

LASER SAFETY DESIGN REQUIREMENT CHECKLISTS

The checklists in this enclosure are intended to help the designer, procuring activity, or personnel responsible for laser safety stay within the laser safety design requirements for military lasers and associated support equipment. There may be requirements where the wording may not precisely apply to the particular situation; therefore, some individual interpretation of the requirements is necessary. Because each individual's interpretation of the requirements may differ, room has been made available to expand upon the answer to each requirement. The checklists should not be used by themselves, but in conjunction with other references (e.g., MIL-STD-882D¹ and ANSI Z136.1²).

EQUIPMENT DESCRIPTION

Equipment Name: _____

System Name to be Used
throughout Approval and Use: _____

Documented Operational Requirements
for Laser Use: _____

Model Number: _____ Serial Number: _____

Manufacturer: _____

Address: _____

Responsible Authority: _____

Address: _____

Point of Contact: _____

Address: _____

Phone: _____

Inspector: _____ Date: _____

¹MIL-STD-882D, *Department of Defense Standard Practice for System Safety*, 2000.

²ANSI Z136.1, *American National Standard Institute Safe Use of Lasers*, 2007.

APPENDIX A

LASER DESIGN REQUIREMENT CHECKLIST

Item	Requirement	Yes/No	Comment
1	Is laser product provided with a tag or label permanently affixed to the device housing?		
1a	Does such a tag or label contain the full name and address of the manufacturer, the laser model, and the place, month, and year of manufacture?		
1b	Is label or tag information not expressed in code?		
2	In lieu of the certification label required by 21 Code of Federal Regulations (CFR) 1010.2; if laser is product exempted under 76EL-01 Department of Defense (DoD), is a tag or label permanently affixed to the device housing so that it is readily accessible to view?		
2a	Does such a tag or label contain the following statement? CAUTION This electronic product has been exempted from FDA radiation safety performance standards prescribed in Title 21, CFR, chapter I, subchapter J, under Exemption No. 76EL-01 DoD issued on 26 July 1976. This product should not be used without adequate protective devices or procedures.		
3	Are laser products operational and adjustment controls located so that human exposure to laser radiation in excess of the appropriate Maximum Permissible Exposure (MPE) is unnecessary for the operation or adjustment of such controls?		
4	Is laser product designed to preclude unintentional laser output (e.g., spontaneous firing)?		

Item	Requirement	Yes/No	Comment
5	Are lasers and associated optics designed so that external secondary beams are not generated unless necessary for the performance of the intended function(s)?		
6	Are focused beams, hot spots, and collateral radiation minimized?		
7	Do lasers employing frequency shifting or harmonic multipliers reduce unnecessary emissions below MPE?		
8	Is the laser system designed to preclude unintentional self-oscillation, mode-locking, double-pulsing, or unwanted modes, when practicable?		
9	If unwanted modes cannot be eliminated, is laser classified as per the worst possible accessible emission level?		
10	Are interlocked protective housings provided to protect personnel from high-voltage sources and unnecessary laser and collateral radiation in excess of the Accessible Emission Limits (AELs)?		
10a	Is aural or visual indication of interlock defeat provided?		
10b	Do interlocks return to their normal operation when access cover or door is returned?		
11	When laser radiation exceeding American National Standard Institute (ANSI) AEL for class 1 is accessible, are visual indicators readily visible while wearing suitable laser protective eyewear?		
12	Do viewing ports and display screens, which allow the operator to view laser radiation, attenuate the radiation to limit personnel exposure to below the appropriate MPE?		

Item	Requirement	Yes/No	Comment
13	Do laser product pointing or viewing optics having a magnifying power exceeding 1.0 include a built-in laser safety filter within the optical train that protects the operator from reflections from specular surfaces or exposures from force-on-force training?		
13a	Is adequate visibility maintained when using laser safety filters?		
13b	Are laser safety filters permanently attached or designed so that the optical train cannot be assembled without the filter?		
13c	Is filter on viewing sight marked to indicate optical density (OD)& wavelength?		
14	Is there a label marking the output aperture?		
15	<p>Items 15-22 are class 1, 1M 2, 2M, or 3R laser requirements</p> <p>Do laser warning labels for exempted lasers provide clear instructions to the operators, maintainers, and potential bystanders to preclude laser injury?</p>		
16	Do lasers classified as ANSI class 1, class 2, or class 3R meet the design (performance) requirements of 21 CFR class 1, class 2, respectively, except where such requirements restrict operational capability or security?		
17	Do lasers classified as ANSI Class 1, class 2, or class 3A or 3R meet the designation and warning requirements of 21 CFR class 1 and class 2, respectively, with the exception that the ANSI classification will be displayed in the lower right corner rather than the Food and Drug Administration (FDA) class?		

