda whip snake on site. These are areas we're not really moving into. Another one is on the side of the north, Strawberry Creek along Chicken Creek, where

we'll have areas we'll do minimal work, clean up the vegetation that is underscored on the exact perimeter of those roads, so that they will survive a wild land fire, but do relatively little in the area. The development framework -- and this one's really faded out, and I apologize. We're looking at a series of research clusters. Those of you which are familiar with the Laboratory know that we developed on the more or less as needed basis, so when an experiment came along they added a building or did something, and this is to get a sense of unity and cohesiveness across the main site.

At this time we're not in the position to demolish or to do major -- accomplish something that has a little more coherence. So, what we're looking at is how can we develop meaningful assemblies of buildings, and these are very much other natural settings that are -- each of these would have more or less a keystone building or a plaza or space that then draws people together in those areas and has a good relationship. So, we're moving towards another era of design up there that I think you will find much more favorable when you do see things. But again, we're going to be keeping that setting of the buildings innate is very much the dominant theme here, so you're not going to see whole buildings except in a few cases. One most recently coming forward, trees need to be planted in front of it -- is that's going to be happening. Then we 1ave a design framework, and I was talking

this is just kind of the -- in the advanced light source old town area as it goes into a common area, the cafeteria area, and such.

So, we' 5 looking at how do -- we create pathways that basically reflect there, so people can have interactions. How do we get people on single pathways characteristically, and have interactions that are very important for the science, and basically improve the overall character and the health of the groves in here? We planted many trees back in the early 60's, and they're planted much too closely together. We really need to be thinning those out. But the whole intent there is to get the healthier groves in here as well. Then we have a population and space. The population we currently have is approximately 4,300 average daily population, and that's calculated by taking 100 percent of the full-time employees up there at the Laboratories' team at the Lab, and 40 percent of the total number of guests that we have registered. You know, we have user facilities that draw users from across the world actually, and so, in our surveys, we found that typically you had at peak times -- 40 percent of them on site. So we put them on here as the figure to calculate that, and we project 5,500 again out at this, the 25-20 range.

amount of space, and we're keeping that constant as far as the communities of space, and the LRDP process as well as we're looking at having the draft LRDP out in February '04. The public comment period ends April '04. We're looking at the final long range development plan in late June-July of this next year available to the August timeframe within regents meeting to review it and improve it in August '04. And I think that takes us to your next part here.

MR. PHILLIBER: Hi, I'm Jeff Philliber. I'm the Environmental Planning Coordinator at the Lab, and I'm going to speak about -- I'm going to speak about the upcoming Environmental Impact Report that will be prepared for the project. I'm going to wait for my slide -- great.

The Environmental Impact Report that we will be preparing for this project, which is the LRDP, will be a programmatic one which replaces the 1987 Long Range Development Plan Environmental Impact Report as amended.

Many of you have followed your -- are familiar with that series of documents. It includes the '87 EIR, Supplemental EIR, and the addendum to that -- that was done in '97. The -- the programmatic document is intended to cover the entire breadth of our site geographically as well as the duration of the project, which, as you know, goes through 2025. The way that the programmatic document works, and in particular in this case, is as a future project comes about,

we'll first take a look at the project and see if it's in conformance consistent with the something that's envisioned in the framework of our long range plan EIR. If that's the case, then we move on and decide whether the impacts that would arise from the project have been covered in this document. If they're not, then we need to prepare a tiered document. A tiered document is usually an Environmental Impact Report or a Negative Declaration of a categorical exception under CEQA that incorporates any reference to the programmatic document. We would decide what level of programmatic document to prepare, and we would decide what issues need to be focused on, and also, focused out from that tiered document -- tiered document. These are the areas that we will look at the impacts of -- to these areas in our upcoming Environmental Impact Report.

We've focused on two areas here: Mineral resources, and agricultural resources, which don't really pertain to the Lab. We'll probably not concentrate on requisite resources too closely, and we will do a very comprehensive cumulative impact assessment in this document.

This -- this table didn't translate too well, but it shows the opportunities for public involvement in this process for the NOP. Of course, you can give us your written comments, as well as review the document itself.

The public scoping meeting, which is tonight, gives

you a chance to give us written comments on comment cards, as well as to give us your spoken comments.

When the draft EIR comes out, you will be able to review that document and provide us with your written comments. We'll have a public hearing on the draft EIR, at which time in a forum very much like this one, you be able to give us your spoken as well as your written comments at the meeting. When the final EIR is issued, you'll be able to review the document to provide your written and spoken comments to the regents.

Our schedule is as follows: We're in the NOP period. The scoping meeting is tonight. The draft EIR is expected out in February of '04. We'll hold the public hearing probably in March. The final EIR is expected to come out probably in the July-August timeframe, and we'd like to go to the regents in August.

And that ends my slides. So, I'm going to turn it back to Terry. I will begin to take your comments.

MS. POWELL: Now starts our comment period, and we'd ask that you come up and speak at the podium. And L.A. Wood was here first -- and I know you have another meeting you have to go to, so if you'd like to start off, please do.

MR. WOOD: My name is L.A. Wood, Berkeley resident. Live within a mile of the Donner Lab part of LBNL. The commission, a few nights ago, made some recommendations

that we've submitted. I'm not going to belabor those, I just want to say something about the process tonight.

I think that the community is very grateful that LBNL would do a long range development. It's always so wonderful when one of the largest businesses in town comes forward and wants to talk to the community.

