

Lawrence Berkeley National Laboratory
Off-Site Safety Assessment
Joint Division Self-Assessments and EHS Independent Assessment
July 2014



Kat Wentworth, Team Representative

9.3.14
Date



Jim Floyd, EHS Director

8-15-14
Date



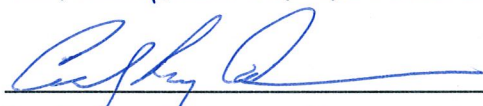
Glenn Kubiak, Chief Operations Officer

8/28/14
Date



Mary Sidney, EETD Deputy Director of Operations

8/26/14
Date



Ray Turner, JGI Deputy Director of Operations

8/20/14
Date



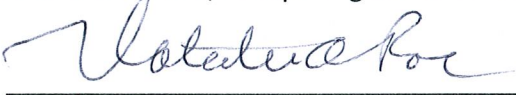
Matt Perry, IT Deputy Director of Operations

8/20/14
Date



Jonathan Carter, Computing Sciences Area Deputy

8/28/2014
Date



Natalie Roe, Physics Director

8/20/14
Date



Rod Clark, Nuclear Science Director, Acting

8/19/2014
Date

**Lawrence Berkeley National Laboratory
Off-Site Safety Self-Assessment
Joint Division Self-Assessments and EHS Independent Assessment
July 2014**

Table of Contents

Executive Summary.....	3
Assessment Methodology.....	6
Survey Results.....	6
Policy and Procedure Review.....	16
Appendix 1: Off-Site Safety Survey.....	32
Appendix 2: Documents and Data Reviewed.....	36
Appendix 3: Telecommuting Agreement.....	37
Appendix 4: EETD Field Hazard Work Assessment.....	42
Appendix 5: Division ISM Off-Site Safety Content.....	51
Appendix 6: Glossary.....	53

Lawrence Berkeley National Laboratory
Off-Site Safety Self-Assessment
Joint Division Self-Assessments and EHS Independent Assessment
July 2014

Executive Summary

“Off-site” safety was voiced as a collective concern by several divisions from both science and operations during planning for the FY14 division self-assessments. In the third quarter of FY14, Computing Sciences Directorate, Environmental Energy Technologies, Genomics JGI, Information Technology, Lab Directorate/Operations, Nuclear Science and Physics partnered together with Environment, Health and Safety to perform a joint self-assessment of off-site safety. These participating divisions reside both on and off the main LBNL Berkeley site. For the purpose of the assessment, off-site work is defined as “any work that occurs outside the fenced boundary of the main hill location” including work at satellite (leased) facilities such as JGI, JBEI and Potter Street and work from home, from a mobile workstation, on travel, in the field and at other institutions.

During the assessment period from April through June 2014, there were 9 injuries (2 OSHA recordable) at off-site locations. These injuries underscore the importance of safety at off-site work locations, and include injuries at:

- JGI
- JCAP
- OCFO in Emeryville
- Potter Street
- UCB, Gilman Hall
- UCB, Tan Hall
- Barrows, Alaska
- Rapid City, South Dakota

This single assessment report is an integration of 7 division self-assessments and an EHS independent assessment. The assessment team consisted of Kat Wentworth (Ops), Ann Tomaselli (IT), Marty White (Physics and Nuclear Science), Betsy MacGowan (Computing Sciences), Stephen Franaszek (JGI), Ron Scholtz (EETD) and Andrew Peterson (EHS).

The assessment consisted of two parts; a survey of staff members within each participating division and subsequent data analysis to understand staff’s safety concerns related to working off-site, and a gap assessment between the top 5 off-site safety concerns and LBNL policies and procedures relevant to those areas of concern.

Through the survey, the assessment team found that for the divisions participating in this assessment and the employees targeted for the survey off-site work is ubiquitous. 91% of respondents reported working off-site. 35% reported working at least in part at home, and 96% reported using a computer, tablet or smart phone for work outside of their main office. The top 5 off-site safety concerns voiced in the survey were:

1. Ergonomics
2. Driving/Travel safety (combined into one in this report because of similarities)
3. Emergency response
4. Personal safety/security
5. Unclear LBNL safety policies and procedures related to off-site work

There were no findings from this self-assessment, primarily because there are few, if any, policies specifically related to off-site safety to violate. However, based on the gap analysis the assessment team concluded that the policies and procedures that address safety for off-site work do not adequately address all of the safety needs of workers working off-site. The assessment team has the following recommendations, all at the institutional level, to enhance off-site safety:

1. Ergonomics
 - Establish a committee of various stakeholders (HR, EHS, Ops, IT, OLC, Procurement) and conduct a thorough review of the current telecommuting policy and how it is being implemented across LBNL. Identify gaps, correct inaccuracies, and propose clearer policies for telecommuting.
 - Establish LBNL ergonomic policy for computer use in home offices.
 - Establish guidance for employees working on mobile electronic devices like laptops, tablets and smart phones in “mobile workstations.”
2. Driving Safety / Safety while Traveling
 - Consolidate travel safety information in one prominent place. This should include:
 - Information on preparing for and responding to travel emergencies.
 - Information on local travel including use of the Lab shuttles including the Potter/JBEI Route, use of BART/public transit, and routes for traveling between sites if people choose to drive their own vehicles.
 - Initiate a communications campaign to educate LBNL staff on resources available to help them during travel.
 - Consider and promote options to reduce travel (consider partnering with Sustainable at Berkeley Lab). This should include offering instructor-led classroom training at off-site locations when there is sufficient demand and promoting teleconference meetings.
 - Update and improve the policies that address using personal vehicles to travel between the main hill site and off-site work locations. Clearly define for employees if such travel is considered part of a personal work commute or official business.
3. Emergency Response

- Engage off-site, leased facilities (a.k.a. satellite facilities) and discuss the emergency response needs and practices at these facilities. Establishment of enhanced emergency response capability beyond the response currently expected of Building Emergency Teams should be discussed considering that these facilities will likely be on their own to attend to injuries and manage the safety of their own workers for hours or days after a significant emergency. There should also be some consideration given to having a staffed position per location to address and centralize the formal response in case of an actual emergency.
 - Develop guidance that satellite facilities can use during an emergency and in the event communication with the LBNL EOC cannot be established. This guidance should cover some basic criteria for facility shut down, facility security, and under what circumstances should operations stop and employees be sent home.
 - Generate and post site-specific Emergency Guides for leased facilities and off-site locations where appropriate and establish emergency response guidelines or recommendations for staff working off-site in field or other remote work locations.
4. Personal Safety/Security
- Engage off-site work locations that have expressed concern about personal safety and security to understand concerns and discuss possible solutions. At a minimum develop basic awareness information about personal safety when commuting to and from work, make this information readily available and communicate this information to off-site locations on an on-going and timely manner.
5. Unclear LBNL safety policies and expectations for off-site safety
- Establish a cross-functional team to review LBNL safety policies and procedures applied to off-site work; identify requirements that do not seem to adequately address the needs of off-site workers or are ambiguous or unclear, and recommend revisions to address the deficiencies. The team should also recommend policy regarding what to do when LBNL policy conflicts with policy at non-LBNL off-site location or when non-LBNL off-site location safety policy is deemed inadequate.
 - Develop a centralized resource with requirements and guidance for safety at off-site locations. This may include consolidating information on work authorization, reporting injuries, travel safety, personal safety, ergonomics, emergency response, and hazmat transportation. Consideration should be given to designating a single point-of-contact to address off-site safety questions and policy issues.
 - Develop a communication strategy to raise awareness of LBNL requirements and expectations for off-site safety.
 - Continue efforts to build off-site safety into WPC system.

Noteworthy Practices:

The assessment team did observe several noteworthy practices.

- EETD has a robust assessment process for reviewing hazards associated with off-site work (using the Field Work Hazard Assessment form) and has specific safety expectations for off-site work written into their Division ISM plan.
- The University of California employs a third-party resource to help employees who are injured while on travel.

Assessment Methodology

As mentioned above, this self-assessment consisted of two key parts: 1) a survey of staff members within each participating division and subsequent data analysis, and 2) a gap assessment between the top 5 off-site safety concerns and LBNL policies and procedures specific to those areas of concerns.

Each participating division targeted personnel within their division to complete the survey (Appendix 1). Some divisions included all employees and others included only employees known to work off-site, which did skew some of the survey results.

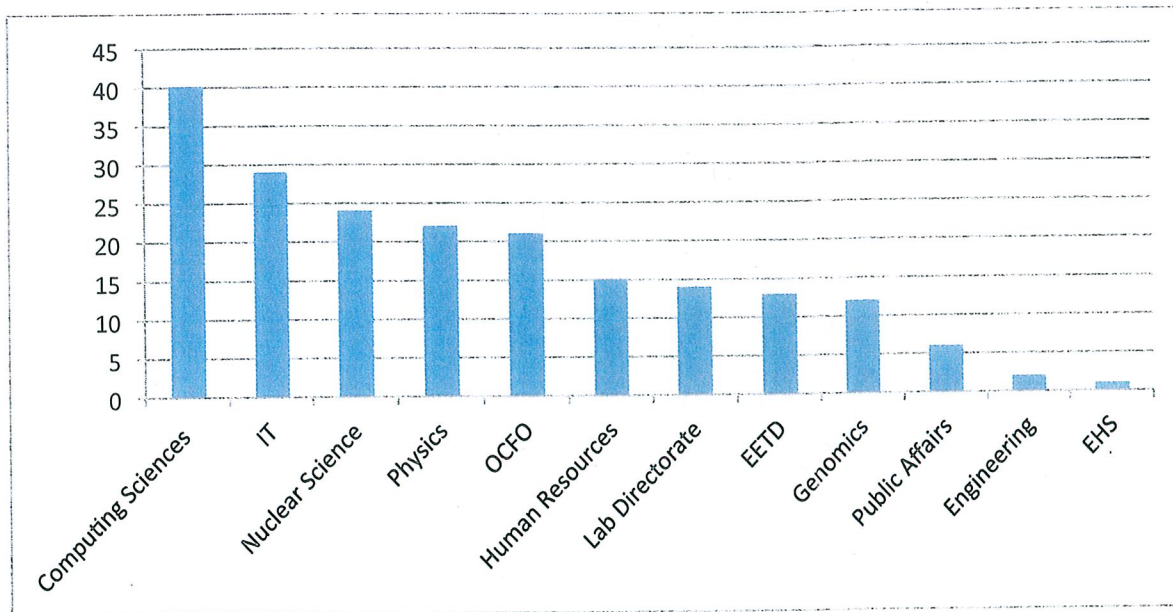
199 employees responded to the survey. The data was then analyzed, and the top 5 safety concerns were identified. For each top safety concern, the assessment team reviewed available LBNL documents that might address the particular topic (Appendix 2). In some cases where it seemed appropriate, stakeholders such as Human Resources and Protective Services staff were interviewed.

Survey Results

Off-Site Work

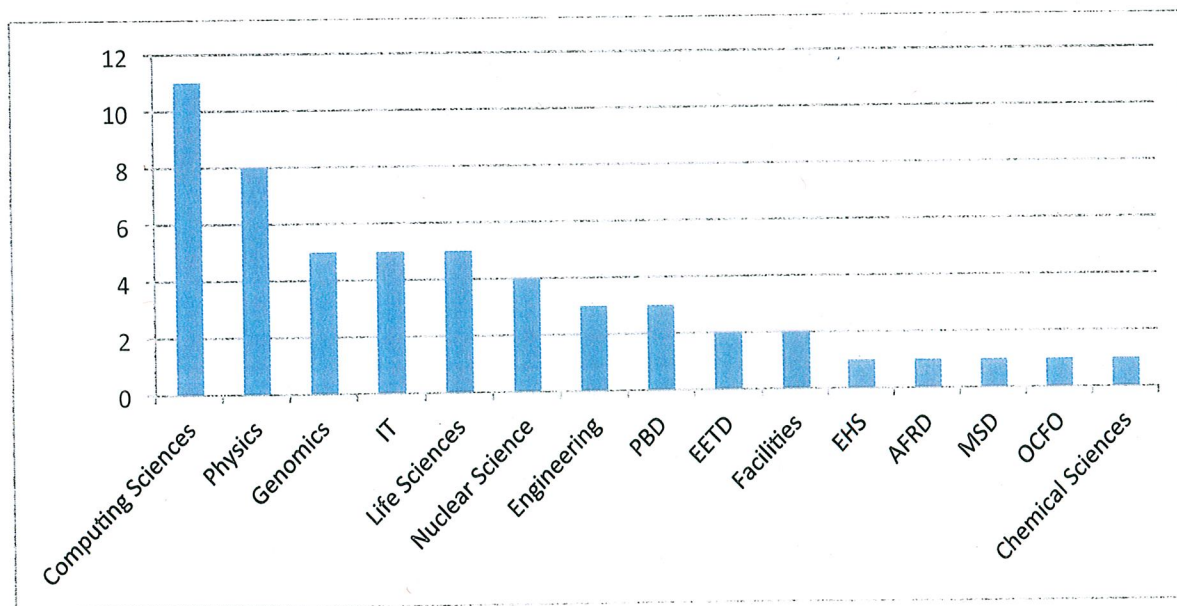
The first survey questions were geared toward understanding the nature of off-site work. Seven divisions participated in this survey, and the employees responding to the survey represent a range of organizations (Q1). Most of these employees surveyed (55%) are not matrixed (Q2). The remaining survey responders either did not respond to this question (26%) or were matrixed across a variety of organizations (19%).