Item	Requirement	Yes/No	Comment
18	Are labels permanently affixed or inscribed on such products as to be legible and readily accessible to view when the product is fully assembled for use?		
19	Are warning labels affixed to the laser system housing near the beam exit port and/or fire button when possible in such a manner that viewing the label does not require personnel exposure to laser radiation?		
20	Are class 2 or some 3R lasers, as defined by ANSI, provided with a label similar to the examples illustrated in figures 2-1 or 2-3?		
20a	Is numerical output information [e.g., wavelength(s) and maximum power output (when unclassified)] located along the lower edge in a smaller font?		
20b	Does the word INVISIBLE or VISIBLE , as appropriate, precede the word RADIATION ?		
20c	When labels may compromise camouflage, are muted colors appropriate to the camouflage paint scheme used?		
20d	Is information classified in the interest of national security omitted from all labels?		
21	When a laser has a defeatable interlock that, when defeated, allows access to class 3B or class 4 emission levels, is an additional label that states the following installed on or near the access panel? DANGER Laser Radiation When Open and Interlock Defeated, Avoid Eye or Skin Exposure to Direct or Scattered Radiation.		

Item	Requirement	Yes/No	Comment
22	If non-exempted lasers incorporate military labeling, has alternate labeling been requested by the manufacturer and approved as a variance by the FDA in accordance with 21 CFR 1040 (g) (10)?		
23	<p>Items 23-43 are Class 3B and Class 4 laser design requirements</p> <p>Are class 3B, class 4, and some 3R lasers, as defined by ANSI, provided with a label similar to the examples illustrated in figures 2-2a, 2-2b, or 2-3?</p>		
23a	Are such labels permanently affixed or inscribed on such products to be legible and readily accessible to view when the product is fully assembled for use?		
23b	Is the label affixed to the laser system housing near the fire button and exit port when the port is remote from the operator in such a manner that viewing the label does not require personnel exposure to laser radiation?		
23c	Does the label use the word DANGER and include the type of laser and the word VISIBLE or INVISIBLE preceding the word RADIATION ?		

Item	Requirement	Yes/No	Comment
23d	<p>Does the label contain an appropriate instructional safety statement or control message for the operator or bystander as applicable?</p> <p>For class 3B and class 4 ground target designators: DO NOT AIM AT PERSONNEL OR FLAT GLASS SURFACES</p> <p>For class 4 lasers that present a diffuse reflection hazard: DO NOT AIM AT PERSONNEL OR FLAT GLASS SURFACES OR TARGETS WITHIN _____ METERS</p> <p>Bystander warning for wavelengths 400 to 1400 nm; class 3B and class 4 lasers: DO NOT LOOK INTO PORTHOLE</p> <p>Bystander warning for wavelengths 1400 nm to 1 mm and 180 to 400 nm; class 3B and class 4 lasers: DO NOT EXPOSE EYE OR SKIN TO DIRECT OR SPECULARLY REFLECTED BEAMS</p>		
23e	<p>Do DANGER labels have DANGER printed upon a white background with a bright red oval around the word DANGER and contain a red starburst and black lettering?</p>		
23f	<p>When camouflage may be compromised by such warning labels, are appropriate muted colors (i.e., olive drab) used?</p>		
23g	<p>If the information is unclassified, are the ANSI laser hazard classification, wavelength(s), and maximum radiant power or energy added along the lower edge of the label?</p>		

Item	Requirement	Yes/No	Comment
24	Are measures taken to prevent single operator or material error causing unintentional laser output that exceeds ANSI AEL for class 1?		
25	Are at least two operator actions (one of which shall serve as a laser arming control) required to cause the laser to function?		
26	Is laser output impossible when arming control is in the safe position?		
27	Is the laser fire trigger or switch clearly identified and physically protected to prevent accidental activation (when possible, the switch shall be a guarded positive action type that requires continuous operator intent to operate the laser product and laser output shall cease immediately upon release)?		
28	If the laser is a single-pulsed laser, is the activation circuitry designed so that continual depression or short-circuiting of the fire control switch will not cause repeated emissions [unless necessary for the performance of intended function(s)]?		
29	If operational considerations preclude the use of a dead-man switch, a toggled switch may be used if adequate design safeguards are provided to prevent long-term inadvertent lasing (e.g., through a watchdog timer and/or system logic switching device). Are these employed?		
30	Does the laser have a permanently installed/attached exit port cover that prevents access by any part of the body to all laser radiation in excess of ANSI AEL for class 1?		