My problem is that often times, like tonight, we are offered up LBNL with the wonderful world of science with all the posters, and when most of us recognize that that's not the issue tonight. It shouldn't be the issue tonight. Tonight the issue should be the development of the hill, and some of the activities that are going to go on up there. I think that the hill represents a -- a huge resource that I think that the lab is -- 'cause you think you call it the "neighborhood communities" as you referred to us -- is that we're not really being considered. It's that equation I don't believe with the development.

Right now, apparently, you have 25 percent of the hill that's already -- that's a serious problem when you propose projects of the area -- the deficit that you are talking about that administers development modes more imperious surface when -- you know -- in business, it's better to consolidate yourself.

I also want to say something about the watershed. The watershed up there is very, very important to Berkeley. We

on the commission have tried to get the city to clean up the watershed and be sensitive to it, and recognize that the development destroys watershed. There's no way that you can put the kind of development that you want, a million square feet on the hill and not absolutely destroy that -- the environmental -- the environment of the hill, and the resources of the community. We're not talking about this is a resource that has been in Berkeley that Berkleans have been able to use for some time, and I think that what you're creating long term is something that's not very desirable for the community at all.

As I said, I just don't think you may be studying some of the science of the hill. But even though some of us have problems, you should know that we know now that -- things -- we do weapons work, and you know, we're very concerned about that. Weapons-related type work. We know in the future that's going to be more the case then it is told, and those are very serious concerns to us.

And I just want to say that -- that one last comment that with regard to the Lab. I think that maybe the one thing the Lab doesn't realize is that we're not against its science, we just think it didn't respect the fact that it is in a local area urban area, and many of the science that they want to pursue are important to pursue, but are detrimental to the air quality, and to the environment of Berkeley.

And I need to be done. Someone else like to come up and speak?

MR. SHARP: I'm Jim Sharp. I've been a 35-year resident of Berkeley, and I'm ready to buy one of these photos, because I think it's one of the best things the Lab has produced that I've seen.

Let me just point out that the first time I saw the Long Range Development Plan come by -- was it three years ago? October 2000 -- and I haven't heard tonight why there is a three-year hiatus. Nevertheless, I spent a lot of time at the University, studying what was called city planning in those days -- city regional planning. And one of the things we were taught was that planning is really thought before action. But what we've seen recently in the last less than twelve months is sort of action before thought.

I think it was on December 10th last year that I first learned about the Molecular Foundry. A Notice of Preparation came out, and everything proceeded very rapidly after that. And the regents finally approved the foundry. I think it was early March -- I don't remember exactly. And along came Building 49 which is one of total out source. Building 49 -- which is kind of amazing if you can outsource a building on campus you can imagine the implication of every building was owned and operated by an outside contractor. The -- when that first came out, we were going -- the Lab was

going to cover a riparian corridor with a parking lot. Well, they backed off on that around July. But I -- you know in just the last less than a year, I've been surprised at -- at the way the people that are running the Lab are -- are -- you know -- rolling these projects again without planning. It seems to be the actions preceding the thought.

Okay. I do know -- and again, some of the people here aren't very actively involved in this, and I appreciate the efforts to get the word out. But I see some of the -- what masquerades as thought or whatever is -- is really public relations. And the one that got my attention just in the last -- in the last week, was something again for the Molecular Foundry. It's called "Nano-High." This is for high school students. Now okay, that's great. Let's let high school students learn about nanotechnology, and so on. But it's starting this Saturday, and you can take a class -- if you're a high school student, I mean. It's a one-day, or part of the day November 22nd. So, anyway, I'm saying let's get things turned around. Let's focus on the watershed. That's what we got here, and I'd like to see the Lab join forces with the University and the UC, and focus on the whole watershed and stop artificial planning as it were. Thank you.

MR. KELLY: Hi, my name is Michael Kelly, and I live on Panoramic Hill. First, I'd like to just say a little bit about what I hope the long range planning process might mean

to LBNL. Having spent a little bit of time on the work group, I know that there's two different ways that you can -- two different main attacks that deal with ceasing exposure intake. One, is that you can start with a young product you want to do a project you want to have your figures meet certain regulatory standards so you can work backwards is try the work around the problems that come up. Another way to look at ceasing health impacts and to actually look at health impacts. And the way we're really looking for problems. I will hope that at least intelligently within LBNL, this process can be a contemplative process in which you're actually looking for problems, and not just looking or avoiding bottom lines that are going to give you problems in your plan.

Having said that, I'd like to speak just for the moment on a different issue which is, traffic. The traffic corridor is south of Berkeley -- south side of Berkeley, Clairmont, Piedmont are constantly saturated during peak hours. I know there's a large session in the LRDP that can look at traffic issues. What I see not just from LBL, but from LBL, the City of Berkeley, and also the University is three institutions that try to take traffic seriously, but in the end, we've got an ever increasing problem, and to a certain extent, I think all those institutions have their heads in the sand about that. Because probably no matter how much you try to put in little programs that make things better

in the end, this expansion is going to create extra parking spaces for extra cars along those corridors, and we're at the point now where people in the Lab have to drive through that. Think about what would happen when those corridors are fully saturated -- say 5:15 to the point where you can't even get off to the side because people are sort of stuck in all the spots in intersections where you should be able to turn, but you can't because people are just filling up all the space. What if a major fire starts on Panoramic Hill at that point? What does that do to emergency response? And this isn't just about emergency response.

Traffic is also a quality of life issue for all the people on those roads, and for the people that live around them. But I think particularly concern needs to also be placed on the saturation of those traffic corridors because they sit right on top of the Hayward Fault. They sit right adjacent to high fire danger areas, and it's increased risk. I mean, we saw the major earthquake that happened here and down in Santa Cruz happen at rush hour. Two major events that happened at the same time. Thank you.

