

## Safety Advisory Committee

October 3, 2014

1:30 – 3:00 PM

### Minutes

Committee Member	Representing	Present
V. Potapenko, M. O. Leimer, J. Willen	Human Resources Advisors	X
Blodgett, Paul M.	Environment, Health and Safety Division	
Bluhm, Hendrik	Chemical Sciences Division	X
Chernowski, John	Facilities Division	
Christensen, John N.	Earth Sciences Division	X
Dardin, Steve	Physics Division	
Franaszek, Stephen	Genomics Division	X
Giuntoli, Patricia	Computing Sciences Directorate	
Greiner, Leo	Nuclear Science Division	X
<i>vacant</i>	Environmental Energy Technologies Division	
Martin, Michael C.	Advanced Light Source Division	X
Sauter, Nicholas	Physical Biosciences Division	X
Schmid, Andreas	Materials Sciences Division	X
Seidl, Peter	Accelerator Technology and Applied Physics Division; SAC Chair	X
Taylor, Scott E.	Life Sciences Division	
Tomaselli, Ann	Information Technology Division	X
Thomas, Patricia M.	Safety Advisory Committee Secretary	X
von der Lippe, Henrik	Engineering Division	X

**Others Present:** Geoffrey Aus, Raffaella Buonsanti, Stephanie Collins, Julie Drotz, Pedro Estacio, Jim Floyd, Michelle Flynn, Marshall Granados, Howard Hatayama, Mike Kritscher, Glenn Kubiak, Todd LaBerge, Quang Le, Bob Mueller, Andrew Peterson, Jack Salazar, Aaron Ward, Tammy Welcome, Kat Wentworth, Marty White, Mike Wisherop

#### **Comments from the Chair – Peter Seidl**

The Safety Advisory Committee welcomes Andreas Schmid as the new Representative for Materials Sciences Division.

## **Fire Safety Update – Todd LaBerge**

DOE requires facilities to be assessed for fire hazards every 1 – 3 years, depending on the value and importance. The Fire Protection Assessments (FPAs) and Fire Hazards Analyses (FHAs) are good opportunities for our Fire Safety professionals to meet people, interact, and educate them about how to elevate the overall level of fire protection at the Lab. Historically, the assessments were performed by third parties. Now they are being performed in-house. Building Managers and Division Safety Coordinators are being invited to participate in the walkthroughs. Most of the Protective Services staff is new to the Lab and they are still learning how to be most effective in making the Lab safer.

From the current round of assessments (still in progress) there are about 3,000 findings, recommendations, and incidences of hazards that will need correction. The action items are being categorized as Infrastructure items needing Facilities action or Operational items needing Division response. The most common Operational items are storage blocking emergency egress, propping fire doors open, daisy-chained extension cords, and inventory entries for gas cylinders that do not specify the size of the cylinders. The hazards are being risk-ranked by likelihood of occurrence and severity of consequences. Examples of common high-risk items are open electrical junction boxes, egress impairment, and storage of toxics and gases in stairwells. Almost all high-risk (category 1) items are being closed promptly. There are some historical infrastructure issues, particularly in Bldg. 2, 50, and 80. Mission criticality and high value (as defined by DOE) are considered in prioritizing infrastructure improvements.

Chapter 12 Fire Protection is being reviewed to incorporate the assessment processes and fire safety requirements. Feedback is invited.

## ESH Documents Pipeline – Mike Wisherop

The safety policies in development that have had some change in status since the last meeting are the ones in green on the pipeline table:

Revision Type	Documents	Program/Policy	Significance	Status
Electrical Safety Program Major Revision	RPM, ESH Manual	Electrical Safety Program	A	Program and Policy being rewritten, Significance rating done.
Traffic Safety Program and Policy – Major Revision	RPM, ESH Manual	Traffic Safety Program	C	With CSO for editing. Definitions, roles and responsibilities
Construction Safety – Major Revision	ESH Manual	Construction Safety Program	C	Rewriting of the entire document. Significance rating and Implementation plan written.
Pressure Safety and Cryogenics Program Major Revision	ESH Manual	Pressure Safety and Cryogenics Program	C	Working group finalizing changes to document; process flow diagram.
Chemical Hygiene and Safety Plan – Reformat, change to UNP (ENM) sections	ESH Manual	CHSP	D	Define UNP, UNP Worker, ENM designated area requirement removed. POSTED!
Hoisting and Rigging Program – minor change	ESH Manual	Hoisting and Rigging	E	Procurement of hoisting and rigging equipment; awaiting procurement
Hoisting and Rigging Program – minor change	ESH Manual	Hoisting and Rigging	E	Roles and Responsibilities for Facilities and Engineering Division Representatives related to review and approval of engineering notes.

Revision Type	Documents	Program/Policy	Significance	Status
Sharps Safety – New Policy and Program	RPM, ESH Manual	Sharps Safety	TBD	Waiting on significance analysis
Roof Access – New Policy and Program	RPM, ESH Manual	Roof Access	TBD	Waiting on significance analysis
Laser Safety Program Major Revision	ESH Manual	Laser Safety Program	TBD (C)	Laser safety committee has provided input and recommendations; SME is drafting.
Fall Protection Program Major Revision	ESH Manual	Fall Protection Program	TBD (C)	New requirements
OJT requirements, conditions for performing work without required training.	TBD	EHS Training Program/Policy	TBD	Description of OJT requirements for WPC. Divisions to determine methods.
Change to Radiation Safety Program – Conversion to Rad Con Manual format, and addition of new requirements from DOE O 458.1 CH. 2.	RPM/EHS Manual/Rad Con Manual	Radiation Safety, Environmental Radiation	D	RPG is working with the RSC on requirements, language and format of Rad Con manual. 7 Policies posted in RPM.