Item	Requirement	Yes/No	Comment
30a	Does the cover chosen clearly indicate that it is in place (safe) or open?		
30b	Is the cover designed to withstand repeated laser firings when it is in either position?		
31	Is a readily available remote-control interlock capability incorporated on the laser or auxiliary power supply systems?		
31a	Does the remote control connector have an electrical potential no greater than 130 root mean squared volts between terminals (not essential if the laser is always directed into an interlocked set enclosure for maintenance or service procedures)?		
31b	When the terminals of the connector are not electrically joined, is human access to all laser radiation and collateral radiation in excess of ANSI AEL for class 1 prevented?		
31c	Is an intentional reset needed to reactivate the system once disconnected?		
32	Is the boresight alignment and retention designed consistent with system mission requirements (considered a safety-critical item)?		
33	Are laser status (emission) indicators (aural or visual or as specified by the procuring agency) provided to inform the operator when the laser is prepared to fire (armed) and when the laser is actually firing?		
33a	If visual indicators are used for operation or maintenance, are they visible during daylight, nighttime, and when viewed through appropriate protective eye wear?		

Item	Requirement	Yes/No	Comment
33b	Are indicators located so that viewing does not require personnel exposure to laser radiation in excess of the ANSI AEL for class 1?		
34	Is there a means to differentiate between armed and firing (e.g., continuous tone or light is armed and intermittent tone or blinking light is firing)?		
35	If the laser system is installed on an aircraft, is it designed to prevent laser output while the aircraft is not airborne?		
35a	Is an override switch for ground maintenance designed to prevent inadvertent activation?		
36	Does the laser product incorporate controls to optimize positive operator control of beam pointing?		
36a	Does it include a means of ensuring boresight retention and software systems safety?		
37	For systems with automatic target tracking capability, is an automatic disable capacity incorporated to inhibit laser firing if target tracking outside the system specifications occurs or when the laser sight line reaches the gimbal limits or the system mask limit?		
38	If no hardware stops are installed, are at least two independent systems capable of disabling the laser (a provision to override these automatic features during combat is permitted)?		

Item	Requirement	Yes/No	Comment
39	For lasers using a beam scanning technique, if irregularities not normal to the operation and unintended pattern changes increase the hazard potential of the laser product, does it include a feature that terminates or reduces the beam output to ANSI AEL for class 1 immediately upon the cessation of scanning irregularities (change in either scan velocity or amplitude)?		
40	If a training mode is required for the laser, are provisions made (beam attenuator, expander, diffuser or less-hazardous lasers, TV cameras, etc.) to reduce hazardous emissions to the lowest level consistent with training requirements?		
41	If the laser can be used in both a mission and a training mode, is a visual indication provided to inform the operator and outside observers that the laser is positively in the training mode?		
42	Have the system's Nominal Ocular Hazard Distance (NOHD), skin hazard distance, diffuse reflection hazard determination, protective eye wear requirements, buffer zone requirements, and safety parameters been certified by measurements by Naval Surface Warfare Center Dahlgren Division (NSWCDD) (Code G73) and approved by the Laser Safety Review Board (LSRB)?		
43	Do aiming optics employ a reticle that can be viewed under any illumination conditions?		
43a	Does the reticle not impair dark adaptation of observer's eyes?		
43b	Is the reticle calibrated so the operator can determine the proximity of the laser beam to target buffer zones?		