MR. METSPHER: Good evening, my name is Ian Metspher. I'm here basically, to talk about transportation and traffic issues. Some of you know that I'm on the Transportation Commission in Berkeley, as well as an active member of Encina, which is the neighborhood on the south side

of Berkeley. But I'd like to speak about what you plan to do with the transportation element of this thing, because there are ways that we can help ourselves.

One of the first ones I'd like to see you do is consider an Ecopass for all of our employees. That should be done so you can encourage people to get out of their cars and make it worthwhile to get out of their cars. If you're going to add another 1,200 people to the Lab, we've got to get them on buses or public transportation of some kind or another.

The other thing is the corridor. The corridor at that time rated during rush hour, both morning and afternoon -- the only way I want the Lab to get very much involved in working with the city is to get carpooling lanes, or dedicated lanes, or buses during rush hour on our major buses to encourage people to ride on them. It's the only way you're going to get people to ride the bus. Get them on schedule and you can help.

So, what I want to see in the EIR is the budget items that produces money. To AC Transit to begin to help solve some of their problems which will make you better neighbors with us. Thank you.

MR. KELLY: Good evening. My name is Tom Kelly. I'm a resident of Berkeley, and also a member of the city's community health commission.

I'm just kind of curious -- you know -- if anyone

here could -- would just raise their hands if they know what nanotechnology is? Everybody knows. That's great, because I have no idea what it is, and I've been reading about it for quite awhile. But the reason I bring it up is the City of Berkeley recently passed a resolution that requires the city to consider the implementation of the precautionary principle in all of its activity. It's going to go big. Sort of a review. And the idea is to try to minimize the harm that its activity is to its workers, and its citizens. And they're doing that even though they don't have complete scientific proof of the chemical or something that they're using is harmful to human health. And -- you know -- one of the reasons I think people that are starting to look at our environment like that is because we realize -- and I can say this because I also work in the Health Department where we look at the environmental causes of non-infectious diseases like asthma and autism, and cancers -- that there is so much in your environment that's having an impact on the health and we can't nail down the specific element that is causing that.

Cancer is increasing. Take respiratory disease, but we know that there's something going on, so rather than try to prove it, the precautionary principle would encourage us to step back, let the prominent something show that it doesn't have a harmful effect on the environment, and then introduce it, or offer it you.

The city of San Francisco has adopted the principle in all of its purchasing activity, because it's coming to the conclusion that it's a smarter way to go than the way they have been doing it in the past.

The union recently adopted the policy, which requires the manufacturer of the chemical to show that it's not harmful to human health before it can be introduced into the environment. It's revolutionary, because they've realized that they don't have any more proof than we do that something is harmful. They produce two or three new chemicals a year. They have no idea what it does. They don't know how it works. But we do know different types of cancers are increasing that are all fairly certain. So, just to show you that this isn't just San Francisco or Berkeley that's concerned, the U.S. Environmental Protection Agency understands a not very environmentally friendly president has issued a request for proposals that ask to look at the health effects of human health. And they say there's a serious lack of information about human health and environmental implications manufactured nanomaterials, nanoparticles, nanotubes to nanoscale materials. Potential harmful effects of nanotechnology might become aware as the appointment of the nature of the nanoparticles themselves is characteristic of the products made from them. The aspect of the manufacturing process, the large surface area crisline structure, retroactive of some of

the nanoparticles may facilitate harm because of their insinuation of cellular material. Not even the EPA knows what impacts these things have, and yet we're preparing to let them loose in the City of Berkeley.

I think at least we should be asking for a discussion, and the people that may be impacted by these things right here in Berkeley, before we start signing off to allow something like that to be constructed in our community. Thank you.

MS. WAGLEY: Good evening. My name is Ann Wagley, and I'm a resident of Berkeley. And I'm not going to repeat the serious concerns of neighbors and environmentalists, and things that have already been said. Instead, I'm going to talk about money. It's interesting that Lawrence Berkeley Lab is envisioning its long range development as a hill town cluster. That is on page 10 of your NOP. Sounds very nice. And I'm sure it will be in this case for the people that work there.

Unfortunately, it costs a lot of money to run a town -- City of Berkeley knows this all too well. We are currently facing a severe deficit, and it's expected to grow thanks to the governor who was inaugurated today.

The City of Berkeley has to provide safe access roads to the Lab, street lighting for when you come and go from your hill down to the dark, sewer services for every

toilet and sink in your town cluster if a fire emergency happens. And the last is really serious, because we know the concentration of hazardous material at LBNL. These serving for you are paid for by the most part through property taxes paid for through us who live in this -- the town of Berkeley.

Currently the rate is 1.27 percent of increased value is one of the highest in the state of California, and we also pay a significant amount of money in the form of assessments, based on the square footage of your home.

I would like to suggest that the hill towns for the Lawrence Berkeley Lab levy on themselves similar taxes and assessments to pay them the city hall that provides the service that you use. These are commonly called pilot fees, or payments in lieu of taxes, and they are paid by governmental and institutional tax exempt entities to the host municipality, and that's done across the United States.

I strongly encourage LBNL to work with the City of Berkeley to find appropriate levels of payment for services both for current service to the infrastructure impacts, and also for those that are appropriate to the LRDP. We need to be fair here, and the hill towns or Lawrence Berkeley Lab need to pay their fair share. Thank you.

MR. SHIVELY: Good evening. I'm John Shively. I'm a Registered Professional Engineer.

I wish to speak in opposition to the siting of the proposed nanotechnology research facility in the Berkeley hills adjacent to and above the densely populated urban area.