Q1. What is your LBNL home division?



*Computing Sciences includes CRD, NERSC and SND

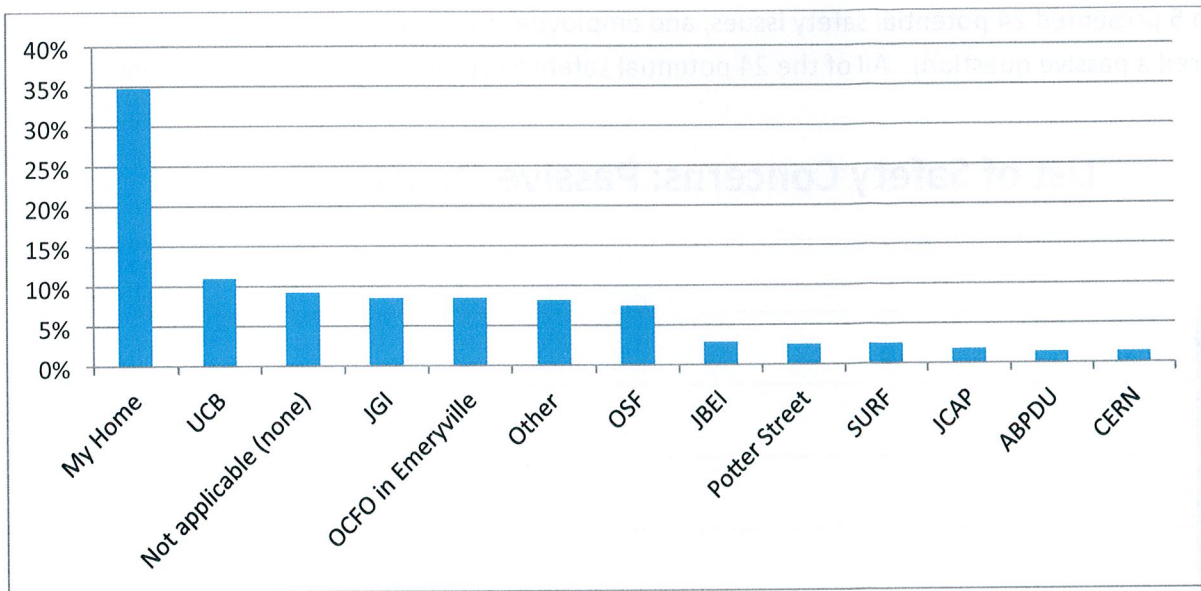
Q2. If applicable, what division are you matrixed to?



*Computing Sciences includes CRD, NERSC and SND

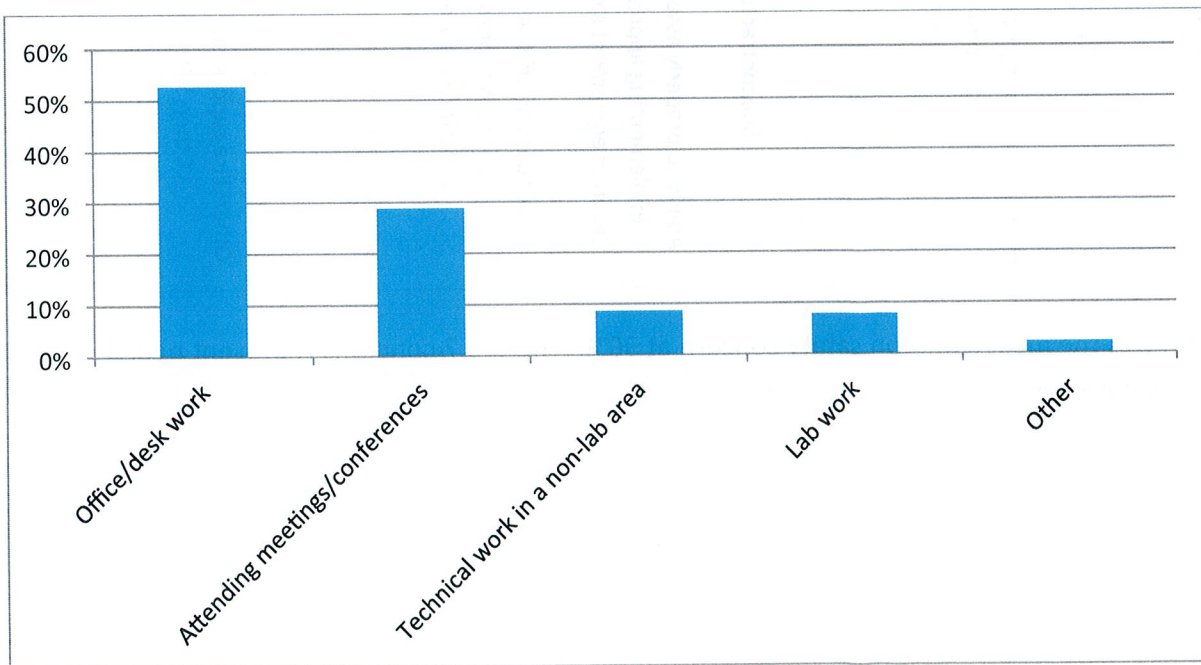
Most employees in the survey (91%) reported working in one or more off-site work locations (Q3). Most employees who reported working off-site reported doing work from home (35%). Most other responders indicated working at one of the LBNL off-site, leased facilities (a.k.a. satellite facilities) such as UCB, JGI, OCFO, OSF, JBEI, etc. 11% of employees reported working at a non-LBNL facility such as SURF, CERN, Daya Bay, etc.

Q3. What are your off-site work locations?



When asked what type of work is performed off-site (Q4), most employees indicated computer work (53%) followed by attending meetings/conferences (29%), technical work in a non-lab area (9%) and lab work (8%).

Q4. What is the primary nature of the work you conduct off-site?

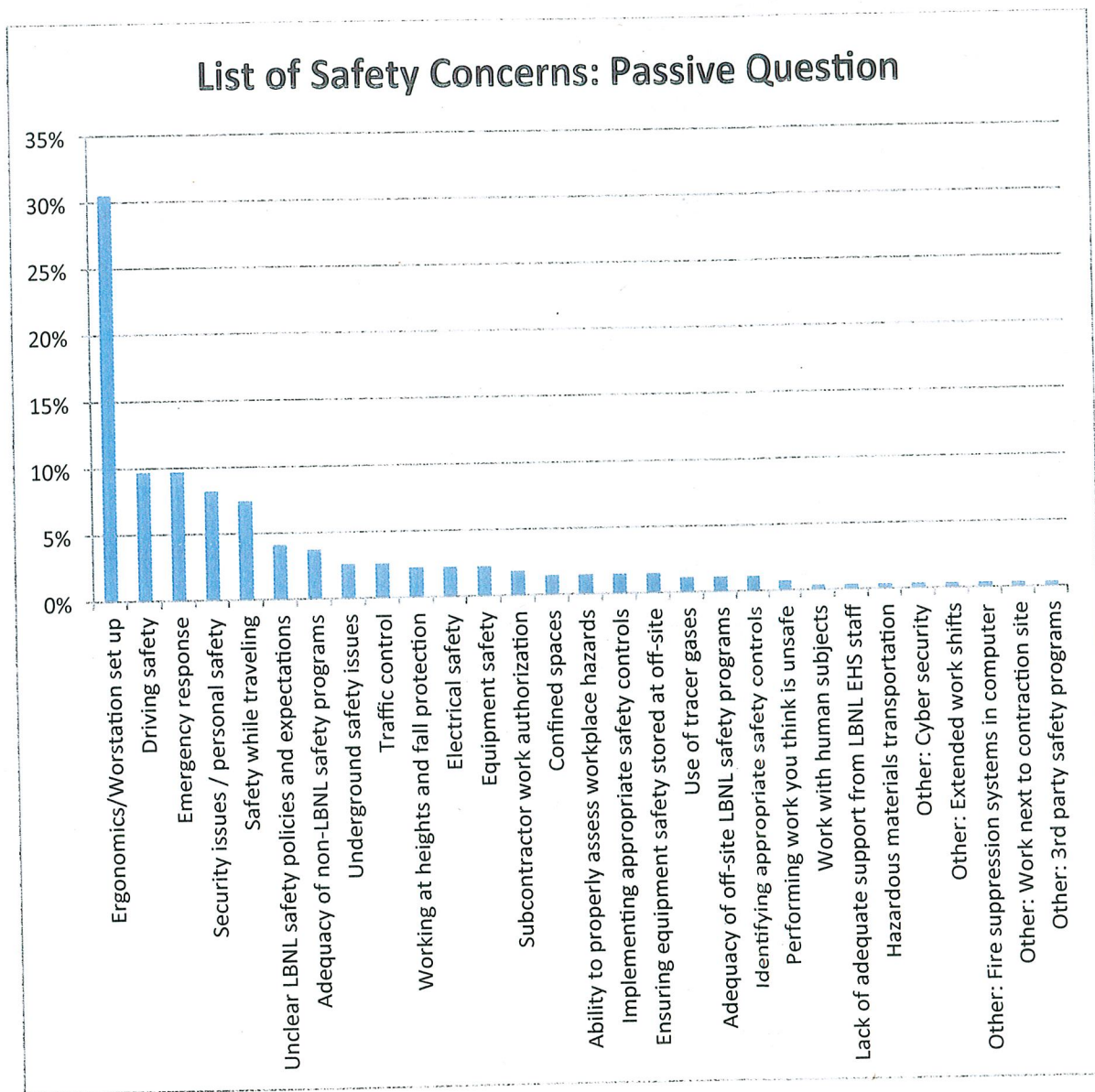


Safety Concerns

Two questions in the survey were designed to understand staff's safety concerns.

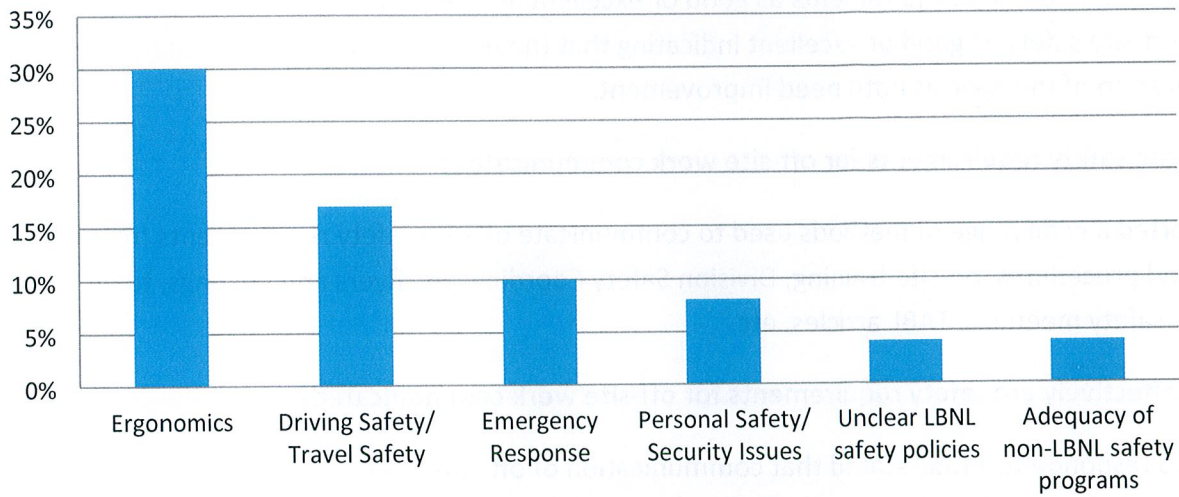
Q5. Please identify potential safety concerns you have had when working off-site.

Question 5 presented 24 potential safety issues, and employees could select as many as applied (considered a passive question). All of the 24 potential safety issues were selected at least once.



Ergonomics was the most common safety concern at 30%. The top 7 concerns represent nearly 75% of all concerns expressed.

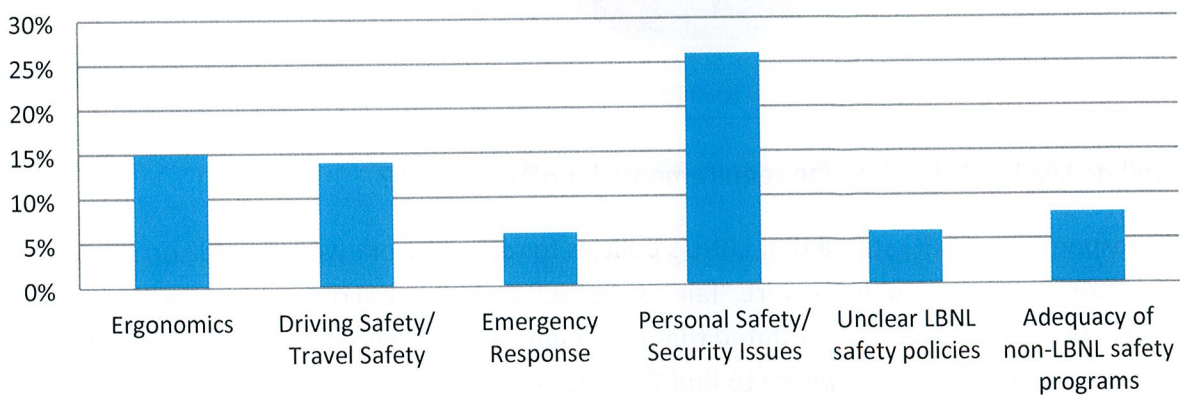
Top Safety Concerns: Passive Question



Q6. What are your greatest concerns regarding off-site safety?