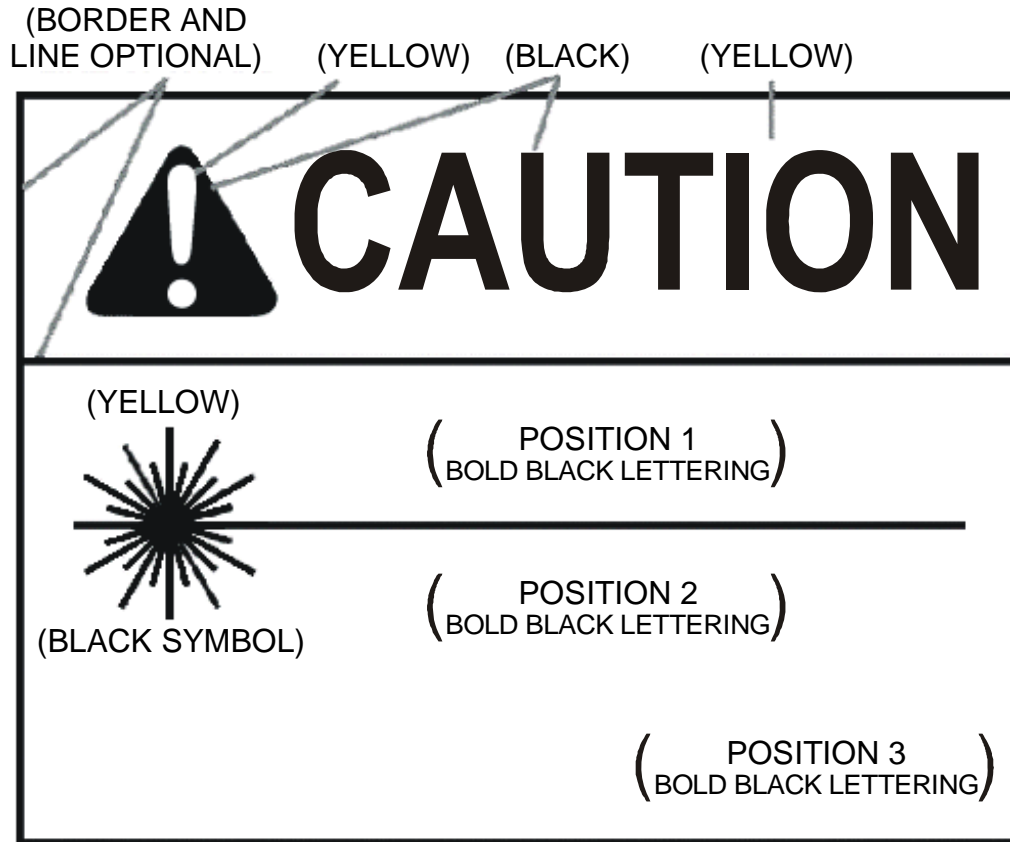


FIGURE 2-1. EXAMPLE OF A CAUTION LABEL. At position 1, precautionary information should be provided, such as "Do not stare into the beam." At position 2, the type of laser should be provided, such as "Helium Neon," and at position 3, the hazard class of the laser should be provided. Below the starburst, additional information on the characteristics of the laser should be provided such as laser wavelength and pulse characteristics.