My opposition is based on the problematic location, and not on the nature of the research work. The critical questions of research pertain to the important issues such as variable toxicity, contained problems, unintentional releases, substance propagation, dilution feasibility, biodegration feasibility, irreversible contamination recovery potential, and of particular interest to me is research site location. Because this is a relatively new field of science, many of the questions are not yet answered. However, site location is one we can address.

Although there are many unknowns of the -- about the conduct of nanotechnology research, one variable is to control where it can be done safely. That shall not be in the hillside above a densely populated area. There are many other potential sites in California that can be used that would pose a far less danger to population and the environment.

Nuclear weapons research originally conducted at the Berkeley Lab had a different kind of containment problem. A containment problem of a different sort. That containment of classified weapons information. And in the 1950's the weapons work was relocated entirely out of the Berkeley Lab and moved to the Navy Air Station on the eastern end of the Livermore

Valley.

When I worked at the campus, we learned that the source of the problem is Strawberry Creek. Water migrates westward from the hills towards the bay from the watershed above in and around the Lab out of streams, creeks, and trails. Much of this water comes from the Lab down Strawberry Creek under the stadium and through the city in route to the bay. Any accidental toxic release from there could eventually end up in Strawberry Creek and in the city's environment. This would be a genie that could not be put back in the bottle.

Let's not put the genie's bottle in the Berkeley hills. Thank you.

MR. MILLER: My name is Lowell Miller. I used to work at the University S.F. California in some context with the Lawrence Berkeley Laboratories. I will have the following suggestions for your evaluation. Regarding population, first of all, I think there should be an evaluation of the staff that's working at the Laboratory to see which -- if some of them can be moved at all. That is people that are not essential to the mission of the Laboratories and undertake things like either located off campus or telecommute. And in that sense, the second in succession followed would require management training of the senior staff all the way from the present downward, with regard to this telecommuting

opportunity, since there is a general sense of distrust that the people who might be working from home might be goofing off. This would help, I think, reduce some of the transportation problems. Thirdly, all other functions that are not essential to the Laboratory's science of emission, like perhaps printing functions, things that could be outsourced, should be thought to move off campus so you can reduce the possible space, and perhaps to reduce the quantity of the space you would need. And fourthly, that is sort of the whole suggestion perhaps, there should be some sort of aerial tramway or some sort or transportation that's done to use to transport people from the location from the campus or whatever else, so they don't have to rely on businesses which are kind of the old technology. This may be sort of interesting. I think if those can be considered in the report, it might help reduce some of the other issues. Thank you.

MS. BERNARDI: I'm Jean Bernardi with the committee. I'm also a member of the Panoramic Hill Association. The Notice of Preparation for the Draft Environmental Impact Report for the Lab's long-range development will analyze the expected annual average construction rather than doing an Environmental Impact Report for each discrete project as it comes up in the future.

This is evasive and not acceptable. An EIR/EIS

must be done for each and every project proposed to be constructed landslide critical, fire season. This is the Strawberry Creek watershed. It's bad enough to work on the LRDP which was postponed for three years. So that too huge projects at Molecular Foundry would not be evaluated. The context of the long-range development plan where cumulative impacts could be thoroughly assessed. The Molecular Foundry must be postponed and evaluated under the LRDP as Tom Kelly has very well stated about POG principle. The City of Berkeley has adopted it, and do you respect to the residents of Berkeley and Oakland and it's employees?

The Lab should also apply the reductionary principle in determining what project should or should not be undertaken by the Lab. And therefore, every project that needs precautionary principle applied it as the LAN biosafety to Molecular Foundry devoted the nanotechnology. As I say, Tom Kelly covered that quite well. So, I'll jump over some things I was going to say -- and there are numerous experts and groups who have warned against rushing head long into nanoresearch. For instance, the ETC Group in Indiana dedicated the economic diversity government to adopt a moratorium on nanomaterials being produced in laboratories without testing for health and environmental impacts. The director of the center for nanotechnology at Rice University, Dr. Vicki Colvin, when interviewed in April this year, stated, "I'm anxious about

when the first paper on health effects of nanomaterials publishes."

Mike Crow reported in February 2001, that all the mice in their experiment died, including those who had been immunized. This experiment was intended to sterilize the mice with mouse pox. That means the virus they created was on the loose, which is an immunization that does not exist.

Another concern at the Lab is the proposed proximity to the human geoinstitute is possible -- modified a little for which the health effects are unknown, and for which the Centers for Disease Control offers no guidance, which there are no known cures. Is that just a warning, or do I have more time? I'll finish later. Thank you.

MS. THOMAS: Good evening. My name is Janice Thomas, and I live in Strawberry Canyon.

I want to take this opportunity to not only address LBNL but also UC Berkeley Jennifer Lears is here. She took off. She left. Okay. And also the City of Berkeley -- I saw Grace McGuire back there, and anyone -- goodness, we're well represented -- and so I see areas of improvement in terms of strategic coordination between the City of Berkeley, but last year was such a terrible year for community people in terms of our -- all the projects that came around, and how blind sided we all felt, that personally, I'm still recovering, and I barely had so many feelings about it.

But I want to take this opportunity to try to be constructive about all this. For example, the watershed management plan. Before the meeting, I was talking with -- giving me more detail to some of the questions I had, and Pamela, and he mentioned there was 1,200 acres of the Strawberry Canyon wherein LBL can't really do a watershed management plan.

Well, I want to ask for the city of Berkeley to ask LBL and UC Berkeley -- since it's all UC land -- to come up with a watershed management plan. That's -- let's do that.

Another thing that is joint coordination. Rim Road, Centennial road, I don't know. Is that UC Berkeley Road? Or is that an LBL Road? But I can tell you that this additional population is going to have an impact mitigation, or is it going to be LBL's mitigation? Because I can tell you at the entrance to Panoramic Way, we're already experiencing really treacherous pedestrian conditions, because people get in and out of their cars there.

