

# Laser Hazard Assessment Form

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

Laser Supervisor: \_\_\_\_\_ Group Leader: \_\_\_\_\_  
Laser Location: \_\_\_\_\_ Phone Number: \_\_\_\_\_

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Manufacturer: \_\_\_\_\_ Type: \_\_\_\_\_  
Model: \_\_\_\_\_ Serial Number: \_\_\_\_\_ ISU/AL Prop #: \_\_\_\_\_

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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)

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## 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: \_\_\_\_\_

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**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: \_\_\_\_\_

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**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: \_\_\_\_\_

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**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:** \_\_\_\_\_