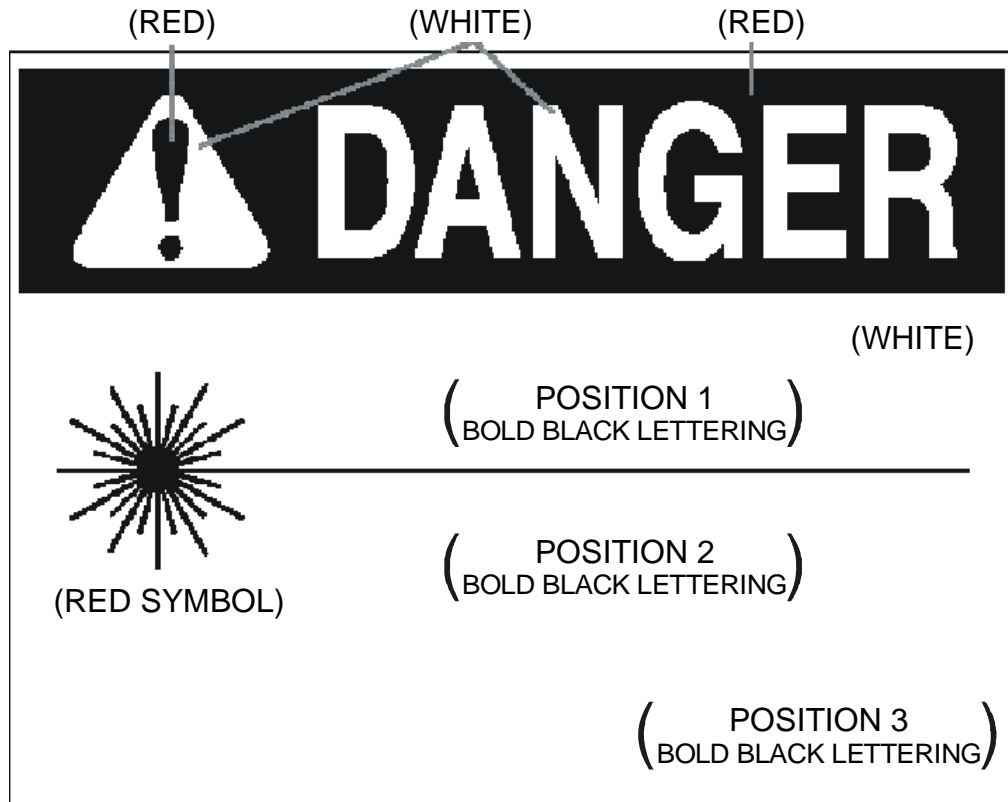


FIGURE 2-2a. EXAMPLE OF A DANGER LABEL. Starburst is red; letters are black. Precautions including the NOHD would be placed above the tail of the starburst at position 1. The type of laser, including output power, pulse characteristics, and whether the output is visible or invisible, is placed below the tail of the starburst at position 2. The ANSI classification is placed in the lower right hand corner at position 3.

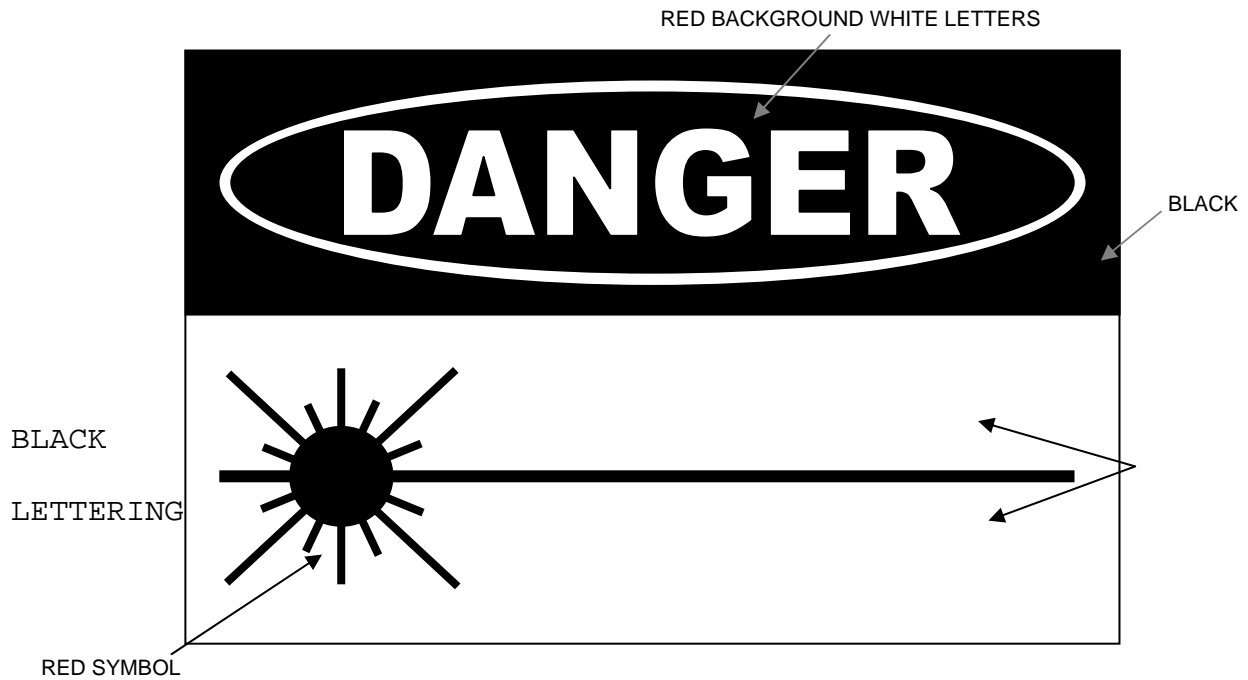


FIGURE 2-2b. EXAMPLE OF AN ALTERNATE DANGER LABEL. Starburst is red; letters are black. Precautions including the NOHD would be placed above the tail of the starburst. The type of laser, including output power or pulse characteristics, is placed below the starburst. If the output of the laser is invisible, the word "invisible" should be included below the tail of the starburst. The ANSI classification is placed in the lower right hand corner.