The third problem. There was a DTSV meeting the other night. I didn't see anyone from UC Berkeley at the meeting, and there really should have been, because one of the opportunities states the UC Berkeley LRDM and the DT was contaminated. And again, I'm a layperson that there is -- you know -- any way there should be again, joint discussions, and I hope community-wide discussions, and not behind closed

doors. Although that's better than no conversation between the different academies, but still it's better, and joined to include the public. And then, finally -- well not finally -- I really have quite a long list -- the water upgrade projects, that's in the East canyon, that was a great opportunity that LBL just completely missed, where in fact the Panoramic Hill neighborhood that really suffers from lack of water. Literally, we do not have high grounds. That upper part of that hill should have -- that could have been an opportunity to provide water to this neighborhood. The -- that's something that again, working with City of Oakland, the City of Berkeley you made your neighborhood much safer. So, thank you.

MS. CHACOS: Good evening I'm Ariatta Chacos with the City of Berkeley City Manager's Office, and I just wanted to say on behalf of my colleagues and myself, we have a number of us here taking notes trying to monitor what's going on with this. We're working on every opportunity we can to coordinate your operation and information, sharing both with this LRD and the UC Berkeley LRDP. And tomorrow night, the city council will be discussing this item with the LRDP for the Berkeley Lab. We encourage people to come in, listen to what the City Council has to say, and feel free to route any information request or comments you may have to our office, as well. Thank you.

MS. SEVALA: Good evening. My name is Pamela Sevala with the Committee to Minimize Toxic Waste, and I wanted to sort of follow up on the sentiment of Ms. Benson. There is another more sinister side to the Laboratories which is known to Berkeley citizens through newspaper articles. For instance, the San Francisco Chronicle article headlines "Berkeley Lab Found Research Fabricated-Scientist Accused of Misconduct Fired." Lab says -- date of -- again, the Berkeley Voice. This is October 3rd. "LBNL finds accounting to be sloppy. Lab scientist quits after investigation he transferred $3 million to accounts that he was not -- nobody knew about -- and also there is an audit going on regarding UC audit reveals many unbalanced accounts." And so these are very disconcerting issues. I think there should be a full comprehensive audit of the Laboratory. Not only of the fines, but also of the environmental conduct of the past 60 years. We have followed the problem for the past seven years. The final -- the Triton emissions have stopped, but the clean up -- there has been no treatment to the comprehensive clean up, and there seems to be real reluctance on the part of the Laboratory, although Ally Benson said we work on cleaning soil, contaminated soil, contaminated groundwater -- why not clean up your own site? Why don't you start there? Clean it up. Make it absolutely pristine as it was in 1940. And then, only then, start planning on building new hill towns on the

site.

The Notice of Preparation, page 8, indicated that there are plans to increase the laboratory space by 1.2 million square feet. If you divide that by the square footage of Building 49, for instance, that would mean that there would be 18 buildings the size of Building 49 built at the Laboratory. I mean, this is a huge complex. Six story laboratory office buildings, and -- and I notice here none of these presentation materials indicated any kind of planning for the site. There was no specific land use maps, and I thought that was the reason why we were here to discuss specifically where these 18 to 19 buildings are going to go. And -- but there's no information, so I would like to suggest that the EIR have various maps that will show in detail where these buildings are proposed and their relationship to all of the major fault lines to the creeks to the springs, to the for -- to the landslide carries so that you can get a comprehensive picture of the site, as well as the areas of contamination. I think we need now after 60 years of operation -- I think we need a comprehensive analysis of the site and environmental audit as part of the LRDP EIR. Thank you.

MS. RAY: Good evening. My name the Lauren Ray. I'm an Independent Scientist. I worked five years at the Lawrence Berkeley Lab, and two years at the Lawrence Livermore

Lab, and three years ago I went to Hiroshima and Nagasaki, and saw the truth about what the University of California and the nuclear weapons labs have done to the health of the public globally, and to the health of the environment globally. And because of that experience I work now around the world on radiation issues. I'm also on the environmental economics counsel, and I'd just like to point out that in 2002 the global funding from government is around the world for nanotechnology was $1.5 billion. In 2003, the nanotechnology funding initiative for the United States was $700 million, and $500,000 was awarded for environmental impact studies. So you cannot tell me tonight or this year or next year that the Lawrence Berkeley Lab has any idea whatsoever what the environmental impact will be because you don't from the nanotechnology and I worked internationally with scientists around the world I just attended a conference in Florida on the health of the environment therefore organized by Russian scientists because Russia is a sick old man from radiation poisoning. 18 percent of the children in Russia are born mentally retarded because of the radiation and chemical pollution from their nuclear weapons and there you can clear power pollutions. Our health can be no better than the health of the environment -- we breathe the air. We drank this water. We eat the food from the soil -- that is part of your environment. And 1 out of 12 children today in the United

States have learning disabilities. What is that cause to our society? The nanotechnology -- I'd just like to talk about nanopathology. This is the laboratory in Italy. I just attended a conference on depleted urbanism deep in Afghanistan in Iraq. A scientist from Italy came and talked about nanopathologies ongoing to continue talking in the second part, because I would like to talk about that.

MR. CUNNINGHAM: My name is Jim Cunningham. I'm a resident of Berkeley and I have worked with the committee to minimize toxic waste. I usually don't talk about the science aspect of these issues, because I'm not a scientist, but I read the article -- this in the Chronicle -- on the Yucca Mountain Depository, and what amazed me about it was what the two groups of scientists were saying -- not a group of scientists -- and a group of nine scientists were saying it has been discovered that there are things that will happen in that depository which had not been known.