When asked to type in their “greatest” safety concern (considered an active question because responders had to type in a response if they chose to do so), staff identified the same top safety concerns overall, but in slightly different percentages. The notable difference was between ergonomics and personal safety/security issues, which was almost the reverse of the safety concern pick list results. Staff reported personal safety/security as their greatest concern (26%) and ergonomics as a somewhat lower safety concern (15%). Staff who work in Oakland or Emeryville were more likely to express personal safety/security as a “greatest” safety concern.

Top "Greatest" Safety Concerns: Active Question



A few employees did communicate additional concerns (traffic control, underground safety, etc.).

Policy Awareness and Communication

Three questions in the survey were designed to understand staff's knowledge of existing policies and procedures that related to off-site work. Less than half of the respondents rated the effectiveness of communication of off-site requirements as good or excellent and less than half rated the Lab policies covering off-site safety as good or excellent indicating that the policies themselves and the communication of the policies both need improvement.

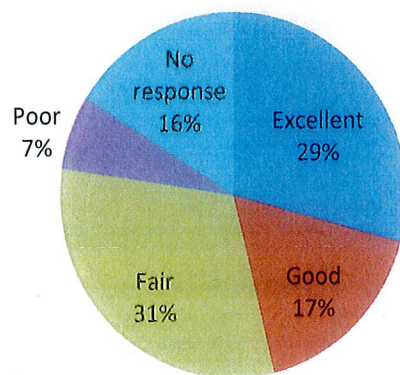
Q7. How are safety requirements for off-site work communicated?

Staff reported a wide range of methods used to communicate off-site safety requirements from emails, policies and procedures, on-site training, Division Safety Coordinators, flyers and postings, town hall meetings, safety meetings, TABL articles, etc.

Q8. How effectively are safety requirements for off-site work communicated?

Ninety two respondents (46%) stated that communication of off-site safety requirements are "good" or "excellent." Seventy five (38%) stated that communication is "fair" or "poor," and another 32 (16%) did not answer this question.

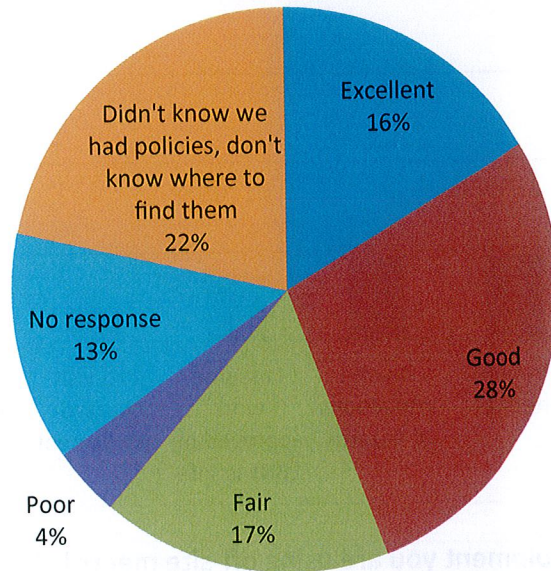
Employee Rating of Communication of Off-Site Work Safety Requirements



Q9. How well do LBNL policies describe requirements for off-site work?

Eighty eight respondents (44%) stated that LBNL's policies for off-site work were "good" or "excellent." Another 42 (21%) stated these policies were "fair" or "poor," and 26 (13%) did not answer this question. Forty three employees (22%) stated that they didn't know LBNL had specific policies for off-site work and that they didn't know where to find this information.

Employee Rating of Quality of Off-Site Safety Policies

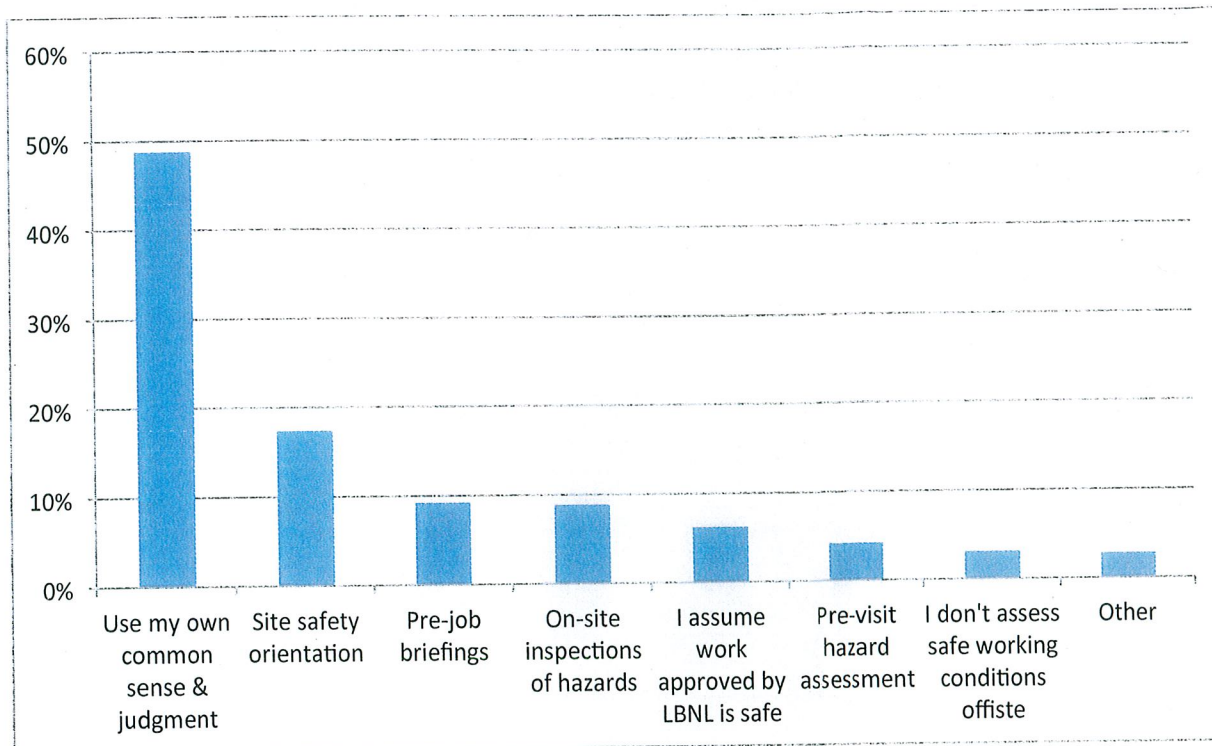


Assessing Safety

Several questions in the survey were geared toward safe working conditions and assessing hazards at off-site locations. No employees reported performing work that they believed was unsafe or in an unsafe location (Q10).

Q11. How do you assess the safety of your work when you work off-site? In other words, how do you identify potential hazards and decide what controls are appropriate?

Nearly half of the employees' responses to this question indicated they use their own judgment to determine if the work they will perform is safe or not. Approximately 40% used a formal method such as a site-safety orientation, pre-job briefing, or on-site inspection, and 10% assumed the work was safe or made no effort to assess safe working conditions.



Q12. How do you ensure the equipment you are using off-site meets Lab safety standards, particularly in cases when this equipment is left at the job site?

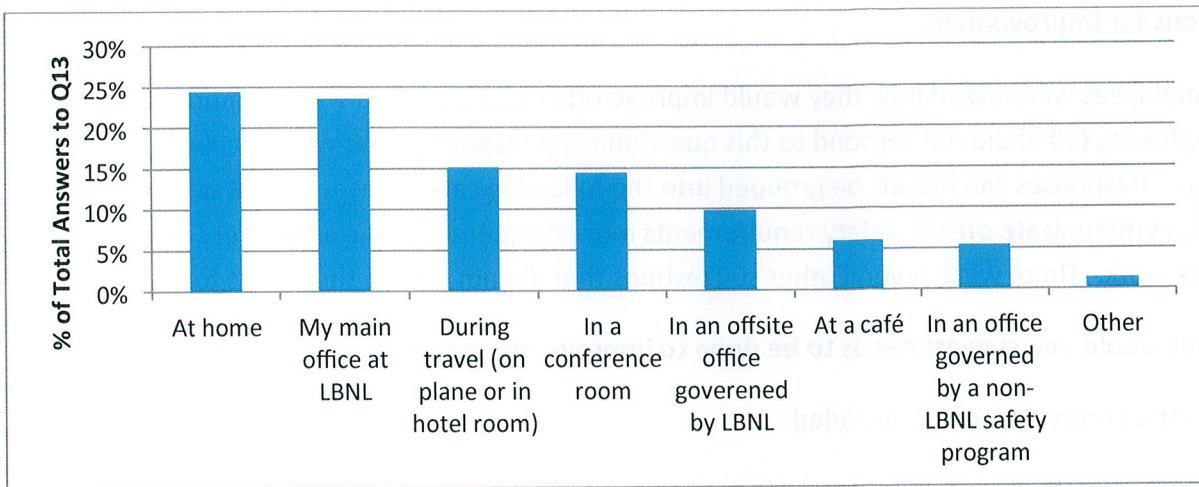
Over 70% of responders didn't respond to this question or indicated it was not applicable to their work. Employees who did respond reported a wide range of answers, from using common sense to following lab policy and ISM.

Work Locations and Computer Use

Two questions asked staff about computer use habits. The survey demonstrates that employees are using computers and other electronic devices in numerous "work" settings (including cafés) and have coordinated and authorized this work through their supervisor in a variety of ways.

Q13. In what locations do you use a computer for work?

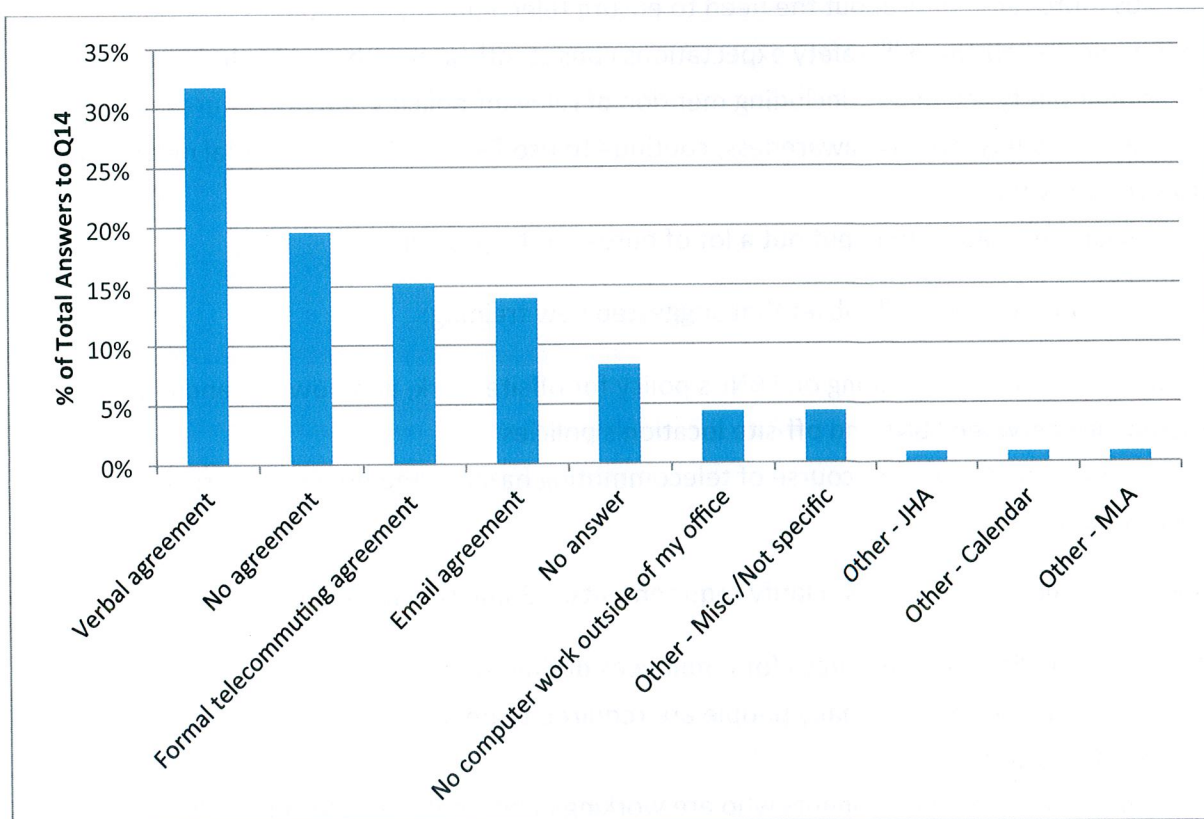
Employees reported using a computer for work in a variety of locations, most in more than one location. Approximately equal numbers of employees (24%) reported using a computer at home as using a computer at a main office. This data suggests employees are frequently using computers and mobile devices outside of their main office.