SYMBOL AND BORDER: BLACK
BACKGROUND: YELLOW

SPACE FOR LEGEND



LEGEND AND BORDER: BLACK
BACKGROUND: YELLOW

FIGURE 2-3. EXAMPLE OF AN INTERNATIONAL ELECTROTECHNICAL COMMISSION(IEC) HAZARD AND EXPLANATORY SET OF ALTERNATE LABELS. Starburst and borders are black; backgrounds are yellow. Explanations on the explanatory label shall be commensurate with the class of laser being labeled. Examples of explanatory statements can be found in ANSI Z136.1 and/or IEC 60825-1.

APPENDIX B

SUPPORT EQUIPMENT DESIGN REQUIREMENT CHECKLIST

Item	Requirement	Yes/No	Comment
1	<p>Items 1-7 are applicable to all classes of laser support equipment</p> <p>If the laser support equipment is military exempt, is it used solely in support of exempted lasers?</p>		
2	<p>Is the laser support equipment designed to ensure that laser radiation emitted during maintenance or service is no greater than the ANSI AEL for class 1 and that collateral radiation is not in excess of applicable limits, when practicable?</p>		
3	<p>Does the equipment confine the laser radiation within an opaque enclosure?</p>		
4	<p>Is the enclosure interlocked to prevent exposure to levels in excess of the ANSI AEL for class 1 when the enclosure is removed?</p>		
5	<p>Is the enclosure provided with the appropriate exterior warning indicators and labels?</p>		
6	<p>Have other associated hazards been addressed and controlled by suitable engineering programs per Military Standard (MIL-STD)-882 (NOTAL), MIL-STD-2036 (NOTAL)?</p>		
7	<p>Are adequate instructions as to safe techniques and personnel protective means included in all technical manuals and plainly marked on the laser product when potentially hazardous areas are accessible?</p>		

Item	Requirement	Yes/No	Comment
8	<p>Items 8-13 are applicable to class 1, 1M, 2, 2M, or 3R laser support equipment requirements</p> <p>Does the laser support equipment meet the design (performance) requirements of 21 CFR class 1, class 2, or class 3R, respectively, except where such requirements restrict operational capability or security?</p>		
9	<p>Does the laser support equipment meet designation and warning requirements of 21 CFR class 1, class 2, or class 3R, respectively, with the exception that the ANSI classification will be displayed in the lower right corner rather than the FDA class?</p>		
10	<p>Are labels permanently affixed or inscribed on such products as to be legible and readily accessible to view when the product is fully assembled for use?</p>		
11	<p>Are warning labels affixed to the housing in such a manner that viewing the label does not require personnel exposure to laser radiation?</p>		
11a	<p>Is numerical output information [e.g., wavelength(s) and maximum power output (when unclassified)] located along the lower edge in a smaller font?</p>		
11b	<p>Does the word INVISIBLE or VISIBLE, as appropriate, precede the word RADIATION?</p>		
11c	<p>When labels may compromise camouflage, are muted colors appropriate to the camouflage paint scheme used?</p>		
11d	<p>Is information classified in the interest of national security omitted from labels?</p>		

Item	Requirement	Yes/No	Comment
12	<p>When a laser has a defeatable interlock that, when defeated, allows access to class 3B or class 4 emission levels, is an additional label that states the following installed on or near the access panel?</p> <p>DANGER</p> <p>Laser Radiation When Open and Interlock Defeated, Avoid Eye or Skin Exposure to Direct or Scattered Radiation.</p>		
13	<p>Does non-exempted support equipment incorporate military labeling when alternate labeling has been requested by the manufacturer and approved as a variance by the FDA in accordance with 21 CFR 1040 (g)(10)?</p>		
14	<p>Items 14-24 are class 3B and class 4 laser support equipment requirements</p> <p>Does the laser system test equipment for boresight and laser performance testing attenuate the beam to limit personnel exposure to below AEL for ANSI class 1?</p>		
15	<p>Is the laser system test equipment for boresight and laser performance testing interlocked to the laser to prevent inadvertent laser operation outside the enclosure if the test equipment is not used in a closed installation?</p>		
16	<p>Is an access interlock switch interfaced with ANSI class 3B and class 4 laser systems under test such that inadvertent removal of test sets or poor connection will terminate or limit the laser output to the ANSI AEL for class 1 or class 2, if applicable?</p>		