The second group of scientists are saying, number one, how can this research have been going on for as long as it has been, and you haven't known this? And the first group said, "Well, that's true." However, that means that the deposits are going to go into -- into the earth slower. The second group of scientists are saying that may be true, however, what else is going to happen that you don't know about? You didn't know about this. There is no reason to go ahead and use that

depository because there -- it is obvious to the second group of scientists that there are things that are going to go on there, and you don't even know what can go on. Immediately I thought of the Molecular Foundry because it's way out of line. I'm not a scientist, but I don't want that to be built until I have two groups of scientists sitting here in the room saying "yes" and saying "no." That's what I want to hear, and I don't want that building to be built until that information has been given to me and to the public. Thank you.

MS. CHACOS: Ms. Ariatta Chacos, City of Berkeley. I forgot to mention when I spoke before, that the city has made a formal request to the Lab to extend the comments for the NOP for the 14-day period, and that would put us somewhere around the 10th of December, absent the Thanksgiving holiday. So, it might be a few days after that.

We have heard back from the Lab saying that wasn't going to be possible. We are still going to keep calling and saying things at meetings and whatnot, that we would love to have another two weeks both for the city and for the community to weigh in on sort of the cumulative impasse, both of the Lab's long range -- with the UC Berkeley long-range development plan, so we would like just a little more time to think about this and respond more appropriately. Thank you.

MS. POWELL: Are there others who would like to speak? I know there were some people who had some additional

things to say.

MS. BERNARDI: I just had a couple more paragraphs that I didn't finish.

MS. POWELL: Can I give you another three minutes? Is that okay?

MS. BERNARDI: I'm not sure I'll use it. So in regard to the Molecular Foundry by the nanotechnology Tri-Valley Cares, and Citizens Against the Radioactive Environment. In their newsletter, "Citizenwatch" have an article titled, "Bugs the Bombs." And that stated that the Department of Energy local neighbor security program has grown 115 percent to 87 million, since 9/11, and that this budget has been transferred to the Department of Homeland Security. Homeland security projects are planned for the Molecular Foundry. No classified research is done at the Lawrence Berkeley Lab. We wish to have a detailed description of all Homeland Security projected, the experiment proposed to take place in the Molecular Foundry.

The Department of Energy designs weapons for the Department of -- so-called -- Defense. I think it's more the Department of War these days. What we need elaborated in the long range development plan is how the Berkeley Lab's Molecular Foundry fits into an overall Department of Energy program for nanotechnology.

Shawn Howard, in his article, "Nanotechnology and

Mass Destruction. The Need for the Inner Space Treaty." This article is in the July-August Disarmament Diplomacy. I guess it's a journal that warns of the dangers of new types of weapons of mass destruction emerging from the development of nanotechnology. I think that that's a concern that we have because we know that the Lawrence Berkeley Lab, although it's said over and over, they're not doing any weapons research, that's not true, because they were involved with the Dart project, which was making something at Las Alamos. I think it was for simulated nuclear bomb attempts. And the defense part of the contract with UC has increased in the budget, so these are definitely concerns that we have, particularly when -- when -- think about the facts that the Molecular Foundry is going to be a user facility, and it's really hard to imagine how you would ever adequately provide oversight for all of the things that might take place in the Molecular Foundry.

As I was saying, this is a laboratory in Italy using nanopathologies, and -- I just think that if they're concerned in Europe with nanopathology that we should be too, and I have haven't heard any mention from the Lab about the actual environmental impact or health impact of that technology. I've heard nothing but that it will ever have any impact, and clearly from the funding that's been allotted for Environmental impact research, there's been none done.

I know that in a study on rats that were exposed to

nanoparticles, half of them died immediately after exposure, being injected with nanoparticles. Their tubes were just completely plugged up. And on -- I am also very concerned by the interaction of nanoparticles with radiation and just exactly how the Lab proposes to do nanotechnology in a radioactive environment.

The Bay Area, especially Berkeley, is extremely polluted with radiation. You cannot do nanotechnology in a radioactive environment because the radioactive particles damage the atoms which are the building blocks for nanotechnology.

In May, Pamela Sevala and I attended Drexler -- who is the father of nanotechnology -- conference in Palo Alto, and the hazards of radiation and the need to do this. A radioactive-free environment was discussed. I actually became the citizens' scientist, the whistle blower at Livermore in 1991. Plus, I was working on the Yucca Mountain project, and the extent of the science fraud in the most important public project -- public works project in U.S. history, which is what to do with all of the radioactive waste is why I walked out one day and became a whistle blower. And I'm telling you that is in the most active region in the United States. It is built in a volcanic region of water under that repository -- the hot springs -- which indicates volcanic activity, and it's just the last stop for the trash from the nuclear weapons in

the nuclear power projects. And we will find down the road that genetically modified organisms in food and nanotechnology will be part of a similar pattern of science. So, I don't think that the Lab knows enough about nanotechnology to undertake this project.

This is a parliament report on low level radiation. It was released in January. I've been all over the world with this report, and just the nuclear -- the -- the nuclear power programs long have been, or will be responsible for the death of 60 million people globally -- 2 million babies, and 1,600,000 unborn babies.

I think we need to remember the precautionary principle now more than ever. Thank you.

MS. THOMAS: Janice Thomas. In the comment by Sally Benson -- where is she? You mentioned the context -- the mission. And one of these was to address the fundamental nature of the universe and to house national user facilities. And these are all very important. I agree with you. But I would hope too, that this long range development plan really speaks to what this DOE laboratory can give back to the local community. And by that, I don't mean just science fairs, and "Nano High," and open house days, but I mean really what can this lab give back to the community?