Q14. If you perform computer work outside of your main office, what type of agreement do you have with your supervisor?

A variety of methods are used to authorize computer work conducted outside of an individual’s main office. A verbal agreement with supervisors is the most common (over 30%). Staff who telecommute are supposed to have a formal telecommuting agreement in place, but in this survey, only 15% actually reported that such a formal agreement was in place. It is unclear if this is a policy violation because there is no set definition of telecommuting at the Lab.

Interestingly, only 10 of the 230 responses to Q14 (4%) stated that the employee does not use a computer outside of the office. This suggests that most workers responding to the survey do some degree of computer work outside of the office.



Suggestions for Improvement

Finally employees were asked how they would improve off-site safety. This was an optional question. Most employees (68%) did not respond to this question. The responses that were received spanned the gamut. Responses can loosely be grouped into the following categories – off-site safety is adequate, communicate off-site safety requirements more frequently, and clarify safety requirements for off-site work. There were several other suggestions that did not fit into these categories.

Q15. What would you suggest needs to be done to improve off-site safety?

Some positive responses to Q15 included:

- Nothing – Off-site safety program is adequate and we get needed support from LBNL SMEs when needed
- I feel very safe here and cannot think of anything that could be done to improve safety at my location
- I feel completely safe at an 'off the hill' location
- I find that there are plenty of tools and resources available (RSI, ergo web page, keyboard shortcuts) to ensure "off-the-hill" safety

Many employees provided constructive suggestions. Most of these could be grouped as “better communication.” Some specific examples included:

- I think we should also communicate advice for home safety and traffic safety
- Better communications about the policies for off the hill safety
- Perhaps more reminders about the need to ensure telecommute ergonomics are sound
- Communicate "off-the-hill" safety expectations consistently and with greater frequency
- Occasional safety reminders, including mention of relevant policies and procedures
- More 24/7 briefings to raise awareness, continue to use TABL and Departmental newsletters to provide safety tips
- Raise awareness rather than put out a lot of bureaucratic procedures

Under communication was a small subset that suggested new training:

- A simple 20-min online training on LBNL's policy for offsite work, and how to handle possible discrepancy between LBNL and off-site location's policies
- For telecommuters – a quick course of telecommuting hazards and how to ensure a safe environment

Other responses could be grouped as “clarify requirements.” Some specific suggestions included:

- Clarify non-medical help resources for employees during travel
- We need guidelines on how many people are required to be present when doing off-site work (other than office type)
- Clarify policy for graduate students who are working in labs both at LBNL and UCB

- More coherent policies
- As it relates to safety, there has been some uncertainty between what the landlord is responsible to fix and what the Laboratory is responsible to fix

Several employees also commented about driving and travel safety in the assessment survey. Some of these comments include:

- Driving between the hill and OCFO
- Rushing up the hill for meetings.
- I don't go there often and do not feel comfortable that I know the road conditions, e.g., what lane to be in.
- There is a lot of constant street work that affects traffic safety.
- It is disruptive for us to come to the hill especially when there isn't adequate parking and public transportation takes us away from work an additional hour.

Additional constructive suggestions included:

- Allow LBNL employees to use the UCB late hours transportation services for UC students
- Provide enough security guards off hours or make sure they are properly trained or have enough engagement so that they aren't watching a video when they should be watching the TV monitors that show what's going on in the surrounding building areas
- Have security site checks during the off shift. A security supervisor needs to come to the off site location to check in with the security guard if at minimum to wake them up
- Provide escorts to the parking lot when it becomes dark
- Provide training at the off-site locations instead of making us come to the hill
- Accountability in case of general emergency (earth-quake etc.) should be organized by the lab

Policy and Procedure Review

Below are the results of the self-assessment team's review of LBNL's policies and procedures for the top 5 off-site safety concerns. Driving safety and traveling safety were grouped together as one become of similarities. Observations and recommendations are also provided in this section.

1. Ergonomics

Ergonomics was rated the top safety concern when working off-site in all divisions participating in this assessment. This is not surprising as most employees use a computer or mobile device for work outside of their main office (re: survey question 13), and ergonomics is a leading cause of injury at LBNL.

Policy

LBNL does have policy that addresses some aspects of safe computer use at home and outside of an employee's main office.

Human Resources has established policy for telecommuting in the [Requirements and Policies Manual \(RPM\) §2.06D\(4\)](#). This policy basically states that telecommuting is a “flexible work option” and that there are two types of telecommuting, both of which need to be approved. These are:

1. Intermittent or occasional basis (requires supervisor approval)
2. Regular part- or full-time schedule (requires a written agreement)

The policy states, “if, in the opinion of the supervisor, an intermittent telecommuting arrangement begins to occur frequently while still not on a regular schedule, the supervisor may require a written agreement.”

Although there are no specific policy statements or requirements, EHS support for “Off-Site/Remote Computer Users” is covered under [ES&H Manual \(PUB-3000\) Chapter 17, Work Process E](#). Chapter 17 states:

Work Process E. Support for Off-Site/Remote Computer Users

1. *The Ergo Team offers support services for Berkeley Lab employees who use computers off-site for telecommuting and working at a remote location.*
2. *Employees working off-site should contact the Ergo Team to:*
 - a. *Discuss any ergonomic concerns. The employee, supervisor, or Division Safety Coordinator should initiate this discussion by sending an e-mail to ergo@lbl.gov with attached photographs of the work area, followed by telephone call(s) as needed.*
 - b. *Obtain assistance with implementing any recommendations deemed necessary to control risk factors for work-related musculoskeletal disorders (WRMSDs).*
3. *The Telecommuting Agreement and Authorization Form may be downloaded from the HR Documents Web page.*

Procedures

There are some procedures and hazard controls related to ergonomics for staff working off-site.

To implement the telecommuting policy, a **Telecommuting Agreement and Authorization Form** exists (see Appendix 3). The RPM and the telecommuting policy do not define telecommuting so it is not clear when telecommuting actually occurs, and the policy seems to rely on the judgment of the supervisor to determine when this form is needed. The Telecommuting Agreement itself includes the following instructions regarding safe computer use:

- (1) *Employee's off-site work space will be maintained by Employee in a safe condition, free from hazards to persons and equipment; if computer equipment will be used as part of the telecommuting function, the following activities must be completed and documented using the attached form and returning a copy to the supervisor and the EH&S Ergonomics Program (Mailstop 75B-0101).*
 - a. *Complete the Ergonomics Awareness for Computer Users (EHS 60) training.*

- b. *Conduct an ergonomic self-assessment of the immediate telecommuting work area using the attached evaluation form (consult with the EH&S Ergonomics Program personnel as needed).*
 - c. *Acquire and install the necessary ergonomic accessories identified in the self-assessment to assure the telecommuting work area provides controls against ergonomic risk exposures.*
- (2) *Any equipment provided to Employee by LBNL shall remain the property of LBNL, and that all such LBNL Equipment will be returned to LBNL for inspection, repair, replacement, or repossession upon five (5) business day's prior notice; and*
- (3) *Employee will report any injury incurred while performing work for LBNL at Employee's residence or off-site office to his/her Supervisor and LBNL Health Services (510) 486-6266*

The Telecommuting Agreement form available from Human Resources does contain some hazard controls and expectations from LBNL as noted above. This form was last updated in 2006 and contains outdated contact information and requirements (e.g., wrong mailstop, wrong contact person, EHS 060 no longer exists, etc.).

The formal Telecommuting Agreement is required between employees and their supervisors when telecommuting does occur on a regular schedule. Data from the self-assessment survey suggest formal telecommuting agreements are not used in all cases of work from home or a remote location. As there is no definition of “telecommuting” and it relies on the judgment of the supervisor, it is possible that formal Telecommuting Agreements exist where required.

A **Home Computer Ergonomic Evaluation** may be requested by any employee and is conducted by an ergonomist via the use of photos and a phone interview. These have reportedly been completed for home offices, but there are no records in the Ergo Database for Computer/Home as the type of evaluation (the Home Computer Ergonomic Evaluation request option has existed for less than a year). There is currently no policy that requires or recommends this option and there has been no effort to publicize the option to employees and supervisors as a sudden surge of requests for Home Computer Ergo Evaluations could over-tax the Ergo Group.

To support employee self-management, the Ergo Group has provided a variety of resources under the Ergonomics webpage “**Resources for Home**” to help staff improve workstation configurations at off-site locations and to work in more ergonomically preferred ways at home.

Online Ergonomic Self-Assessment (Remedy Interactive) evaluations are required for employees who use a computer more than 4 hours a day. To support employee self-management, the Remedy system was modified to include a choice of work locations (as shown below), to give employees the option to complete self-evaluations for multiple work locations.

Where do you routinely perform most (more than 50%) of your computer work each day?

Please complete this self-assessment based at the work location you selected below.

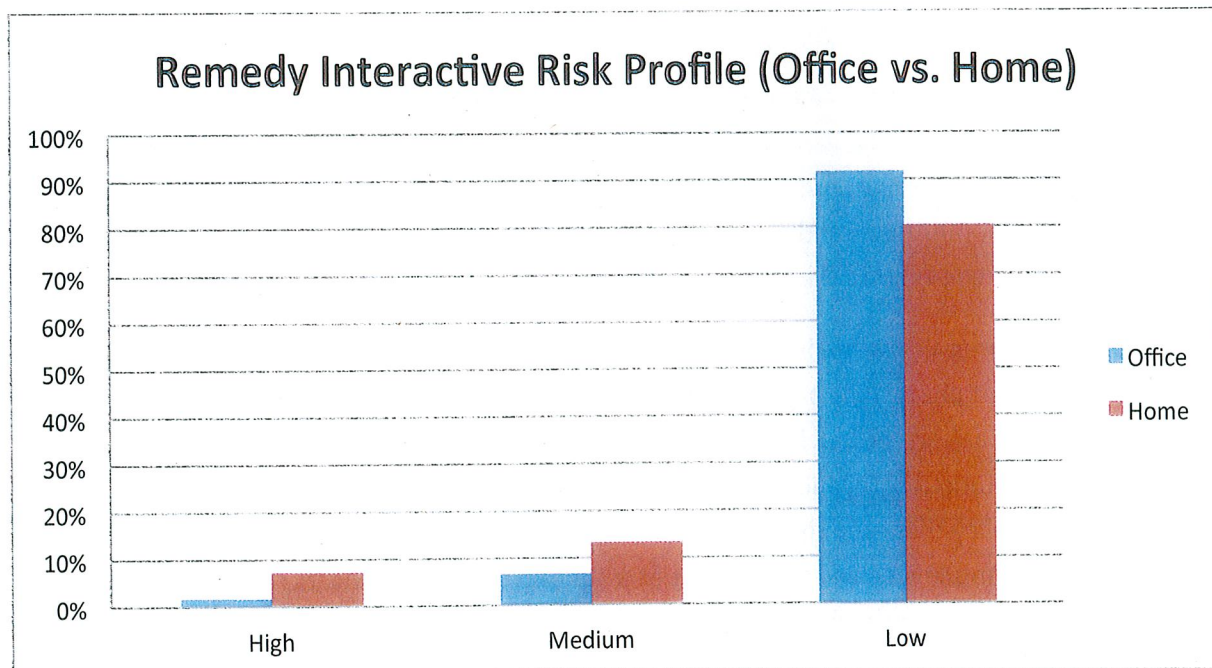
LBNL onsite (Main site, ABPDU, B904, B941, B943, B971, B977, JBEI, JCAP, JGI, KBASE, NERSC, Donner)

UC Berkeley Campus (other than Donner Lab)

Remote site

Home

There are 100 records in Remedy Interactive where the "LBNL Work Location" is identified as "Home." Remedy Interactive uses an algorithm to identify high, medium and low risk based on responses to the self-assessment questions. While the vast majority of the Remedy Interactive risk profiles are low, workers in home offices do have slightly higher "medium" and "high" risk profiles relative to workers in traditional offices (13% vs. 7% and 7% vs 2%, respectively) suggesting that the risk of injury to workers in home offices may be elevated.



Currently under consideration as a hazard in the new Work Planning and Control system is computer use at home. This would allow divisions to implement a recommended or required **Home Computer Use Hazard Category** for telecommuters that would trigger the following hazard control recommendations:

- A. Request Ergo Eval - Computer/HOME
- B. Install RSI Guard Break Reminder Software
- C. Ergo Website - Home Office Resources

Observations

- The LBNL policy for telecommuting exists, but it is vague. Telecommuting is not clearly defined in the RPM, and it is generally up to the supervisor to determine what constitutes telecommuting. Because of the ambiguous policy, it appears that formal telecommuting agreements do not exist in many cases where an individual is telecommuting to some extent.
- The Telecommuting Agreement is out of date. Hazard controls documented in the form are old and no longer applicable, and many of the controls are not established as policy.
- There appears to be no formal controls on the annual renewal of telecommuting agreements. In some divisions, many of these agreements have not been renewed or updated.
- Remedy Interactive risk profiles suggest that risk is somewhat higher in home offices relative to traditional offices.
- Controls for home/remove office computer use being added to the new Work Planning and Control system are not supported by current policy.
- There are no policies or procedures to address the rising prevalence and use of mobile electronic devices like tablets and smart phones.

