

**Notes on the Office of Science
Laser Televideo
November 19, 2004**

Office of Science Headquarters' Viewpoints

Dr. Orbach emphasized the importance of safety everyday and his concern at the increasing numbers of laser events. He emphasized our management responsibilities to employees, students and visiting scientists. His concern centered around the magnitude and seriousness of the potential accidents that lasers can cause, and asked that we learn from past accidents and take action so we stop laser accidents once and for all.

Dr. Johnson focused on how Integrated Safety Management fits the model of the scientific method; therefore, it should resonate with scientists and researchers. He believes that we can become 'best in class' if we can put the same creative talent and expertise to improving our safety practices as we do to our scientific endeavors. Also, he reminded us that we should be as safe at home as we are in our facilities, offices, and work spaces.

Dr. Dehmer spoke to the importance of training and driving the safety procedures down to the laboratory benches, especially to new employees, students and trainees. She was particularly concerned that three of the accidents were funded by her program and that three of the accidents involved very inexperienced students. Experienced professionals should be mentoring students with the result of reducing and eliminating laser accidents. Dr. Dehmer emphasized that her program would not fund work that is not done safely.

Main Topics & Repeat Topics from the Argonne and Brookhaven Panel Discussions

- Consolidated Approach to Laser Safety
 - Management involvement is necessary.
 - Protection of students and those at the beginning of their careers is a priority.
 - Lessons learned approach needs to be incorporated.
 - Corporate web site should be developed.
 - Improvements outlined on page 8 in Doon Gibbs' presentation, see <http://www.sc.doe.gov/sc-80/sc-83/lasers.shtml> should be considered.
 - There should be a Facility Representative training module on laser safety.
 - There should be consideration by the labs to have a laser safety peer review process.
 - Appropriate disciplinary action, with a graded approach, is required. There should not be a rush to administer discipline until all the facts are in and the investigation is completed.
 - Total honesty is required to change the culture.
 - It must be impossible for untrained people to be exposed to lasers.

- Training in Laser Safety
 - System wide (DOE & SC) training needs to be considered.
 - A web based training core curriculum would be valuable.
 - Develop a core curriculum for SC that is web based.
 - There should be standard training for Laser Safety Officers (LSOs).

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- Consider regular corporate meetings of LSOs.
- Training in early hazard analysis (i.e., analysis before experimentation begins).
- Laser safety conference in March 2005 in Los Angeles would be a good place to convene a DOE group.
- We should consider a “Non-Hazardous” optical obstacle course for training.

- Laser Safety Web Site
 - A corporate central web site would be of service to SC.
 - Compilation of laser safety investigation reports and today’s overhead slides.

- Resources
 - Site Offices may not have the resources or technical expertise.
 - The resources in laser safety at the ISC need to be specified for use by the Site Offices.
 - The new ANSI standard on Laser Safety is due out sometime in 2005.
 - LANL laser accident investigation report would be valuable to have. We’ll try to put on the web site.
 - There is valuable information on the Rockwell Laser Industries web page.

- All are Affected by Laser Safety Breaches
 - Students & post docs
 - Veteran scientists
 - Inexperienced & experienced
 - Alignment is the most serious safety problem
 - Taking short cuts & operating unsafely
 - Discipline & consequences are necessary

Possible Action Items

- Integrated Service Center should identify their technical resources in laser safety.
- Laboratories should consider a laser safety peer review process.
- Compile Laser Safety Reports at one web site.
- Compile laser televideo overheads.
- Consider convening a DOE group at the March 2005 Laser Safety Institute’s Conference and/or at the Spring 2005 SC Safety Summit.
- Consider regular corporate meetings of LSOs.
- Improvements outlined on page 8 in Doon Gibbs’ presentation, see <http://www.sc.doe.gov/sc-80/sc-83/lasers.shtml>, should be considered regarding training tools, organizing laser user communities, and organizing a DOE sponsored meeting of SC laser safety officers and users.
- Consider developing a Facility Representative training module on laser safety.
- Consider developing a web based training core curriculum that could be a DOE or SC system wide program.