Certainly my -- one of my concerns is that this canyon be preserved to a greater extent as the natural

environment. And when I say greater extent, greater extent than what has been currently contested by LBL and UC Berkeley.

But I also think that there's an opportunity here for again, UC Berkeley and LBL to look at the health effects of this. That these labs research has had on the neighboring community. This has been going on for decades, and we do have a Department of Public Health in at UC Berkeley, and certainly, I can promise you that if this lab doesn't take this initiative, that myself and many other people will begin to start lobbying very heavily, and hopefully effectively, to get the UC regents to take greater responsibility for the health effects. I just don't mean a simple risk assessment that looks at cancer. I'm talking environmental medicine.

There's a genome institute at the Lab. I would love to have my DNA looked at. I would love to have Mike Conway, and -- really look at these things for the local community.

You know, I know people who have grown up in the hill. I know myself just there 17 years, I don't know if my joint ailments are environmentally related or not, but I essentially would like there to be that kind of stewardship. And for this laboratory to take it as the submission to give back in a real substantive way, and to make itself part of this community, because I think everyone of us believes the science. I mean, really. And it's the management that is concerning. It's the management and administration. That's

something that I believe all good people in good faith can work towards. I know you shall.

MS. SHIMMERLING: I'm Carol Shimmerling, and I am with the Earthquake Council. We are very concerned about the way the Lab has managed the creeks on their facility, and the way they intend to manage it if they're going to have as much development as they say they're going to have. We're very interested in doing work in the East bay, in particular, that we hope will spread around the state as a state-wide organization. We are doing surveys of the upper watershed, the original streams that feed into the streams that go into the bay. These lead water streams are greatly important to the health of the whole system, and when they are damaged, and when they're polluted -- the whole system is there in an urban environment. There's no way that this can be cleaned up when so much of the water goes through culverts, concrete channels, and other none biologically-sound environments.

So, this is a great concern for us. But now as a citizen, I have to say that it was a horrible mistake that anybody ever built that Lab in the first place on these hills. And now that they're there, there's no real reason to continue to make it grow. It's time to start downsizing, and particularly in the light of some of the problems that people have already mentioned about the way the Lab is being run, and its representation amongst their peers, elsewhere. It's time,

in fact too, that the Lab stop doing research and having user facilities, and it's time that went back to the original theoretical work that they ostensibly were supposed to be doing. If that doesn't happen, none of the measures that you claimed you will take, will really make much difference in preventing accidents, both health and safety. Nowhere have you mentioned what you're going to do with the growth of eucalyptus trees that's filled with . You haven't said anything about pollutants in Chicken Creek. None of the things that are really problems that you have created have been mentioned. I find it astonishing. I mean, it's like listening to Bush and Cheney. Everything's fine, folks. Don't worry about a thing. We're all going to take care of it. Just give us all your money.

So, I don't believe that you know what you're doing, quite frankly. I'm sorry to say this. You're all nice people. But we all make mistakes. We're human. And in fact, I don't believe that you have any idea of what the consequences are of your 20-year program, and I think the consequences are not going to be beneficial to either the people that live here or the environment.

MS. SEVALA: I just -- well, a question just to follow-up on Carol. It isn't meant -- I think she is very very right. And I have another newspaper article from the Berkeley Voice, July 19 2002, which is related to the fact

that the Department of Energy did not renew the contract with the UC to manage the Lawrence Berkeley Laboratory. And I would like to find out what the update is. Is there a contract currently for the management of the Lab? Did the Department of Energy provide a new contract? And basically, the reasons why the Department of Energy had not made a decision, at least as far as I know, as of today, unless you tell me otherwise. Is the fact that at the highest level of management they're considering whether to extend or compete, so it would be important for the community to understand what is the status of the laboratory's contract? And indeed, if the Department of Energy is not going to be renewing it, what will be the future of the laboratory? And what is the relevance of all that to this process tonight? Thank you.

MR. KELLY: I wasn't going to say anything else, but Carol Simmerling got me all worked up. I brought a couple of things in mind. You know, in one thing I just wanted to sort of caution us about is first of all, I don't think that everything that these folks that study nanotechnology are interested in are all bad. There probably are some good things that might one day come out of it, but it would be -- might have that conversation with all of us. But one of the things that I notice is that the proponents of nanotechnology make arguments like, this will revolutionize or aid to bring medicines to all the poor of the world. That we

will be able to clean the water everywhere. That we'll -- and it just goes on and on. There are all these social benefits that they use in order to sell us on this idea that nanotechnology is a good thing. And I hear the good folks here from the lab saying -- and that they -- you know -- one of their parts of their mission is to improve human health in the environment, that kind of thing. But there's always that element in there about fueling as well, and that is the thing that I want to warn us about, is that unless these things have some economic benefit to someone, they're not going to be distributed, and how do we know that? The pharmaceutical companies thoroughly refuse to distribute in places where people are dying by the millions, and why? Because they can't get enough money for them.

We can talk about the automobile industry. One of the benefits of the nanotechnology will be to make things smaller, more efficient and everything. But automobile manufacturers won't make their cars fuel efficient. They have the technology, but they fight these standards tooth and nail. They haven't changed since, I think, 1982. So, with all the SUV's we're selling, the average fuel economy is going down for cars.

I just put that out there that when you try to explain to us that the world is going to be a far better place after of this, you might want the take that with a grain of

salt. That's it. Thank you.