### **Mechanical Safety Subcommittee Update – Mike Kritscher**

The Subcommittee has some new members and they are updating their charter.

### **Work Planning and Control Update – Michelle Flynn and Jack Salazar**

Jim Floyd introduced the presentation by noting that these are exciting times, as we have been working on developing Work Planning and Control (WPC) since 2009 and now we are beginning the transition from the development phase (managed by Michelle Flynn) to the implementation phase (managed by Jack Salazar for EHS). Michelle Flynn reported that the development team has added new functionality and communications capabilities to the database system.

Feedback has been coming in from Soft Launch participants requesting changes in hazards and controls analysis, new capabilities, and repairs for software bugs and defects. About half of the requests for changes in Activity Manager have been responded to and closed. Common feedback requests have included:

- Add another level of activity oversight below Activity Lead for persons who perform On-the-Job Training; and
- Make the link between hazards and controls more visible.

About 33% of the feedback on the Integrated Hazards Assessment (IHA) has been addressed. Jim Floyd is organizing a subcommittee to evaluate the IHA.

A transition plan will be developed by the end of October. The process for near-term formal work authorizations is negotiable – Divisions should consult with their EHS Liaisons to determine which process to use. There will be many changes needed to the ESH Manual. Updating Chapter 6 is a high priority.

Communication about WPC to the Lab population has been mostly bottom-up. There will be more top-down communication coming from the Lab Director and Senior Management. EHS management will be visiting with Division Directors, using the overview video about why we are doing WPC.

### **Electrical Safety Update – Stephanie Collins and Henrik von der Lippe**

Lab Management is getting the message from EHS and DOE that electrical safety is overwhelmingly important at LBNL. Since 2012, there have been 6 electrical shocks (4 of them in science divisions), 3 cut live wires, and 5 incidents of leaving energized electrical panels or equipment open. The electrical safety triangle model says that about 1 in 10 incidents results in a serious injury and about 1 in 100 incidents results in a fatality. There are statistics that validate this model. Stephanie Collins reviewed some of the recent incidents:

- January 4, 2012, a worker excavating with a backhoe to relocate underground utilities for the CRT project hit a 120 V underground conduit that was embedded in pavement 4 inches deep. Scanning had identified the depth at 6.5 inches, but it was recorded in the work package as 6.5 ft.
- July 12, 2012, a scientist received a 120VAC shock to the hand while using a heater block to heat samples in Bldg. 6. The ground path was ineffective through anodized coatings.
- August 4, 2012, a contractor cut a 120V emergency circuit during demolition of electrical circuits in Bldg. 84. The LOTO did not include all emergency circuits. A faulty/improper testing device was used to check for voltage.
- September 18, 2012, a scientist received a 120V shock when unplugging a laptop from an unrated plug strip. The plug was stuck in the strip and the scientist's fingers contacted the plug prongs while struggling to remove it.

- April 5, 2013, a plumber performing work in a ceiling received a 277 V shock from indirect contact with an energized light fixture in Bldg. 2. The fixture was improperly grounded and had damaged wiring. The casing became energized, but the breaker did not trip.
- November 19, 2013, an apprentice electrician received a 277 V shock when holding a stripped wire in one hand and touching a metal ceiling rail for support.
- March 27, 2014, a technician received a 250 V (9 kHz) electric shock from contacting a servo motor casing that was not grounded.

In response to these incidents, an electrical safety improvement plan has been developed. We need to change the culture. ESH Manual Chapter 8 is being re-written and a new Electrical Safety Manual is being developed. Chapter 8 sets the policy and framework for the electrical safety program, and the ESM translates NFPA 70E and DOE electrical safety requirements into how to do things at LBNL. The proposed changes will have substantial impacts to all Divisions across the Lab. Divisions will need to identify the right people for Division Electrical Safety Officer and Electrical Safety Advocate positions. The changes will place limits on what types of work can be done by people who are not Qualified Electrical Workers, which may result in more demand for assistance from Engineering Division QEWs. There are 5 user groups reviewing the draft documents October 1 – November 3. Anyone can participate in the review, and more involvement from scientists is needed.

There are 6 important habits to improve electrical safety that we need to start practicing now:

Non-QEWs:

- Do not perform electrical work
- Report unsafe equipment

QEWs:

- Lockout & Test Before Touch
- Establish and Control Work Space

Management:

- Plan and control the work
- Correct unsafe behavior and conditions (accountability)

If these habits had been practiced, all the incidents described above could have been prevented.

### **SAC Planning Discussion – Peter Seidl**

The Safety Advisory Committee will be meeting with the Lab Director in November. SAC members who have comments about the Committee charter or suggestions for the meeting discussion should contact Peter Seidl before the meeting. Electrical safety is likely to be a topic. Peter Seidl will discuss the proposed agenda with Glenn Kubiak before the meeting.

The meeting was adjourned at 3:15 PM  
Respectfully submitted, Patricia M. Thomas, SAC Secretary