LSC Meeting Minutes, September 18th, 2014, 1:00 pm

Present:

Ian Sharp – PBD, New Chair
Joel Ager – MSD, Interim Chair
Greta Toncheva - LSO
Robert Fairchild - Deputy LSO
Anthony Consalves - ATAP
Eddie Ciprazo - UCB LSO
Xianglei Mao - EETT
Martin Neitzel - DSC CSD
David Kestell - EWRP (department head)

Meeting was held as a video conference, set up by Joel Ager, with Ian Sharp joining remotely.

1. Introduction of new members and new chairperson and member introductions - Joel Ager

Ian Sharp - new chairperson
Daniel Slaughter - representing ALS and CSD
Anthony Gonsalves - representing BELLA, ATAP

2. Brief review of the new charter – Greta Toncheva

Changes:

- Membership includes four laser users/researchers + LSO, though everyone is welcome to participate
- Frequency of meetings will be as needed
- Format – in person, emails, teleconferences, ready talk, etc. Video conferencing is useful for members joining from offsite locations (e.g. JCAP).
- The new chairperson (Ian Sharp) agreed to take notes and write minutes of meetings.

3. DOE assessment on laser program and corrective actions plan – Greta Toncheva

- Greta Toncheva prepared and presented a presentation summarizing the findings and corrective actions from the Recent DOE Laser Safety Program Assessment, which was conducted June 9-12, 2014 by an assessment team composed of Mike Carr (DOE BSO) and Gus Fadel (DOE Oak Ridge Office). The overall finding was the LBNL Laser Safety Program is effective, well managed, and well organized. There were no major L1 findings, four L2 findings, and ten L3 findings. The majority of the findings identified in laser operations were mainly non-beam hazards, as well as individual lab safety management issues. The findings specific to laser systems were minimal and were

considered quick fixes, and several of the findings were fixed "on the spot." A summary of L2 findings and associated corrective actions was presented by Greta Toncheva, as follows:

1) **FIND-L2-001** Personal protective equipment (skin protection) was not being used in the B66/209 Laboratory when working with an open beam Class 3B or Class 4 UV laser, as required.
   Corrective action: CATS # 9657
   AHD was edited to reference PPE requirements when exposure to UV is present, which includes Gloves, Long Sleeves, Face Shield/Safety Glasses. Re-training in regards to UV exposure and PPE requirements.

   Joel Ager raised the issue of non-laser UV hazards, such as those originating from solar simulators and other lamp sources. Bob Fairchild confirmed that the hazard has been identified, equipment is now available for assessing the hazard, and modifications to PUB3000 are being considered.

2) **FIND-L2-002** Black foam was used as a laser protective barrier in the B70/157 Laboratory to block reflective radiation inside the laser lab without the proper labeling and flammability, as required.
   Corrective action: CATS # 9673
   The black foam was replaced by non-combustible black Al foil ordered and purchased from Thorlab. The protection from direct laser beam is accomplished by the beam blocks. The purpose of the new black Al foil is to protect from diffusely scattered laser beam.

   FIND-L2-002.2 Clear plastic shroud pieces that were cut into different lengths and connected together to create a curtain were used as a laser protective barrier in the B66/R209 Laboratory to block reflective radiation inside the laser lab without the proper labeling and flammability, as required. This homemade curtain was uneven and made of unapproved materials to withstand damage produced by a Class 4 laser. One of the plastic pieces appeared to have a burn dot that may have been produced by the interaction with laser radiation.
   Response: *The clear plastic shroud was never meant for laser radiation protection, its purpose is to protect against dust and it is commercially available for clean rooms. The protection from direct laser beam is accomplished by the beam blocks mounted on the optic table. Curtains are mounted at the entrance of room and to one side of the optic table, and perimeter guards are mounted on three sides of the table to provide protection from diffusely scattered laser light.*

Corrective Action: *Appropriate label stating "This enclosure does not protect against laser radiation" was affixed to inform of the shroud's purpose.*

3) **FIND-L3-003** Long distance beam line conduit labeling on the long laser conduit line running into the laser cave at BELLA was missing (*labels were provided and the issue was corrected on the spot*).

