



## **Laser Safety Officer with Hazard Analysis Daily Agenda**

### **Day 1 - Dr. David Sliney**

- I. Welcome & Introductions**
- II. Introduction to ANSI Z136.1 *Safe Use of Lasers* standard**
  - a. History and development of ANSI standard
  - b. Scope and LSO responsibilities
- III. Basic Concepts of Lasers**
  - a. Properties of light
  - b. Geometrical Optics
  - c. How does a laser work
  - d. Characteristics of laser light
  - e. Characterizing the laser output
  - f. Categories of laser systems
  - g. Laser applications
- IV. Laser Bioeffects**
  - a. Laser effects on the eye and skin

### **Day 2 - Dr. David Sliney & Dr. Richard Hughes**

- I. Laser Bioeffects (*con't*)**
  - a. Laser effects on the eye and skin
- II. Laser Safety Standards for Manufacturers**
  - a. Comparison of ANSI and CDRH standards
  - b. CDRH Federal Laser Product Performance Standard (FLPPS)
  - c. IEC standards and CDRH Laser Notice No. 50
- III. Laser Hazard Analysis**
  - a. Review of radiometric terms & units
  - b. MPE: Maximum Permissible Exposure
  - c. Determination of the MPE
  - d. Viewing conditions for determining the MPE
  - e. Procedure for determining the ocular MPE
  - f. Examples

### **Day 3 - Dr. Richard Hughes**

- I. Laser Hazard Analysis (*con't*)**
  - a. Nominal hazard zone
  - b. AEL, and laser hazard classification
  - c. Optical density
  - d. More Calculations

### **Day 4 - Ms. Tekla Staley**

- I. Laser Regulations and Consensus Standards for Laser Users**
  - a. OSHA, FDA
  - b. FAA
  - c. Other ANSI standards
  - d. IEC
  
- II. Non-Beam Hazards**
  - a. Non-beam hazards & ANSI Z136.1
  - b. Chemical hazards
  - c. Physical hazards
  - d. Biological hazards
  - e. Other non-beam hazards
  
- III. Laser Accident History**
  - a. Who gets injured the most
  - b. statistics
  
- IV. Laser Safety Program Administration**
  - a. The Laser Safety Officer (LSO)
  - b. Structure of a laser safety program
  - c. Laser safety program administration

### **Day 5 (half-day) - Ms. Tekla Staley**

- I. Laser Safety Control Measures**
  - a. Engineering control measures
  - b. Administrative and procedural control measures
  - c. Eye protection
  - d. Barriers & curtains
  
- II. Course Review**
  - a. Q & A