Recommendations

- Establish a committee of various stakeholders (HR, EHS, Ops, IT, OLC, Procurement) and conduct a thorough review of the current telecommuting policy and how it is being implemented across LBNL. Identify gaps, correct inaccuracies, and propose clearer policies for telecommuting.
- Establish LBNL ergonomic policy for computer use in home offices.
- Establish guidance for employees working on mobile electronic devices like laptops, tablets and smart phones in “mobile workstations.”

2. Driving Safety / Safety while Traveling

Driving safety and safety while traveling were other top safety concerns identified in the survey. “Driving safety” and “Safety while traveling” were both ranked in the top 5 concerns in questions 5 and 6 of the employee questionnaire, indicating that for those who travel this is an important concern. Based on the written responses, it appears that much of this concern is related to local travel.

Policy and Procedures – Driving Safety

Lab policy is contained within the Traffic and Pedestrian Safety Policy in the RPM (and ES&H Manual Chapter 60, Traffic and Pedestrian Safety). This policy seems to be limited to driving on the main hill location. It states:

The Traffic and Pedestrian Safety program ensures that drivers, Berkeley Lab shuttle bus users, cyclists, and pedestrians have a safe transportation experience at the Laboratory. The traffic and pedestrian safety requirements outlined here apply to government and personal vehicle use, Berkeley Lab shuttle bus use, bicycle use, and pedestrians at Lawrence Berkeley National Laboratory (Berkeley Lab).

Policy also requires compliance with the California Vehicle Code is required onsite (Chapter 60, [Work Process C. Vehicle Use](#)):

Road use at Berkeley Lab is governed by the California Vehicle Code, which is enforced by UCPD. Road design, including temporary traffic control, is governed by the California Manual on Uniform Traffic Control Devices.

An additional "Source Requirement" referenced by ES&H Manual Chapter 60 is [10 CFR 851, Worker Safety and Health Program](#), Appendix A, Section 9, "Motor Vehicle Safety." Among other requirements, this reference states:

(a) Contractors must implement a motor vehicle safety program to protect the safety and health of all drivers and passengers in Government-owned or -leased motor vehicles and powered industrial equipment (i.e., fork trucks, tractors, platform lift trucks, and other similar specialized equipment powered by an electric motor or an internal combustion engine).

An additional policy in the RPM covers [Vehicles, Use of Laboratory or Government](#). D1 Transportation Services, it states:

- 1. Berkeley Lab employees are never required to use their personal vehicles for business purposes, and such use is not for the convenience of the Laboratory.*
- 2. The Berkeley Lab Facilities Division provides shuttle bus and other transportation services, including vehicles from Fleet Operations for individual and divisional use. Shuttle bus service is provided around Berkeley Lab, and to and from the University of California, Berkeley campus and local Bay Area Rapid Transit (BART) locations.*
- 3. Laboratory or government vehicles are for official use only, i.e., for the performance of Laboratory work and business.*
- 4. Passengers in Laboratory-furnished vehicles must be directly associated with the official University business for which the vehicle is assigned or with other official business of Berkeley Lab.*

None of LBNL policies and procedures appears to specifically address driving between work locations off the main hill site.

Policy and Procedures – Safety while Traveling

There is not much in the way of LBNL policy or procedures for safety while traveling. The Travel Policy, found under "Financial Management" in the RPM, seems to exclude local travel and include domestic travel and foreign travel. The Travel Policy does address insurance and accident reporting in section D-9, Travel Insurance and Accident Reporting:

- ***Accident Reporting While on Travel***

- 1. For all vehicle accidents, notify the local police authority and complete the forms required by the insurance or rental-car company. Furnish copies of all reports to the Laboratory Counsel Office.*

2. Accidents involving personal injury must also be reported to Laboratory Health Services as soon as possible following the occurrence.

- ***Injury or Illness While on Travel***

1. *Illness or injury requiring hospitalization while on official travel status must be reported promptly to Health Services. In addition, all Laboratory employees are provided with workers' compensation coverage for work-related injury or illness that occurs during a Laboratory-approved and -funded business trip.*

There is some guidance in the Travel Policy on what to do after an employee is sick, injured or in an accident, but it does not give direction or guidance that would actually help someone get help in the event of an accident or injury. On the Travel website there are tips on travel safety

(<http://travel.lbl.gov/safety/safety.html>) and travel health (<http://travel.lbl.gov/safety/health.html>).

This is probably the best collection of information for safe, healthy travel, but is not well known at LBNL. In addition to the LBNL travel webpage, travelers receive an email from University of California before they travel with important travel information including a copy of an insurance card to be used for medical emergencies. The insurance card has contact information for assistance during travel including referrals to doctors and hospitals, help for evacuation, payment for medical expenses and advice if there is a sudden occurrence of a political or military event.

Health Services has advice regarding travel health on their webpage, including vaccinations and illness (http://www2.lbl.gov/ehs/health_services/cs/occ_health_progs.shtml-travel). This information, while helpful, is not in a readily accessible place.

Observations

- There is quite a bit of information available to the LBNL traveler, but it is not in one spot and is not well known.
- Survey responses to the “active” questions show that even though the many off-site facilities are located close to the main hill location, respondents report safety issues with travel between the sites.
- While Lab policy states that “*Lab employees are never required to use their personal vehicles for business purposes,*” it is apparent that many people choose to use personal vehicles rather than use alternative modes of transportation (shuttle, government vehicles, etc.).
- LBNL tracks government vehicle accidents, but does not track accidents in personal vehicles if there are no injuries.
- Many employees also choose to use personal vehicles when traveling between the main site and one of the satellite facilities (such as JGI or JBEI). This can save time if the business is at the end of the days as they can commute directly home from the satellite facility, rather than returning to the main site. Not only does this reduce the travel time required, it significantly reduces the risk of a work related traffic accidents as it eliminates the return trip to LBNL
- Though taking the Lab shuttle is comparable to taking a personal vehicle in terms of the time it takes (see table below), responses indicate that employees may opt to use personal vehicles to

travel to the hill. There is a perception that taking the Lab shuttle bus takes longer than driving a personal vehicle.

FROM	TO	DISTANCE (miles)	TRAVEL TIME (minutes - no traffic)	OTHER
1 Cyclotron Road B65	JBEI	4.0	19	LBL Shuttle 30 minutes (20 minutes return)
1 Cyclotron Road B65	JCAP	3.7	17	LBL Shuttle 20 minutes (30 minutes return)
1 Cyclotron Road B65	OSF	5.8	24	Public Transportation 22-32 minutes (BART 12 minutes; LBL shuttle 10 minutes; plus wait time for shuttle up to 10 minutes)
1 Cyclotron Road B65	JGI	17.6	44	
OSF	JGI	19.7	47	

Recommendations

- Consolidate travel safety information in one prominent place. This should include:
 - Information on preparing for and responding to travel emergencies.
 - Information on local travel including use of the Lab shuttles including the Potter/JBEI Route, use of BART/public transit, and routes for traveling between sites if people choose to drive their own vehicles.
- Initiate a communications campaign to educate LBNL staff on resources available to help them during travel.
- Consider and promote options to reduce travel (consider partnering with Sustainable at Berkeley Lab). This should include offering instructor-led classroom training at off-site locations when there is sufficient demand and promoting [teleconference meetings](#).
- Update and improve the policies that address using personal vehicles to travel between the main hill site and off-site work locations and satellite facilities. Establish if use of personal vehicles is acceptable, and clearly define for employees what parts of the travel is considered official business and what part is considered personal commute.
- Consider if use of personal vehicles should be encouraged for one way trips to satellite facilities, as this reduces the risk of work related vehicle accidents by 50%.

3. Emergency Response

As part of this assessment, the assessment team looked at off-site emergency response from the perspective of policy.

Policy

In the “Emergency Management Program” in the RPM, it is noted that Protective Services is the governing party for this area of safety. The Emergency Management policy under the Emergency Management Program (and also documented as Chapter 9 in the ES&H Manual has a very broad policy that states:

Berkeley Lab’s Emergency Management Program maintains an emergency-management system designed to minimize the consequences of all emergencies, protect the health and safety of all workers and the public from hazards associated with the Laboratory’s facilities, and prevent damage to the environment in compliance with DOE Order 151.1C.

The Emergency Management policy and Chapter 9 apply to all LBNL workers and does not distinguish between on-site and off-site facilities. Emergency response and coordination is addressed in Chapter 9, Work Process E and states:

The Protective Services Department maintains and supports the Laboratory’s Emergency Operations Center (EOC) and Department Operations Centers (DOCs). The EOC and DOCs are activated to support on-scene response during an escalating incident by relieving the burden of external coordination and securing additional resources. Both facilities provide coordination, direction and support to emergency responders during incidents.

The Emergency Management Program also includes a Continuity of Operation Program (COOP) that is to manage continuing operations in the event of an emergency.

The mechanism as to how the Emergency Management Program is to be implemented off-site is not clear. It would appear that the DOCs are to be implemented in various divisions and departments in off-site leased facilities. How and if this is actually done is unclear. Currently there is a Lab Emergency Duty Officer (LEDO) position which provides support to the Emergency Operations Center. This duty officer’s responsibilities are not entirely clear in the current documentation. Further it is unclear how this would connect with off-site emergency scenarios.

Procedures

In a life-threatening emergency, staff working on-site or in an off-site, leased building call 911. Response and support for off-site facilities in the event of an emergency in this regard is the same as on-site. That is driven by the E-911 program which identifies both on-the-hill and off-the-hill physical location via address, building number and room number when calling from a lab phone line. The nearest responding facility is set by the Public Safety Answering Point (PSAP) as designated by the county. This is not controlled by the Lab. For the sake of public safety the nearest responder answers the 911 call via designated PSAP.

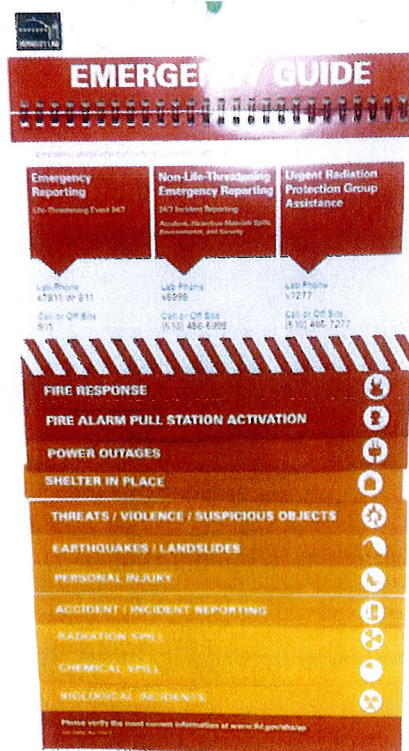
Example of off-site locator display when dialing 911:

Thursday, May 22, 2014 13:45:36
Call placed by extension [510486XXXX](#) associated with ANI [\(510\) 486-XXXX](#)
BL_978 RM_4450P

At the building level, LBNL has established Building Emergency Teams (BETs) to help facilitate building evacuation during an emergency. The BETs receive minimal training and have important (but limited) duties in an emergency. These teams then coordinate with local emergency responders such as Alameda County Fire Department (ALCO) or in some cases Protective Services staff. This arrangement works well when emergency responders are readily available and will likely meet the needs of staff working at the main hill facility where ALCO and Protective Services are housed. Off-site leased facilities do not benefit from this situation, and rely on local emergency response agencies. In the event of a significant earthquake, emergency responders may not be readily available to the off-site leased facilities. Building Emergency Teams at off-site leased facilities will likely need to take on a larger role following a significant earthquake.

At the emergency scenario level, LBNL has documented guidelines for how to respond to different emergencies. These are documented in the "Emergency Guide" flip charts which are posted throughout buildings on-site and most of the off-site leased facilities (see figure 1).

Figure 1.



The policies in the Emergency Guide do not adequately address emergency response for individuals working in satellite facilities and off-site in field locations or other remote work locations. Some divisions (such as JGI) address this deficiency by creating their own emergency guide or by including emergency response as part of work planning for this type of off-site work (see Appendix 4 for one example).

Observations

- The Emergency Guides posted throughout all on-site and most off-site buildings seem to be generated from a hill-centric perspective considering resources and expertise available to staff working at the main hill facility. The numbers and persons to call, or even the specific emergency scenarios do not apply to all off-site, leased facilities locations or to off-site field work.
- In the case of certain emergencies (i.e., natural disasters), there is reliance by Protective Services on the Building Managers and the voluntary Building Emergency Teams to facilitate building evacuation. After a building evacuation local emergency responders like Alameda County Fire Department, staff from Protective Services, DOCs, and the EOC manage the emergency.
- LBNL policy and procedures do not address the disparity between emergency response resources available on-the-hill and those available off-site, nor do they address the potential consequences of this disparity.

