Industrial Laser Safety

Day One

8:00 A.M. REGISTRATION / CONTINENTAL BREAKFAST

8:30 A.M. COURSE INTRODUCTION
- The laser as a tool in industry
- What is laser light?
- Introduction to laser safety
- Radiometric units
- Overview of beam effects
- Non-beam hazards

10:00 A.M. SUMMARY OF ANSI Z136.1 STANDARD

11:00 A.M. CDRH STANDARD
- When does a "user" become a manufacturer?
- What is a certified laser?

12:00 P.M. LUNCH

1:00 P.M. BIOEFFECTS OF LASERS-PART 1
- Laser effects on the eye and skin
- Intrabeam exposures
- Point source diffuse reflections
- Extended sources-vs.-point sources

2:30 P.M. BIOEFFECTS OF LASERS-PART 2
- MPE Values with computational examples
- Wavelength and time MPE corrections
- When do you use MPE values?

3:30 P.M. LASER ACCIDENTS
- Review of types of laser accidents
- What can we learn?

4:30 P.M. End of Day
Industrial Laser Safety

Day Two

8:00 A.M. REGISTRATION / CONTINENTAL BREAKFAST

8:30 A.M. CLASSIFICATION
- Definitions of the classes
- AEL values
- Details of Class I to Class IV
- When does one reclassify?

10:00 A.M. HAZARD ANALYSIS AND COMPUTATIONS
- Optical density (OD) for protective filters
- Nominal Hazard Zones (NHZ)
  - Diffuse reflection (NHZ)
  - Lens-on-laser NHZ
  - Intrabeam NHZ

11:00 A.M. HAZARD ANALYSIS WORKSHOP
- Computational examples for industrial lasers

12:00 P.M. LUNCH

1:00 P.M. REVIEW OF ANSI Z-136.1 CONTROL MEASURES-PART 1
- Concepts of engineering and procedural controls
- An overview of control measures
  - Eye protection
  - Window filters
  - Area protection
  - Barriers and screens
  - Beam termination

2:30 P.M. REVIEW OF ANSI Z136.1 CONTROL MEASURES-PART 2
- Overview continued
  - Warning signs
  - Entryway controls
  - Procedural Controls
  - Standard Operating Procedures (SOP'S)
  - Administrative controls

3:30 P.M. MEDICAL SURVEILLANCE
- Training programs and aids

4:30 P.M. End of Course