



Laser Hazard Assessment Form

Iowa State University Environmental Health & Safety
Ames Laboratory Environment, Safety, Health & Assurance

Laser Supervisor: _____ Group Leader: _____
Laser Location: _____ Phone Number: _____

Manufacturer: _____ Type: _____
Model: _____ Serial Number: _____ ISU/AL Prop #: _____

Minimum Wavelength: _____ Maximum Wavelength: _____

Pulse Mode: () Continuous Wave – go to #1 () Single Pulse – go to #2
() Multiple Pulse – go to #3

1) Average Power (watts): _____
2) Energy Per Pulse: _____ joules Pulse width: _____ sec.
3) Energy Per Pulse: _____ joules Pulse width: _____ sec. Pulse Rep. Freq: _____ Hz

Beam Profile: () Circular () Elliptical Beam Distribution: () Gaussian () Top Hat
Divergence: _____ mrad Diameter at Waist: _____ cm
Aperture to Waist Distance: _____ cm Aperture Diameter: _____ cm
Extended Source Size: _____ cm (for Top Hat distribution, collect for X and Y)

PERSONNEL & ADMINISTRATIVE CONTROLS:

- 1) Authorized user list current? _____ Yes _____ No _____ N/A
- 2) Standard Operating Procedures for operation & alignment? _____ Yes _____ No _____ N/A
- 3) Authorized users had Laser Safety training through Ames Laboratory? _____ Yes _____ No _____ N/A
- 4) Group-specific training conducted and documented? _____ Yes _____ No _____ N/A
- 6) Buddy system in place? _____ Yes _____ No _____ N/A
- 7) Appropriate warning signs present? _____ Yes _____ No _____ N/A
- 8) Readiness Review number (Ames Lab ONLY): _____

COMMENTS: _____

B. SYSTEM CONTROLS

- 1) Beam attenuator/shutter operational? _____ Yes _____ No _____ N/A
- 2) Protective housing interlocks work? _____ Yes _____ No _____ N/A
- 3) Warning lights and/or alarms work? _____ Yes _____ No _____ N/A
- 4) Key control system for main power supply (Class IV ONLY)? _____ Yes _____ No _____ N/A
- 5) "Panic button" identified and operable (Class IV ONLY)? _____ Yes _____ No _____ N/A
- 6) Room door interlocked with the laser system? _____ Yes _____ No _____ N/A
- 7) Key control system for interlock override switch? (Class IV ONLY)? _____ Yes _____ No _____ N/A
- 8) Interlock lights operational (Class IV ONLY)? _____ Yes _____ No _____ N/A

COMMENTS: _____

C. BEAM CONTROLS & PERSONAL PROTECTIVE EQUIPMENT

- 1) Beam path accessibility assessed? Yes No N/A
- 2) Potential diffuse & specular reflection hazards assessed (Class 4 ONLY)? Yes No N/A
- 3) Secondary beams terminated? Yes No N/A
- 4) Beam completely enclosed? Yes No N/A
- 5) Beam housing interlocked with laser system? Yes No N/A
- 6) Ventilation of potential airborne contaminants assessed? Yes No N/A
- 7) Beam backstops made of fire resistant materials? Yes No N/A
- 8) Windows in the laser room closed or covered? Yes No N/A
- 9) Protective eyewear available and of proper wavelength? Yes No N/A

COMMENTS: _____

D. ASSOCIATED HAZARDS

- 1) Xenon/flash lamp exposed? Yes No N/A
- 2) Electrical hazards assessed? Yes No N/A
- 3) Flammable/toxic chemicals usage assessed? Yes No N/A
- 4) Cylinders secured? Yes No N/A
- 5) Venting for gases with NFPA Health Rating 3 or 4? Yes No N/A
- 5) Biological materials used? Yes No N/A
- 6) Appropriate waste storage? Yes No N/A
- 7) Fire extinguisher present in the room or adjacent hallway? Yes No N/A
- 8) List any additional PPE needed (i.e., gloves, clothing): _____

Comments: _____

E. CERTIFICATION OF LASER HAZARD ASSESSMENT

To the best of my knowledge, all laser hazard control measures specified in this Laser Hazard Assessment are complete and accurate. As the supervisor of this system, I understand it my responsibility to ensure safe operation including the training of all users and verification that controls measures are enforced including the use of personal protective equipment.

By: _____ Date: _____

I have reviewed the information on this form and discussed specifics with the Activity Supervisor. The control measures discussed, if implemented, are adequate to ensure the safe use of this laser system.

By: _____ Date: _____