Recommendations

- Engage off-site, leased facilities (a.k.a. satellite facilities) and discuss the emergency response needs and practices at these facilities. Establishment of enhanced emergency response capability beyond the response currently expected of Building Emergency Teams should be discussed considering that these facilities will likely be on their own to attend to injuries and manage the safety of their own workers for hours or days after a significant emergency. There should also be some consideration given to having a staffed position per location to address and centralize the formal response in case of an actual emergency.
- Develop guidance that satellite facilities can use during an emergency and in the event communication with the LBNL EOC cannot be established. This guidance should cover some basic criteria for facility shut down, facility security, and under what circumstances should operations stop and employees be sent home.
- Generate and post site-specific Emergency Guides for leased facilities and off-site locations where appropriate and establish emergency response guidelines or recommendations for staff working off-site in field or other remote work locations.

4. Security Issues / Personal Safety

Security issues and personal safety was rated as the “greatest” safety concerns in this survey. These concerns were voiced most frequently in reference to OSF, the NERSC work location in Oakland, and OCFO in Emeryville, and seemed to pertain mainly to walking to and from the building after dark.

Policy and Procedure

There are no specific LBNL policies and procedures related to personal safety for staff traveling to and from a building or research location at an off-site work location. The closest policy or procedure is “Violence in the Workplace” (available in the RPM §2.05 Management/Employee Relations) which addresses violence directed at an employee inside the workplace. In the survey however employees expressed concerns about violence and crime outside and nearby the workplace. The current Protective Services webpages do not address personal safety.

Similarly, there are no specific LBNL policies and procedures related to off-site security. Each off-site location is responsible for negotiating security contracts as part of the building lease process. There is no LBNL standard. When contracted, security services at off-site locations are provided by a vendor and are not under the supervision or oversight of LBNL Protective Services staff unless there have been specific negotiations for this. The current Security webpages address aspects of security, but the scope is focused on security services available to staff working on the hill.

Observations

- Specific off-site locations express significant concern about personal safety and security.
- There are no LBNL policy and procedures to address personal safety or security at off-site locations, and there is no general awareness information available from LBNL addressing these areas of concern.

Recommendations

- Engage off-site work locations that have expressed concern about personal safety and security to understand concerns and discuss possible solutions. At a minimum develop basic awareness information about personal safety when commuting to and from work, make this information readily available and communicate this information to off-site locations on an on-going and timely manner.

Note: Oakland Police Department has several pamphlets addressing personal safety (Safety Tips – Avoid Being a Robbery Victim and Personal Safety: Do you have a Plan) that could be easily adapted for LBNL.

5. Unclear LBNL safety policies and expectations for off-site safety

Unclear policies and procedures were identified as another top safety concern. As noted above, less than half of the survey respondents rated the Lab policies covering off-site safety as good or excellent. 22% stated that they didn’t know LBNL had specific policies for off-site work and that they didn’t know where to find this information.

Policy

LBNL maintains an **Off-Site Work Authorization Policy** documented in the RPM. This policy defines off-site as “all work performed at sites located away from the Berkeley Lab main site and satellite locations, which include Donner Hall, Potter Street, the Joint BioEnergy Institute (JBEI), and the Joint

Genome Institute (JGI).” This policy only addresses work authorization, and basically requires that “to authorize work at off-site locations, Berkeley Lab Divisions must develop a process to plan for the safety of workers and the environment in the off-site location.” This policy does not identify any specific safety requirements. The expectation seems to be that divisions document how they manage off-site work in their division-specific ISM Implementation Plans. Each division is left on their own to determine what is appropriate and effective.

Work performed by most divisions participating in this off-site safety assessment is not considered “off-site” by the definition in the RPM however the division ISM plans of each participating division were reviewed. Most had some language that addressed off-site work (see Appendix 5). EETD had the most comprehensive requirements including a Field Work Hazard Assessment (Appendix 4), but the content and expectations varied greatly between participating divisions.

Procedures

Several chapters in ES&H Manual specifically address off-site safety to various (and limited) extents.

- Chapter 1 (General ES&H Requirements), Section 1.3 reiterates that the LBNL ES&H Manual applies to off-site locations.
 - *The requirements of the Berkeley Lab ES&H Manual apply to all Berkeley Lab employees, affiliates, contractors, and visitors to the Berkeley Lab main site, its off-site locations, and field operations.*
- Chapter 5 (Injury Response and Review) covers off-site work-related injuries and illnesses in various section.
 - Work Process B2(b) *For NON-LIFE-THREATENING work-related injury, illness, or exposure while on the Berkeley Lab site or nearby off-site facilities:*
 - *Report to Health Services, Building 26, (510) 486-6266, between 7:30 a.m. and 3:30 p.m. on regular business days.*
 - Work Process B2(e) *For work-related injury, illness, or exposure that occurs while away from the Berkeley Lab site or at nearby off-site facilities, the injured employee or employee’s supervisor must notify Health Services as soon as possible during regular business hours.*
- Chapter 17 (Ergonomics) as mentioned above addresses off-site/remote computer use.
- Chapter 19 (PPE) addresses provisions for LBNL furnished PPE in certain off-site work activities
 - Work Process B2(b) *Safety shoes and fatigue-reducing insoles are furnished by Berkeley Lab for certain off-site operations when a formal hazard evaluation has established the need for foot protection.*
- Chapter 24 (Training) addresses training applicability to off-site workers and training at off-site locations.
 - Section 24.3 *This policy applies to LBNL employees, affiliates, students, visitors, contractors, subcontractors, and vendors whenever planning and performing work at LBNL and LBNL-controlled off-site user locations and facilities, including UC Berkeley–controlled spaces.*

- Work Process A6 *EHS Training for Personnel at Off-Site Locations*
 - *All LBNL staff working on LBNL projects at off-site locations, including UC Berkeley-controlled spaces, are required to adhere to training requirements as stipulated by the host institution or existing Memorandum of Understanding (MOU).*
 - *In the absence of an MOU or host institution requirements, LBNL requirements must be completed.*
 - *These requirements can be identified by a work authorization, such as a JHA (Individual Baseline or Task-Specific), a JHA-equivalent system, or a formal authorization.*
 - *In some cases, facility or procedure-based safety training specific to the location will fulfill an LBNL training requirement.*
- Chapter 31 (Subcontractor Job Hazard Analysis) simply seems to state that sJHAs are not required for off-site work (Work Process A, Non-Construction Subcontractor Safety Process) and instead defers to the “Safety Plan.”
- Chapter 54 (Transporting and Shipping Hazardous Materials) notes that DOT rules apply both on-site and off-site.

These procedures touch on various off-site issues, but they do not necessarily provide detailed or pertinent information or guidance to all off-site workers. Reporting injuries and non-life threatening emergencies is one example. Chapter 5, Injury Response and Review, doesn’t provide recommendations or guidance for employees, contract laborers and other affiliates working in locations that are not “nearby” the main hill locations and doesn’t address getting medical treatment for staff working out of the United States. Staff traveling outside of the United States for work cannot call 911 for assistance.

Chapter 31, as another example, seems to indicate that sJHAs are not required for work performed off-site and instead refers to the Safety Plan (but offers no details on what the Safety Plan must include). This may be inadequate to ensure the safety of subcontractors hired to assist LBNL staff working off-site. A subcontractor hired by the lab to install equipment on a roof off-site will suffer the same injury as a subcontractor installing equipment on a roof on-site if they fall off the roof.

Satellite facilities such as Potter, JBEI and JGI are “off” the main site, and policies generated with the main hill site in mind are expected to be applied to these satellite facilities (ES&H Manual, Chapter 1). This does not always make sense given differences between facilities. One example is the Emergency Guide. As mentioned above, satellite facilities are required to post this, but the guidance is often “hill-centric” advising staff to call 6999 to report non-life-threatening emergencies even though hill resources are not readily available to off-site facilities, cautioning for wildland-urban fires and landslides which are not concerns for most satellite facilities, and advising staff to contact Health Services during day hours even though staff at satellite facilities may not use Health Services as the daytime provider of health care. To address this issue at one leased facility (JGI), staff have developed a revised Emergency Guide that contains the correct information and contact numbers.

As another example discussed in the Emergency Response section, the resources available to satellite facilities are not nearly as robust as the resources available to the main hill site. In the event of a significant emergency, hill resources may not be available to assist satellite facilities. There is also no guarantee that satellite facilities will be able to establish telephone communication with the LBNL EOC and must rely instead upon radios for communications. As such, the needs of the Building Emergency Teams (BET) at satellite facilities are different than the needs of the BETs at the main hill site, but these facilities are treated the same as BETs located on the main hill site.

Observations

- Most LBNL policies and procedures seem to be established based on resources available at the main hill site and may not be appropriate or sufficient for satellite facilities and other off-site work locations.
- There is no easy way to review all of the safety requirements that apply specifically to off-site work.

Recommendations

- Establish a cross-functional team to review LBNL safety policies and procedures applied to off-site work; identify requirements that do not seem to adequately address the needs of off-site workers or are ambiguous or unclear, and recommend revisions to address the deficiencies. The team should also recommend policy regarding what to do when LBNL policy conflicts with policy at non-LBNL off-site location or when non-LBNL off-site location safety policy is deemed inadequate.
- Develop a centralized resource with requirements and guidance for safety at off-site locations. This may include consolidating information on work authorization, reporting injuries, travel safety, personal safety, ergonomics, emergency response, and hazmat transportation. Consideration should be given to designating a single point-of-contact to address off-site safety questions and policy issues.
- Develop a communication strategy to raise awareness of LBNL requirements and expectations for off-site safety.
- Continue efforts to build off-site safety into WPC system.

Appendix 1

LBLN Off-Site Safety Survey

This form is to gather information regarding the safety of LBNL employees who work at offsite locations. Respondents are anonymous, and information will be used to improve the safety of LBNL employees who work offsite.

1. What is your LBNL home division?

- Computing Sciences
- CRD
- EETD
- EHS
- Engineering
- Genomics
- Human Resources
- IT
- Laboratory Directorate
- Life Sciences
- NERSC
- Nuclear Science
- OCFO
- Operations
- Physics
- Public Affairs
- SND
- Other:

2. If applicable, what division are you matrixed to?

- Computing Sciences
- EETD
- EHS

- Engineering
- Genomics
- IT
- Nuclear Science
- Physics
- Life Sciences
- N/A - I am not matrixed
- Other:

3. What are your off-site work locations? Check all that apply.

- Not applicable. I do not work off-site.
- JGI
- JBEI
- ABPDU
- JCAP
- Potter Street
- OCFO in Emeryville (Leap Frog)
- OSF - Oakland Scientific Facility
- CERN
- UCB
- SURF
- RIFL
- My Home
- Other:

4. What is the primary nature of the work you conduct off-site?

- Attending meetings/conferences
- Office / desk work (e.g., computer work)
- Lab work
- Technical work in a non-lab area
- Other:

5. Please identify potential safety concerns you have had when working off-site. Check all that apply.

- Ergonomics / workstation set up
- Emergency response
- Performing work you think is unsafe (e.g., performing work without controls that would be required at LBNL)
- Lack of adequate support from LBNL EHS staff to address off-site safety concerns
- Unclear LBNL safety policies and expectations for off-site safety
- Adequacy of non-LBNL safety programs
- Adequacy of offsite LBNL safety programs governed by LBNL
- Driving safety
- Safety while traveling
- Ability to properly assess workplace hazards
- Identifying appropriate safety controls
- Implementing appropriate safety controls
- Subcontractor work authorization
- Security issues / personal safety

- Equipment safety (e.g., electrically safe, properly secured, etc.)
- Ensuring equipment safety stored at off-site locations
- Electrical safety
- Working at heights and fall protection
- Traffic control
- Hazardous materials transportation
- Work with human subjects
- Use of tracer gases
- Underground safety issues
- Confined spaces
- Other:

6. What are your greatest concerns regarding off-site safety?

7. How are safety requirements for off-site work communicated to you?

8. Rate how effectively safety requirements for off-site work are communicated.

9. How would you describe LBNL policies controlling off-site work?

10. Do you perform any offsite work that is not safe or at an unsafe location? If so, please describe the circumstances below.

11. How do you assess the safety of your work when you work off-site? In other words, how do you identify potential hazards and decide what controls are appropriate? Check all that are appropriate.

- I don't assess safe working conditions when working off-site
- Pre-visit hazard assessment documents
- On-site inspection of hazards using a checklist or similar document
- Pre-job briefings at work location
- Site safety orientations at work location
- Use my own common sense / judgment
- I assume offsite work that has been approved by LBNL is safe
- Other:

12. How do you ensure the equipment you are using off-site meets Lab safety standards (e.g., electrically safe, properly secured, etc.), particularly in cases where this equipment is left at the job site?