Item	Requirement	Yes/No	Comment
17	Is a warning system activated immediately prior to operation of the laser and remain activated until the laser output has been reduced to the ANSI AEL for class 1 or class 2, if applicable?		
17a	Is the warning system designed not to attract personnel attention in such a manner as to create a potential hazard?		
18	Does all support equipment for laser hardware that could directly activate the laser preferably incorporate a positive action (dead-man) switch that must be activated when laser firing is desired?		
19	When a dead-man switch is not incorporated, is an emergency cutoff switch provided that allows emergency cutoff of laser output in excess of ANSI AEL for class 1 or class 2, as appropriate?		
19a	Is the switch readily accessible from the operator's position and permit one-step operation?		
20	Is a key-lock master switch provided to prevent unauthorized activation of any test facility component used to supply power directly to the laser that is necessary for its operation?		
21	Is the laser beam terminated by a beam stop that is diffuse (i.e., has a low value of reflectance at the laser wavelength)?		
21a	Is such a beam stop fire resistant and unable to emit toxic or carcinogenic fumes when exposed to the laser(s) for which it was designed?		
21b	Is the beam stop marked for the type(s) and power level(s) of laser(s) for which it is procured?		

Item	Requirement	Yes/No	Comment
22	Are appropriate control measures for the protection of personnel (e.g., appropriate exhaust ventilation) provided where toxic gases cannot be prevented, such as firebrick, which contains beryllium compounds?		
23	Are class 3B and class 4 laser support equipment, as defined by ANSI, provided with a label similar to the examples illustrated in figures 2-2a and 2-2b?		
23a	Are such labels permanently affixed or inscribed on such products to be legible and readily accessible to view when the product is fully assembled for use?		
23b	Is the label affixed to the laser system housing near the fire button and exit port when the port is remote from the operator in such a manner that viewing the label does not require personnel exposure to laser radiation?		
23c	Does the label use the word DANGER and include the type of laser and the word VISIBLE or INVISIBLE preceding the word RADIATION ?		
23d	Does the label contain an appropriate instructional safety statement or control message for the operator or bystander as applicable? For class 3B and class 4 ground target designators: DO NOT AIM AT PERSONNEL OR FLAT GLASS SURFACES		

Item	Requirement	Yes/No	Comment
23d Con.	<p>For class 4 laser support equipment that present a diffuse reflection hazard:</p> <p>DO NOT AIM AT PERSONNEL OR FLAT GLASS SURFACES OR TARGETS WITHIN ___ METERS</p> <p>Bystander warning for wavelengths 400 to 1400 nm; class 3B and class 4 laser support equipment</p> <p>DO NOT LOOK INTO PORTHOLE</p> <p>Bystander warning for wavelengths 1400 nm to 1 mm and 180 to 400 nm; class 3B and class 4 laser support equipment:</p> <p>DO NOT EXPOSE EYE OR SKIN TO DIRECT OR SPECULARLY REFLECTED BEAMS</p>		
23e	<p>Do DANGER labels have DANGER printed upon a white background with a bright red oval around the word DANGER and contain a red starburst and black lettering?</p>		
23f	<p>When camouflage may be compromised by such warning labels, are appropriate muted colors (i.e., olive drab) used?</p>		
23g	<p>If the information is unclassified, are the ANSI laser hazard classification, wavelength(s), and maximum radiant power or energy added along the lower edge of the label?</p>		
24	<p>Is laser output impossible when arming control is in the safe position?</p>		

APPENDIX C

LASER FACILITY DESIGN REQUIREMENT CHECKLIST

Item	Requirement	Yes/No	Comment
1	Is support equipment designed such that laser radiation emitted during maintenance or service is no greater than the ANSI AEL for class 1 and collateral radiation is not in excess of applicable limits when practicable?		
2	Can support equipment confine the laser radiation within an enclosure that is adequately interlocked to prevent levels in excess of ANSI AEL for class 1 when the enclosure is removed?		
2a	Is the enclosure provided with appropriate exterior warning indicators and labels?		
3	Have other associated hazards been addressed and controlled by suitable engineering programs per MIL-STD-882, MIL-STD-2036, and ANSI Z136.1?		
4	Are adequate instructions as to safe techniques and personnel protective means included in all technical references (manuals) and plainly marked on the laser product when potentially hazardous areas are accessible?		
5	Is facility designed for limited personnel access?		
6	Is facility a closed installation for class 3B and class 4 lasers?		
7	Are reasonably high illumination levels at the work areas attainable to overcome any reduction in visual performance primarily due to the use of laser protective eyewear?		
8	When practicable, is facility designed so that no personal protective equipment is required?		

