

APPLICATION FOR USE OF LASER

(Please type or print clearly. Check boxes as appropriate.)

New Project Existing Project (_____): New Machine New Protocol

Responsible Investigator _____ PhD Other _____
Beyond Baccalaureate

Clemson Identification Number C _____ Date of Birth ____ / ____ / _____

Office Address _____ E-Mail Address _____@clemson.edu
Room Building

Phone Numbers: Office _____ Lab _____ Cell _____ Fax _____

University Position & Academic Rank _____ Department _____

New applicant Currently or previously authorized at Clemson, project number(s) _____

Person to contact about this application _____ Phone _____ E-Mail _____

LASER EQUIPMENT

Description	1	2	3	4	5
Manufacturer					
Model Number/ Serial Number					
Location (Building/Room)					
Lasing Media (i.e. Nd:Yag)					
Class					
Wavelength (nm)					
Mode (CW/ Repetitive Pulsed/ Single Pulsed)					
Average Power Output (W)					
Energy Output per Pulse (J)					
Pulse Length (s)					
Pulse Repetition Rate (Hz)					
Beam Diameter (mm)					
Beam Divergence (mrad)					

PURPOSE OF LASER

ANY OTHER KNOWN NON-BEAM HAZARDS

- Fire
- Hazardous chemicals
- Evolution of gases
- EMF/X-ray
- Other:
- Laser Generated Air Contaminants (LGAC)
- Nanoparticles
- Compressed Gases
- Mechanical (ex., robotics)

LASER PROTECTIVE EYEWEAR

Wavelength Attenuated, nm	Optical Density	Quantity	Manufacturer

USERS WHO WILL USE, ASSIST IN THE USE OF LASER, OR FREQUENT THE ROOM

First Name	Middle Initial	Last Name	Email	Training Date

OPERATING AND EMERGENCY PROCEDURES

Operators of class 3b and 4 lasers must be provided with written operating and emergency procedures. The operating procedures should describe the permitted uses of the equipment and the safety precautions that need to be taken during use. Emergency procedures should include the phone number of the Laser Safety Officer and the names and phone numbers of the project personnel that should be called in the event of a malfunction or accidental exposure. Attach a copy of the operating and emergency procedures for the equipment listed in this application.

RESPONSIBLE INVESTIGATOR

I will be responsible for all laser equipment that is acquired under my authorization. All laser equipment will be used in accordance with the Clemson Laser Safety Program and in accordance with the conditions of authorization that will be issued to me. I shall require all personnel working under my authorization to receive required Laser Safety training and adhere to the requirements of the Laser Safety Program and the conditions of authorization.

Signature _____ **Date** _____



Please do not write below this line, for use by the Radiation Safety Section only.

Date Application received: _____

Project Number assigned: _____

Protocol Number assigned: _____

Date Application Referred to RSC: _____

LSO REVIEW: CONTROL MEASURES (X – required; • – suggested; □ – if necessary; - - no requirement)

Control Measures	3b	4	OK	CA	NA	Comment
Protective Housing	X	X				
Advisory labels on panels & conduits	X	X				
Engineering controls if without housing	X	X				
Fail-safe or redundant interlocks	X	X				
Service access panel interlock/tool/label	X	X				
Label on housing and control (if >2m apart)	X	X				
Key or coded access	•	•				
Viewing windows <MPE	X	X				
Protective barriers and curtains	□	□				
Collecting optics maintain radiation <MPE	X	X				
NHZ analysis for fully or limited open beam	X	X				
Visible warning device	•	X				
Laser emission warning within controlled area	•	X				
Rapid egress and access to controlled area	-	X				
“Emergency stop” for laser deactivation	-	X				
Engineering/procedural entryway controls	-	X				
Controlled operation by trained personnel only	X	X				
Warning/Danger signs posted	X	X				
Beam path well defined	X	X				
Eye protection required within controlled area	X	X				
Direct supervision of knowledgeable individual	•	X				
Access by spectators is limited	•	X				
Beamstop for potentially hazardous beam	•	X				
Only diffuse materials in or near beam	•	X				
Exposed beam path is above or below eyelevel	•	X				
All open portals covered or restricted <MPE	•	X				
Laser disabled when not in use (ex., key)	•	X				
Standard Operating Procedures	•	X				
Output emission limitation required (LSO)						
Personnel training	X	X				
Operated/serviced by authorized personnel	X	X				
Written alignment procedures	•	X				
Eye protection within NHZ	X	X				
Skin protection/protective clothing	•	•				
Optical fiber interlock/tool/label/procedures	X	X				

DISCUSSION WITH APPLICANT

- | | |
|--|--|
| <input type="checkbox"/> Authorization procedure | <input type="checkbox"/> Access to Laser Safety Manual |
| <input type="checkbox"/> Periodic inspections | <input type="checkbox"/> Changes in authorizations |
| <input type="checkbox"/> Emergency procedures | Changes in labs |
| <input type="checkbox"/> Training requirements for personnel | Changes in personnel |
| Initial Laser Safety Training | Changes in address and phone |
| Periodic Refresher Training | <input type="checkbox"/> Sabbatical leave and extended vacations |
| Specific instructions from project director | <input type="checkbox"/> Termination of authorization |
| <input type="checkbox"/> Record keeping | <input type="checkbox"/> Inactivation and reactivation |

SPECIAL CONDITIONS

Document Prepared By _____ Date _____

Database Entry By _____ Date _____