13. In what locations do you use a computer for work? Check all that apply.

- My main office at LBNL
- In an offsite office governed by LBNL (JBEI, JCAP, JBEI, OCFO)
- In an office governed by a non LBNL safety program (UC Berkeley, CERN).
- At home
- At a cafe
- In a conference room

- During travel (on plane or in hotel room)
- Other:

14. If you perform computer work outside of your main office, what type of agreement do you have with your supervisor?

- Formal telecommuting agreement
- Verbal agreement
- Email agreement
- No agreement
- My supervisor doesn't know I work outside of my main office
- N/A - I do not perform computer work outside of my office
- Other:

15. What would you suggest needs to be done to improve off-site safety?

Appendix 2 – Documents and Data Reviewed

The following documents and data sources were reviewed for this assessment:

- ES&H Manual, Chapter 1 (General ES&H Requirements)
- ES&H Manual, Chapter 5 (Injury Response and Review)
- ES&H Manual, Chapter 17 (Ergonomics)
- ES&H Manual, Chapter 19 (PPE)
- ES&H Manual, Chapter 24 (Training)
- ES&H Manual, Chapter 31 (Subcontractor Job Hazard Analysis)
- ES&H Manual, Chapter 54 (Transporting and Shipping Hazardous Materials)
- RPM Off-Site Work Authorization Policy
- RPM §2.05 Management/Employee Relations, “Violence in the Workplace”
- Telecommuting Agreement and Authorization Form
- RPM §2.06 Compensation, Scheduling, and Work Location, “Flexible Work Option”
- Protective Services website
- Travel website
- Health Services website
- Environment, Health and Safety website
- RPM §11.06.001.000 Travel Policy

Appendix 3

**ERNEST ORLANDO LAWRENCE
BERKELEY NATIONAL LABORATORY (LBNL)**

AGREEMENT & AUTHORIZATION FOR TELECOMMUTING

The employee named below is hereby authorized to perform work for LBNL at the residence or off-site office located at:

WORK LOCATION:

(Address)	(City)	(State)	(Zip Code)

in accordance with the terms and conditions stated herein. Employee understands and agrees that authorization to perform LBNL job duties away from the LBNL premises is a privilege and can only be granted in areas where such duties are compatible with LBNL operations and to employees deemed eligible for off-site work assignments in LBNL's sole discretion.

EMPLOYEE INFORMATION:

(Name)	(Division/Department)	(Ext)	(Mail Stop)

AUTHORIZED DUTIES/ASSIGNMENTS:

(If the employee is a supervisor, a description of how supervision will be provided must be included, below.)

--

AUTHORIZED DAY(S) TO TELECOMMUTE:

--

NOTE: Any hours involving overtime must be specifically approved by the Supervisor

Employee further understands and agrees that:

- (1) This Agreement does not create a right to perform job duties at any location other than the LBNL site;
- (2) This Agreement is not an entitlement or a contract of employment and may not be construed as such;
- (3) This Agreement may be terminated without cause by either party upon ten (10) business day's prior notice;
- (4) LBNL information and equipment maintained at Employee's premises will be protected from unauthorized or accidental access, use, modification, destruction, or disclosure;
- (5) Employee's personal vehicle will not be used for LBNL business unless specifically authorized below;
- (4) Employee's off-site work space will be maintained by Employee in a safe condition, free from hazards to persons and equipment; if computer equipment will be used as part of the telecommuting function, the following activities must be completed and documented using the attached form and returning a copy to the supervisor and the EH&S Ergonomics Program (Mailstop 75B-0101).

- a. Complete the Ergonomics Awareness for Computer Users (EHS 60) training.
 - b. Conduct an ergonomic self-assessment of the immediate telecommuting work area using the attached evaluation form (consult with the EH&S Ergonomics Program personnel as needed).
 - c. Acquire and install the necessary ergonomic accessories identified in the self-assessment to assure the telecommuting work area provides controls against ergonomic risk exposures.
- (7) Any equipment provided to Employee by LBNL shall remain the property of LBNL, and that all such LBNL Equipment will be returned to LBNL for inspection, repair, replacement, or repossession upon five (5) business day's prior notice; and
- (8) Employee will report any injury incurred while performing work for LBNL at Employee's residence or off-site office to his/her Supervisor and LBNL Health Services (510) 486-6266;
- (9) Telecommuting is not a substitute for child or elder care, and Employee will manage dependent care and personal responsibilities in a manner that allows job responsibilities to be successfully met;
- (10) Employee agrees to be accessible (e.g., by e-mail, telephone) during designated work hours and will meet with Supervisor and attend LBNL meetings upon request of the Supervisor;
- (11) Other than duties and obligations expressed in this agreement, all duties, obligations, responsibilities, and conditions of employment with LBNL remain unchanged and all LBNL/University rules and regulations pertaining to employment, employee conduct, and performance of duties and health and safety apply to this agreement.
- (12) Employee remains liable for injuries to third parties and/or members of Employee's family at the Employee's residence. Employee agrees to defend, indemnify, and hold harmless LBNL, its employees and agents, and The Regents of the University of California, and the United States Department of Energy from and against any and all claims, demands, or liability (including any related costs, losses, expenses, and attorney's fees) resulting from or arising in connection with any injury to persons (including death) or damage to property, caused directly or indirectly, by the work performed by the Employee or by Employee willful misconduct or negligent acts or omissions in the performance of duties and obligations under this Agreement, except where such claims, demands, or liability arise solely from the gross negligence or willful misconduct of LBNL.

USE OF LBNL EQUIPMENT: If LBNL Equipment is to be used by the above Employee away from the LBNL premises, the Employee must print out Employee's property record, complete a Material Pass Form, and complete a Dual Signature Inventory/Inventory Property at Home form, and attach both to this telecommuting agreement. In addition, copies of the completed and signed property forms should be sent to the Division/Department property representative. (To access property forms, use the **Property Accountability** link placed in the Lab website A-Z index under: **P**, and then click the Forms button.)

COMPUTER AND INFORMATION SECURITY: Employees using any computer (whether their own or LBNL's) to access Laboratory information must follow Laboratory cybersecurity guidance to protect the confidentiality, integrity, and availability of this information and must meet LBNL's Cybersecurity Standards. If information of a personal or proprietary nature must be processed off site, it must be appropriately safeguarded. In particular, processing or transporting Personally Identifiable Information and/or Personal Health Information offsite requires that the employee and supervisor create a security plan to document the required protections for this information, whether it is stored on paper or in electronic form. Additional information about LBNL's cybersecurity policies is available at <http://www.lbl.gov/cyber/>.

ERGONOMIC EQUIPMENT: Prior to beginning a telecommuting arrangement (1) the attached ergonomic self-assessment form must be completed, (2) the required equipment must be ordered and installed, and (3) a photo of the workspace must be taken and attached to this form.

<i>Description of Ergonomic Accessories Needed</i>	Vendor Name	Date Ordered	Date Installed

Ergonomic Accessories Approved By: _____ (Supervisor's Signature)
 _____ (Division ESH Coordinator's Signature)

USE OF EMPLOYEE'S PERSONAL VEHICLE: The Employee is authorized to use the Employee's personal vehicle for the following LBNL purpose(s) **only**:

_____ (Supervisor's Signature)

APPROVAL: I hereby approve performance of the job duties/assignments stated herein by the Employee named above and at the above-specified location. If LBNL Equipment is to be used by the Employee, I hereby approve of removal of the above Equipment from the LBNL premises, and of the Employee's storage and usage of such Equipment at the above stated location. Copies of the Employee's property record, Material Pass Form, and Dual Signature Inventory/Inventory Property at Home form are attached.

(Signature of Supervisor) _____ (Date) _____

(Signature of Division Director/Department Head) _____ (Date) _____

I hereby affirm by my signature that I have read this Telecommuting Agreement, understand its subject matter and agree to all of the above terms and conditions.

(Signature of Employee) _____ (Date) _____

Concurrence of Human Resources for non-exempt employee agreements

(Signature of Manager, Labor/Employee Relations) _____ (Date) _____

	Sat	NI	AM	NA	Actions Taken/Ergonomic Items Needed
<p>Chair</p> <p>Chair has adjustable padded arm rests.</p> <p>Backrest is adjustable and provides proper back support.</p> <p>Chair adjusted to appropriate sitting height at computer workstation.</p> <p>Seat pan adjusted to provide adequate support to thighs.</p> <p>Employee's feet are flat on the floor/or supported by footrest.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Adjust ergonomic chair <input type="checkbox"/> Order ergonomic chair <input type="checkbox"/> Install chair mat <input type="checkbox"/> Install foot rest <input type="checkbox"/> Install supplemental back pillow <input type="checkbox"/> Other _____
<p>Work Surface</p> <p>Work space is properly laid out (monitor, mouse, document holder, phone, writing surface).</p> <p>Work surface at proper height.</p> <p>Adequate space under the work surface for legs, knees, thighs, feet and equipment/accessories.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Acquire ergonomic computer table/desk <input type="checkbox"/> Reconfigure existing work surfaces <input type="checkbox"/> Reposition items within normal range of motion and reach <input type="checkbox"/> Other _____
<p>Monitor</p> <p>The top of the monitor is at or slightly below eye level.</p> <p>Monitor is located directly in front of and at least 18-24" from worker.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Raise monitor height with monitor risers, phone book or ream of paper <input type="checkbox"/> Lower computer monitor to accommodate bifocal/progressive lenses use <input type="checkbox"/> Other _____
<p>Keyboard/Wrist Rest/Pointing Device</p> <p>The keyboard location forearms to be parallel to the floor.</p> <p>The wrists are straight, in line with the forearm.</p> <p>The wrist rest is used properly.</p> <p>Forearms parallel to floor when using pointing devices.</p> <p>Wrists in neutral position when using pointing devices.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Alternative keyboard <input type="checkbox"/> Adjustable keyboard tray/arm unit <input type="checkbox"/> Alternative pointing device <input type="checkbox"/> Mouse platform/bridge <input type="checkbox"/> Wrist rest <input type="checkbox"/> Other _____
<p>Document Holder</p> <p>Document holder is available to support paperwork</p> <p>Document holder is adjusted to the proper viewing height and</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Document holder <input type="checkbox"/> Slant board <input type="checkbox"/> Writing platform

distance.		<input type="checkbox"/> Other _____
Lighting Monitor is positioned to avoid glare or backlighting from windows. Lighting is adequate for computer work. Lighting is adequate for reading documents.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Reposition monitor to eliminate source of Backlighting and/or reflective glare <input type="checkbox"/> Install glare screen <input type="checkbox"/> Use task light <input type="checkbox"/> Reduce illumination level <input type="checkbox"/> Other _____
Vision Font size is discernable and there is no monitor flicker. Vision and focus is clear when viewing screen and documents.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Adjust monitor refresh rate <input type="checkbox"/> Schedule eye examination (for glasses) <input type="checkbox"/> Prescription glasses for computer work <input type="checkbox"/> Other _____
Telephone Usage Telephone use is extensive during the workday. Telephone handset is cradled between the neck and shoulders.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Install hands-free telephone headset <input type="checkbox"/> Use speaker phone feature <input type="checkbox"/> Other _____
Work Habits Micro breaks are taken on a regular basis (e.g., hourly) Stretching is performed during micro breaks. Neutral posture is maintained during sitting or standing work activities.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Take periodic micro breaks <input type="checkbox"/> Install Stretchware (task break notification software onto desktop) <input type="checkbox"/> Adjust ergonomic chair to enhance postural support <input type="checkbox"/> Other _____

Sat = Satisfactory

NI = Needs Improvement

AM = Adjustment Made

NA = Not Applicable

Date Ergonomic Self-Assessment Evaluation Form Submitted to Supervisor: _____

Date Ergonomic Self-Assessment Evaluation Form Submitted to EH&S Division Ergonomic Program Manager: _____

Employee Signature

Date

Supervisor Signature

Date

Ergonomic Evaluation Completion/Close-out Date: _____

Copies to: Division Safety Coordinator, J. Chung, EH&S Safety, Mailstop 90K

Appendix 4

Environmental Energy Technologies Division

Field Work Hazard Assessment

This Hazard Assessment and Field Work Site Safety Plan must be completed for all EETD-managed fieldwork projects that involve hands-on work. This assessment is NOT required for off-site activities that only involve meetings, site tours, or training classes. For any questions, contact the Division Safety Manager, Ron Scholtz X8137.

Project Name:

Principal Investigator:

Site(s) or Location(s):

Start Date:

Estimated Completion Date:

Brief Description of Field Work:

Please also provide detailed work plans and protocols as they become available

--

1. Will a subcontractor be used exclusively to perform this work? If so, a SJHA must be completed and submitted for approval. Go to:
<https://ehswprod.lbl.gov/sjha/login.aspx>

2. Specific Hazards for Field Work

Identify each hazard that is applicable to the work proposed.