Item	Requirement	Yes/No	Comment
9	When the hands or other parts of the body are likely to be exposed to potentially hazardous levels, are protective coverings provided?		
10	Are all personnel working in laser facility provided with suitable personal protective clothing and equipment?		
11	Does laser protective eyewear provide complete protection for the individual's field-of-view and is it marked with the optical density (OD) at the specific laser wavelengths?		
12	Is protective eyewear selected according to the laser equipment used at that facility?		
13	Is protective eyewear selected suitable for individuals requiring corrective lenses as well as for uncorrected vision?		
14	<p>Items 14-26 are applicable to class 3B and class 4 laser facility requirements</p> <p>Is a laser warning sign displayed on all entry points or doors to the facility?</p>		
14a	Do warning signs use the word DANGER and include the type of laser (VISIBLE and/or INVISIBLE), as appropriate, and precede the word RADIATION ?		
14b	Do such warning signs contain an appropriate instructional statement; e.g., KNOCK BEFORE ENTERING or KNOCK AND WAIT ?		
15	Are access interlock switches interfaced with ANSI class 3B and class 4 laser systems under test such that inadvertent entry into facility will terminate or limit the laser output to the ANSI AEL for class 1 or class 2?		

Item	Requirement	Yes/No	Comment
15a	Are these interlock systems such that inadvertent removal or poor connection of test sets will terminate or limit laser output to ANSI AEL class 1 or class 2?		
16	Is a warning system, external to the facility, activated immediately prior to operation of the laser and remain activated until laser output has been reduced to the ANSI AEL for class 1 or class 2, if applicable?		
17	Does the facility incorporate operation switches and beam stops per checklist items 24 through 26 for support equipment requirements?		
18	Does test equipment for boresight and laser performance enclose the beam to limit personnel exposure to below class 1 AEL?		
19	Is test equipment interlocked to laser to prevent inadvertent laser operation outside the enclosure if test is not in a closed installation?		
20	Where the laser is not otherwise supported rigidly, is a mechanical fixture provided to rigidly attach the laser in a fixed position during testing and maintenance?		
21	Are location & orientation of test fixtures such that exposure of personnel to direct beam is minimized?		
22	Are the interior surfaces of the facility painted with a finish that has a low value of reflectance at the laser wavelength(s) and that will diffuse the laser beam while maintaining an acceptable ambient illumination?		

Item	Requirement	Yes/No	Comment
23	Are additional safety features to warn personnel to clear the beam path area and a low-power visible laser subsystem for pre-alignment provided?		
24	If the facility is designed for very high-power continuous wave (CW) or pulsed lasers, does it have a means to enclose the entire beam path within the facility?		
24a	Is the enclosure designed to withstand the direct beam?		
25	If necessary, are remote-control firing and television monitoring provided?		
26	Have associated hazards been controlled? Have ANSI Z136.1 guidelines been considered?		

APPENDIX D

LASER PROTECTIVE EYEWEAR CHECKLIST

Item	Requirement	Yes/No	Comment
1	Are the laser wavelength and protection level covered by a DoD approved Laser Eye Protective (LEP) device available to the laser operator and maintainer?		
2	Does laser protective eyewear protect against the worst possible exposure situation?		
3	Does it allow the best compromise between protection and high visibility?		
4	Is protective eyewear fully compatible with normal corrective lenses (spectacles)?		
5	Does protective eyewear take into consideration all hazardous wavelengths emitted from the laser?		
6	Is wavelength range for which eyewear is designed clearly marked on the protective eyewear?		
7	Is the OD at each wavelength for which the protective eyewear is designed clearly marked on the eyewear?		
8	Is user information for LEP provided?		
9	Is the damage threshold of approved LEP in excess of the maximum output emitted by the laser?		
10	Is the protective eyewear durable for the anticipated environment and lifetime?		
11	Has protective eyewear with curved lenses been considered?		
12	Is protective eyewear in good condition, i.e., no scratches, pits, or cracks?		
13	If relying on commercial LEP, has the manufacturer provided laser testing results?		