MS. STOUFFER: Molly Stouffer. I work at Lawrence Berkeley Lab. But I'm not here to talk on behalf of my employer. I just wanted to share a few of my own thoughts and my own views about this. Can you hear me now? Anyhow, my name is Molly Stouffer. I work for Lawrence Berkeley National Lab. I'm not a scientist. I can't speak to any of your scientific concerns, except perhaps that I do work for one of those neighborly user facilities I think do -- do fundamental research about the nature of the universe and about those fundamental concerns that the laboratory's done its research, what 60-odd years ago. That research is still done. That is still the purpose of the laboratory as Dr. Dennison said, and that is what those user facilities are -- you know -- there for. People not just from our community, but from anywhere in the world do research at these. I would hope in the laboratory's long range development plan that they do address and maybe plan to mitigate traffic concerns. The corridor along Panoramic Way is saturated. And as good neighbors we need to -- we need to do something about that. We need to mitigate that. The watershed is an important thing and I hope, again, that the laboratory makes whatever efforts to -- to be a responsible steward at the watershed. And to -- to place a high value on that. That's not a -- a resource that could be rebuilt or that could be recreated. But I have faith

in the people that I work with, and that I know them, and I have faith that they are responsible stewards, and I hope that they will work with the community on these issues, because I hope that the science and the achievement that I value in the place -- you know -- are something that can be important enough to the community, and that we can give back to the community and really, really research out and really do something of substance for them, too.

MS. SURNEY: My name is Susan Surnay, and my husband is a Research Scientist at the Lab, and Professor of Nuclear Chemistry on the campus.

The lab was unfortunately placed on the hill to begin with, and I think at some point, like with the campus, there's got to be some off-loading from the hill. I mean -- I don't want to repeat myself.

My name is Susan Surney. My husband is a Research Scientist at the Lab, and has been for 40 years, I think. And is a Chemistry Professor. And he's a Nuclear Chemist.

I'm also a preservationist, as maybe some of you know. I -- the Lab is in an unfortunate location to begin with. It should never have been built there. And too, because it's on a hillside and a watershed -- but it is there. But it doesn't have to keep growing. It just simply doesn't have to. That doesn't mean that the research has to stop. It just means that it needs to be off loaded somewhere else.

Because you just can't keep building up there. And the juxtaposition of the campus and its needs and the LBL, and it's needs are too much for the downsizing environment. And I think that serious consideration should be made of alternative sites. There is the Richmond Field Station, which somehow the University and LBL don't want to go out there too much. But at -- and the thing about the Professor and the grad students, and the research, and the sharing of -- you know -- the two entities is actually not as great as it had been in the past. And so I think some of it should be put offsite. Thank you.

MS. POWELL: Are there any other comments? Janice Thomas.

MS. THOMAS: Janice Thomas, again. I just hope that this document somehow addresses why this site shouldn't be used for housing for UC Berkeley students. I've said this before, but again if we take the UC focus instead of UC Berkeley and LBL -- to me, the question needs to be answered as to why the research can't be done more offsite, and what was peculiar -- or particular about this location that mandates that this research should continue at the site, when in fact, I think a very logical argument can be made that approximate housing for UC students would be of greater value.

MS. MORGAN: My name is Sara Morgan, and I work at the Lab. And I just wanted to kind of bring to the table that not only does the Lab have a responsibility to the

community, but the community has a responsibility to the Lab.

A large portion of the population of the Lab are community participants. They either live in the nearby communities, or drive through the communities. They contribute to the communities in some fashion or another. And as a result, it's not that the Lab needs to give, give, give, and the community does not also participate in the conversation in that. We provide emergency service to the communities. We provide jobs. We provide tax -- well, consume taxes; but so do you. So. It's a give and take situation. And as long as we can keep an open dialogue about what the various needs are, I think you're more able to have a good conversation, and have your needs met. I think if you want to mitigate traffic, great. How do you subsidize mitigating traffic? It's fine and good to say take public transit, but when it's more affordable to drive your car up the hill, I'm going to drive my car. I'm not going to take the bus. I'm not going to take BART. Why would I? It's more expensive to take either of those options. Make it more affordable to take the bus, and I'll take the bus. I am also -- how many of the people who work at the Lab also live in Berkeley and drive right up the hill themselves? You know, we have 4,000 employees. If even 50 percent of those live in Berkeley -- 50 percent. How many of those people are driving up the hill themselves? If you're not starting within your

own community, you can't very well expect another institutions to follow through and honor what you're saying. You have to talk the talk and walk the walk.

I'd just like to say something as the scientist did about who this laboratory is going to benefit. Scientists serve the military, and scientists serve corporations. And the people who are going to benefit from the research of that laboratory, and the application or misapplication are going to be the military and corporations. And unless they can make money, unless they can benefit, we're not going to. So I think we need to keep that the mind. Nanotechnology, weapons, even research on fourth generation nuclear weapons is what is underway now, to where billions, and billions, and billions of dollars are being poured into now. This is why more than 30 world-class microbiologists have been murdered in the last year and a half. They were all working on DNA specific bio weapons. We invited Professor Ignacio Chappela to speak in the Berkeley City Council and at the public meeting he told us spermicidal corn is being tested in Mexico now. I believe Novartis developed it. Who will that spermicidal corn be used on? Is it people with brown skin? He said, "Well, we don't know." So who gets to make the decision on the application or the misapplication? Who gets to make the decisions on the application or misapplication of biotechnology? It's not us. It's the military, and it's corporations. They're destroying

our lives, our environment, and our health. We need to make the connection: Where is the money coming from for this research, and who will decide what the applications are? Thanks.

MS. POWELL: I think we're done. Thank you very much for coming tonight.

(OFF THE RECORD, 8:55 PM)

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