Hazard Category	Check if Applicable List specifics in Section 2
-----------------	--

<p>1. Working at Heights- applies to work on any walking or working surface having an unprotected side or edge that is 6 feet high. Surfaces include leading edges, roofs, tanks, manholes, unguarded machinery, aerial lifts, ladders, slopes steeper than 2:1, hillsides, roofs, and surfaces with open holes or skylights. See ES&H MANUAL, Chapter 30 for fall protection requirements: http://www.lbl.gov/ehs/pub3000/CH30/CH30.html</p>	
<p>2. Electrical Work- Potential contact with <u>exposed</u> electrical parts operating at a voltage greater than 50 V and having a current greater than 5 mA. See ES&H MANUAL, Chapter 8 for electrical safety requirements: http://www.lbl.gov/ehs/pub3000/CH08/CH8.html</p>	
<p>3. Lifting Heavy Objects- Applies to activities that involve lifting objects of greater than 50 pounds. Also consider frequency and duration for lighter loads. See PUB- 3000, Chapter 17 for Manual material handling requirements: http://www.lbl.gov/ehs/pub3000/CH17.html#17911</p>	
<p>4. Hazardous Materials- Involves the use of chemicals that are flammable, corrosive, oxidizer, reactive, or toxic. See the Chemical Hygiene and Safety Plan for hazard controls requirements: http://www.lbl.gov/ehs/chsp/html/materials.shtml</p>	
<p>5. Compressed Gases or Cryogenics- Use of materials that are greater than atmospheric pressure. It also includes the use of cryogenic liquids. See ES&H MANUAL, Chapter 7 for pressure safety and cryogenics requirements: http://www.lbl.gov/ehs/pub3000/CH7.html</p>	
<p>6. Transport of Regulated Materials- Transport of hazardous materials, including compressed gases on public roads. See the Chemical Hygiene and Safety Plan for hazardous materials transportation requirements: http://www.lbl.gov/ehs/chsp/html/procure_trans.shtml#Transportation</p>	
<p>7. Asbestos- Potential disturbance of building materials that may be suspected of containing asbestos. See ES&H MANUAL, Chapter 4.8 for requirements regarding work with asbestos containing materials: http://www.lbl.gov/ehs/pub3000/CH04.html#48</p>	
<p>8. Hand Tools- Work involving the use of potentially hazardous hand tools such as hammers, handsaws, etc. See ES&H MANUAL, Chapter 25 for requirements regarding the use of hand tools: http://www.lbl.gov/ehs/pub3000/CH25.html</p>	
<p>9. Powered Tools- Work involving the use of potentially hazardous powered tools such as drills, circular saws, grinders, etc. See ES&H MANUAL, Chapter 25 for requirements regarding the use of powered tools: http://www.lbl.gov/ehs/pub3000/CH25.html</p>	

<p>10. Confined Spaces- Entry into an area that is large enough and so configured that a person can bodily enter and perform work; has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits); and is not designed for continuous employee occupancy. See ES&H MANUAL, Chapter 34 for confined space entry requirements: http://www.lbl.gov/ehs/pub3000/CH34.html</p>	
<p>11. Radiation/Lasers- Use of radioactive materials or sources. See ES&H MANUAL, Chapter 21 for radiation safety requirements: http://www.lbl.gov/ehs/pub3000/CH21-quickstart.html.</p>	
<p>12. Lasers- Use of Class 3B or Class 4 lasers. See ES&H MANUAL, Chapter 16 for laser safety requirements: http://www.lbl.gov/ehs/pub3000/CH16.html</p>	
<p>13. Vehicle Operation- Operation of either a personal, rental, or LBNL owned vehicle on public roads. All personnel must have a valid driver's license and required insurance.</p>	
<p>14. Forklift Operation- Operation of forklifts and electric pallet jacks. See PUB- 3000, Chapter 28 for requirements to operate a forklift: http://www.lbl.gov/ehs/pub3000/CH28.html</p>	
<p>15. Traffic Hazards- Work near roadways, railways, or runways. See ES&H MANUAL, Chapter 60 for LBNL traffic and pedestrian requirements: http://www.lbl.gov/ehs/pub3000/CH60/CH60.html</p>	
<p>16. Remote Location- Working in an area that is not readily accessible by emergency responder vehicles such as wilderness areas.</p>	
<p>17. Work Alone- Work where a plausible failure of hazard controls could result in an injury or exposure that may render an individual unable to take appropriate emergency actions. See ES&H MANUAL, Chapter 5.3 for further lone worker requirements: http://www.lbl.gov/ehs/pub3000/CH05_3.html</p>	
<p>18. Work in Private Home- Work in or around a private home.</p>	

<p>19. Work in Public Building- Work in or around a public building. This can include a retail business, office, school, utility, transit system, or government building.</p>	
<p>20. Climate- Work in potential extreme hot or cold temperatures. See ES&H MANUAL, Chapter 40 for heat stress requirements: http://www.lbl.gov/ehs/pub3000/CH40.html</p>	
<p>21. Wildlife- Work in locations where there is a potential to encounter dangerous wildlife such as bears, wildcats, wolves, snakes, etc.</p>	
<p>22. Biological- Work involving the storage or use of biological materials, agents, or other materials of biological origin. See ES&H MANUAL, Chapter 26 for biosafety requirements: http://www.lbl.gov/ehs/pub3000/CH26.html</p>	
<p>23. Aircraft, Helicopter, Balloon Use- Any activities that involve use of a non-scheduled U.S. air carrier, helicopter, or balloon for collection of research data or access to remote locations. Questions: Contact Lab Aviation Officer, Ross Fisher at extension 6934.</p>	
<p>24. Foreign Travel- Work involving travel to a foreign country. Contact Health Services, X6266 to determine if immunizations are needed.</p>	
<p>25. Human Subjects- All research projects involving human subjects require prior review and formal approval by an Institutional Review Board. See ES&H MANUAL, Chapter 22 for further requirements regarding human subjects: http://www.lbl.gov/ehs/pub3000/CH22.html</p>	
<p>26. Other (list hazard):</p>	

3. Details for Items Checked in Section 1 (Use Additional Sheet if Necessary)

Section 1 Hazard	Details

4. Field Work Controls

Complete a list of proposed hazard controls for each hazard identified in Section 1. This includes Personal Protective Equipment (PPE) and any engineering controls. For further information on specific PPE requirements go to ES&H MANUAL, Chapter 19: <http://www.lbl.gov/ehs/pub3000/CH19.html>.

Hazard (From Section 1)	Describe Specific Work Activity	Hazard Controls (List)
		1. 2.

5. Training

Note any additional training specific to this project that is not already covered by the employee's Job Hazard Analysis (JHA). This includes "On the Job Training," project "tailgate" safety meetings, or training courses completed outside of LBNL.

Additional Training

6. List of Equipment Used

All electrical equipment >50 Volts must be NRTL approved. If not NRTL, equipment must be certified by the LBNL electrical safety inspector. Equipment that does not connect to a source of power, e.g., battery powered, and is current limited to 0.005 Amps is not covered in the inspection program. For further information on the LBNL electrical safety program, go to: <http://electricalsafety.lbl.gov/>

Equipment Name	NRTL?

7. List of Authorized Workers

All authorized workers must have a current Job Hazards Analysis (JHA) with appropriate work group. All training must be up to date and verified by the Division Safety Manager.

I have read and understand this Field Work Hazard Assessment:

Name	Signature	Date

JHA work groups and training completion verified by Division Safety Manager:

The information provided in this hazard assessment, is to the best of my knowledge accurate and complete. Significant changes in project scope, hazards, personnel, equipment, or materials will be reported to the Division Safety Manager promptly for re-evaluation and updating of this assessment.

Approvals:

Principal Investigator Date

Division Safety Manager Date

Environmental Energy Technologies Division

Field Work Site Safety Plan

- Complete this plan just prior to performing fieldwork.
- Submit a copy to the Division Safety Manager
- Post the completed safety plan at the work site

1. Project Name:

2. Contact Information for Project Personnel

Name	Title or Job Description	Organization	Cell and/or Phone Number
	Principal Investigator		
	Site Lead		
Ron Scholtz	EETD Safety Manager	LBNL- EETD	(408) 504-5419

3. Emergency Response Information

Site First Aid Responder	
Nearest Hospital or Clinic	
Nearest Phone (If Cell Phones Don't Work)	
Primary Site Emergency Contact	
Fire Department/Ambulance Number	911
Emergency Evacuation and Assembly Location	
Emergency First Aid Supplies Location	
Other:	

--	--

Always report any injuries or incidents such as spills, fires, or vehicle accidents to the project lead and EETD Safety Manager immediately. All injuries must also be reported to LBNL Health Services X6626.

4. Field Work Location Information

Site address and/or attach map or photograph of work location as applicable.

5. Work Site Inspection

The Site Lead will ensure that the work site is safe for personnel to perform their work. Identify any obvious hazards and ensure they are corrected prior to starting any work.

Yes	Hazard	Yes	Hazard
	Slip, Trip, Fall Hazards		Falling Object Hazards
	Electrical Hazards		Fire Hazards
	Traffic Hazards		Chemical Hazards
	Exit/Egress Hazards		Other:

For any item indicated with a "yes", describe issue and actions taken:

6. Liability Insurance

Check with the building owner to determine if proof of liability insurance is needed. LBNL is self-insured. Contact _____ X _____ for a copy of the LBNL insurance certificate.

Appendix 5 - Division ISM Off-Site Safety Content

EETD

- Off-site workers must conduct work in a manner that complies with LBNL and EETD environment, safety and health (ES&H) policies and procedures.
- Off-site workers must conduct work in a manner that complies with all applicable regulatory requirements for the particular area work is being performed.
- Off-site workers performing work at another national laboratory or institution will comply with the ISM program, policies and procedures of that institution.
- The EETD Safety Manager must be notified of any new projects involving off-site work prior to performing the work. This can be accomplished by the submittal of an “Off-Site Project Hazard Assessment” form. Forms are available on the EETD Safety Website or through the Division Safety Manager.
- The employee supervisor and LBNL Health Services must be notified immediately of any off-site project related injuries.

Physics

- Oversee job hazard analysis and training completion for direct reports, including for off-site work.
- Follow safety requirements for LBL and host location when working off-site.

Nuclear Science

- Oversee job hazard analysis and training completion for direct reports, including for off-site work.
- Follow safety requirements for LBL and host location when working off-site.

Computing Sciences

- Offsite work is subject to safety requirements and review as applicable, determined in each case by completion of the JHA and consideration of the type of work. CS has some employees who work in permanent offices at other locations or institutions; some employees or Affiliates may be present onsite only once a year for a week or month or other length of time. SND’s ESnet employees routinely provide on-site support at computational facilities around the United States.
- Telecommuting is addressed on a case-by-case basis, and may be permitted at the discretion of line management, when appropriate.

Information Technologies

- If IT employees conduct Lab-sponsored work on the UCB campus (exclusive of Donner and Calvin Laboratories) they must follow the ES&H policies and procedures within the

partnership Agreement Between UCB and LBNL Concerning Environment, Health and Safety Policy and Procedures

- Anyone with an approved telecommuting agreement is responsible for the soundness of their home work environment. An employee who telecommutes can send a message to ergo@lbl.gov to request an evaluation which can be done both over the phone and with photos as guidance for feedback but is entirely the responsibility of the employee.

Laboratory Directorate

- No off-site language

JGI

- The safety of division personnel assigned to work off site at non-LBNL facilities will be addressed, as appropriate through the host's ES&H protection programs by the responsible line-management chain of the host organization. It is still the responsibility of the employee's LBNL line manager/supervisor to review the scope of work of offsite work, associated hazards, and necessary controls.
- Work carried out on the UC Berkeley campus is spaces under the control of UC Berkeley will be carried out in accordance with the [MOU between UCB and LBNL].

Appendix 6 - Glossary

ABPDU	Advanced Biofuels Process Demonstration Unit
AFRD	Accelerator and Fusion Research Division
ALCO	Alameda County Fire Department
BART	Bay Area Rapid Transit
BET	Building Emergency Team
CERN	European Organization for Nuclear Research
COOP	Continuity of Operations Plan
CRD	Computational Research Division
CS	Computing Sciences
DOC	Department Operations Centers
DOE	Department of Energy
EETD	Environmental Energy Technologies Division
EHS	Environment, Health and Safety
EOC	Emergency Operations Center
ESnet	Energy Sciences Network
FY14	Fiscal Year 2014
HR	Human Resources
ISM	Integrated Safety Management
IT	Information Technology
JBEI	Joint BioEnergy Institute
JCAP	Joint Center for Artificial Photosynthesis
JGI	Joint Genome Institute
JHA	Job Hazards Analysis
KBASE	DOE Systems Biology Knowledgebase
LBNL	Lawrence Berkeley National Laboratory
LEDO	Lab Emergency Duty Officer
MLA	Multi-location appointment
MOU	Memorandum of Understanding
MSD	Materials Sciences Division
NERSC	National Energy Research Scientific Computing Center
NRTL	Nationally Recognized Testing Laboratory
OCFO	Office of the Chief Financial Officer
Off-site	Any work that occurs outside the fenced boundary of the main hill location including work at leased facilities such as JGI, JBEI and Potter Street and work from home, from a mobile workstation, on travel, in the field and at other institutions.
OLC	Office of Laboratory Counsel
OSF	Oakland Scientific Facility
OSHA	Occupational Safety and Health Administration

PBD	Physical Biosciences Division
PPE	Personal Protective Equipment
PSAP	Public Safety Answering Point
PUB-3000	LBNL ES&H Manual
RIFL	Rifle Integrated Field Research Challenge
RPM	Requirements and Policies Manual
RSI	RSIGuard - ergonomic break reminder software
sJHA	Subcontractor Job Hazard Analysis
SME	Subject Matter Expert
SND	Scientific Networking Division
SURF	Sanford Underground Research Facility
TABL	Today at Berkeley Lab (news publication)
UCB	University of California, Berkeley
UCPD	University of California Police Department
WRMSD	Work-Related Musculoskeletal Disorder