   FIND-L3-008 Although proper eyewear is present and storage is available in B70/157, an improved method of storage could be incorporated to prevent scratching and damage of laser/safety eyewear.
   Corrective action: CATS # 9672
   A clear plastic over-the-door hanging multi-compartment storage that allows for storage of each pair of eyewear individually was obtained to improve laser eyewear storage in 70-157, and prevent scratching. The pockets were labeled for easy find of appropriate eyewear.

   FIND-L3-0010 Because of the increase in the number of lasers and the increase in responsibilities assigned to the LSO, the Laboratory may need to evaluate whether existing resources are sufficient to perform these responsibilities.

   Management response: *The EHS Division Leadership Team has identified this issue as part of a wider risk and resource alignment effort, which includes ensuring the LSO responsibilities are aligned with available resources and technology is suitably used to leverage these resources. This continues to be a focus area as the Lab mission changes and resources continue to be challenged.*
   Greta Toncheva explained that currently LSO and DLSO share 1 FTE, and are working with the funding available. Martin Neitzel commented that he wish to see more time allocated for LSO jobs.

4. Laser Interlock program - Patrick Bong

Patrick Bong prepared and gave a presentation on the Laser Interlock Program, which contains the contractual and institutional requirements and best management practices that pertain specifically to the application of interlocks to laser systems. The program is intended to provide guidance to personnel designing, documenting and reviewing laser interlocks so that interlock systems are consistent and comply with lab policy and contract requirements. The program applies to indoor Laser Controlled Areas where the LSO has determined that interlocks are required. A review of the interlocks required, as specified by the LSO, was given.

The interlock systems require documentation and the Interlock SME shall prepare an interlock system requirements document to fulfill the needs of the laser controlled area.
The requirements will be reviewed by the LSO and the laser controlled area Work Lead to determine that the system requirements are consistent with the risk of hazardous exposure.
The interlock systems must be regularly tested. Test intervals have been relaxed from every 6 months to an annual test of the interlock system. A procedure must be used that documents the testing process and completion date. The successful execution must be acknowledged by the Work Lead or line management designee. Only appropriately trained and qualified personnel are permitted to repair the interlock system.

Joel Ager raised the question of whether digital reminders and documentation could be utilized for ensuring that the interlock testing is up to date. Greta Toncheva and Bob Fairchild responded that the new procedure for testing once every year means that the testing can be coupled to the annual AHD renewal, thereby alleviating the previous problems associated with testing every 6 months. This solution was well received by the members.

5. Updates on laser program - Greta Toncheva

- An update of the ANSI Z136.1 2014 adoption, along with the eye exam policy change, was presented at the SAC meeting in August and there were no objections. A recommendation has been put forth to have the eye exam text policy appear exactly as in the ANSI. An informal letter has been submitted to the BSO manager for concurrence and he is waiting on laser EFCOG recommendation to make his decision. The laser EFCOG will distribute a letter recommendation in November.

- WPC and IHA controls – The laser controls were revised for 3rd time and hopefully this is the final revision. There have been some glitches b/w IHA and interfacing AM; for example both old and new controls show and some duplicates are present.

- Laser safety program, Ch.16 – In revision, it will be sent to the members for a review, hopefully in December.

- The laser vendor fair went very well - 15 vendors were present and an estimated 100 -150 people visited.
Greta Toncheva explained that LBNL does not charge for registration fee for the laser fair, but rather suggests $60 in donations. $820 were collected as donations from the vendors, $392 went torward refreshments for the vendor fair, with the rest Greta purchased 10 portable flashing lights and 20 shoe organizers for eyewear storage. All of that is available to laser users when they are in need. Joel Ager commented on the good use of money.
- Annual LSO workshop was at LBNL, Csaba Toth presented on BELLA, the next will be at Fermilab in 2016

- ANSI Z136.8 meeting was after the LSO workshop - Bob Fairchild elected the vice chair

Anthony Gonsalves asked for clarification of requirements for beam blocks on Class 3R lasers. Bob Fairchild and Greta Toncheva provided clarification that beam blocks are not required for Class 3R lasers, but are a good practice. Additional questions from researchers or supervisors can always be addressed to LSO's.

Meeting Adjourned.